

Babble-on – an infinity of continuing quotes & commentary relating to GGDM

Quotes **not used** previously in Gestalt Genesis-Day Million rules text (**not** for commercial use)

- This document is an adjunct to the main text of GGDM for clarity and further inspiration. I am a human quote harvester, a confirmation-bias habit I obtained while working on GGDM. Sources include books and articles I read and the internet, mostly from after May 2020. Entries are arranged alphabetically by speaker's last name.
 - No copyright claim is made over the works of others quoted here, no infringement is intended, no monetary profit is being made in any event. A claim is made however for the work of collecting and formatting these quotes in relation to GGDM's subjects and discussions and any additional commentaries added.
- All quotes here relate to something discussed in GGDM, or some underlying theme running through GGDM. This collection is derivative of a U.S. copyrighted work, Gestalt-Genesis/Day Million ("GGDM"), using continuing 'real world' quotes to supplement and expand related discussions in GGDM. It can also serve as a shortcut to finding sections in GGDM where particular topics were discussed (e.g., "Prohibition," "Pets" or "Corruption").
- This long document is best used by searching for a GGDM game term, section name, or some other useful search term as the case may be (e.g., 'fractured universe' 'wholistic,' 'slipstream,' 'silly space game,' or 'Stardrive,' 'Kairotic Moment,' or 'Jonathan H. Turner,' 'Jill Gabrielle Klein,' 'Sabine Hossenfelder,' 'Isaac Arthur,' etc.).
- Many of these quotes are taken from videos; the advantage to reading a quote taken from the video is that you can see the logic of the argument, without 'distraction' of imagery, tone, body-language, voice, physical appearances. It may also be helpful sometimes to use the 'read aloud' feature on your computer and just listen and absorb.
- ***At the very least, this quote survey collection and GGDM commentary document will independently provide utility as interesting and educational reading even if you don't give a damn about some silly space game.***
 - ***Does this make GGDM a 'scholarly' work now!?***

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Quote Text	Relates To...
1492: Conquest of Paradise (1992, movie dialogue)	
<p><i>Expansion (Scouting & Landing), Minor Races, Columbus, resettlement:</i></p> <p>Christopher Columbus: Marco Polo said he found earthly paradise off the coast of China. Do you believe this?</p> <p>Antonio de Marchena: I believe in paradise and hell. And I do believe that both can be Earthly.</p> <p style="text-align: center;">***</p> <p>Christopher Columbus: I believe the Indies are no more than 750 leagues west of the Canary Islands.</p> <p>Antonio de Marchena: How can you be so certain?</p> <p>Christopher Columbus: The calculations of Toscanelli, Marin de Tyr, Esdras...</p> <p>Antonio de Marchena: Esdras is a Jew...</p> <p>Christopher Columbus: So was Christ.</p> <p>Antonio de Marchena: Two minutes and you're already a dead man.</p> <p>Christopher Columbus: For telling the truth?</p> <p>Antonio de Marchena: Yes. They are burning people for less. The men you are about to confront have no emotions. You must learn to control your passion.</p> <p>Christopher Columbus: Passion is something one cannot control.</p> <p style="text-align: center;">***</p> <p>Christopher Columbus: We've been told lies for so long. They said that this [the world] was as flat as this table. That monsters guard the edge of the world! I will not be told what to be afraid of, what not to be afraid of. I want to find out for myself.</p> <p style="text-align: center;">***</p> <p>Examiner: If God intended our proximity to Asia, do you believe that he would have waited for you to show it to the world?</p> <p>Christopher Columbus: He chose a carpenter's son to reveal himself to the world.</p> <p>Examiner: So do you consider yourself the chosen one? [ignoring the Examiner's trap question, Columbus turns and addresses the crowd]</p> <p style="text-align: center;">***</p> <p>Examiner: Am I to understand that you would use your influence to assist this heretic?</p> <p>Gabriel Sánchez: Well... You know Your Eminence, the fascinating thing about power is that what could be given so effortlessly – can so easily be taken away.</p> <p style="text-align: center;">***</p> <p>Martín Alonso Pinzón: I don't look like much, but I have friends, important friends – a banker for example. He finances me, his name is Santangel. ... He can get you an audience with the Queen. You know why? She owes him money. That's how it is. You, me, the Queen, the world, everybody owes somebody something.</p> <p>Christopher Columbus: [Later] May I ask you a question, Don Luis? Why do you want to help me?</p> <p>Luis de Santángel: Faith, hope, charity. But greater than all these is banking.</p> <p style="text-align: center;">***</p> <p>Queen Isabella I: The cost [of funding Columbus expedition] would be ruinous.</p> <p>Gabriel Sánchez: No more than the cost of two state banquets. [laughing] Two banquets... for new lands and spices and gold.</p> <p>Queen Isabella I: What are you saying Sanchez?</p>	<p>Loren Eiseley 'Adamic Eden' bottom Feature Quote, 4 Writs, p. 453</p> <p>Through the Never, <i>et seq.</i>, 3 Expansion, p. 907</p> <p>The Landing, <i>et seq.</i>, Survival & Ethical Dilemmas, and Bad Exchanges, 4 Expansion, pp. 920, 923, 924</p> <p>Mathó Thípila and Why Not Again, 4 Diplomacy, pp. 1141-1142</p> <p>Jared Diamond top Feature Quote, 1 Expansion, p. 875</p> <p>Encomienda, 3 Order, pp. 549-550</p> <p>Immoral History and Forced Balkanization, 2 Disruption, pp. 273, 277</p> <p>Right to Be Useless:</p> <p>Echoes of Aristotle, 2 Colleges, pp. 474-475</p> <p>Top Feature Quotes and Ar-rears in Aristos, 2 Entropy, p. 234</p>

Quote Text	Relates To...
<p>Gabriel Sánchez: Only that if he is right, we have everything to gain, and if he’s wrong, we have so little to lose.</p> <p style="text-align: center;">***</p> <p>Queen Isabella I: <i>[During her last audience with Columbus]</i> I have looked for a reason why I should allow you to go back and although I’ve tried I couldn’t find one. Help me find one.</p> <p>Christopher Columbus: All my life I have dreamt of reaching the continent. I thought my dreams grandiose. But reality was beyond my expectations. Far beyond. And now I want to explore that land before I die.</p> <p>Queen Isabella I: I allow you to undertake another voyage. But without your brothers. Nor for you to return to Santo Domingo or any other colonies. The New World is a disaster.</p> <p>Christopher Columbus: And the old one an achievement?</p> <p style="text-align: center;">***</p> <p>Gabriel Sánchez: <i>[Columbus stops Sanchez after he leaves an audience with the Queen. Sanchez looks at him, disgusted]</i> You’re a dreamer.</p> <p>Christopher Columbus: <i>[shooting a glance out of a window]</i> Tell me, what do you see?</p> <p>Gabriel Sánchez: <i>[pausing to look]</i> I see rooftops, I see palaces, I see towers, I see spires that reach... to the sky! I see civilization!</p> <p>Christopher Columbus: All of them built by people like me.</p> <p><i>[Sanchez doesn’t respond – shocked]</i></p> <p>Christopher Columbus: No matter how long you live, Sanchez, there is something that will never change between us. I did it. You didn’t.</p> <p><i>GGDM Commentary: The Spanish nobleman Moxia’s main plot-driving trait throughout the film was an unearned, unjustified sense of superiority and entitlement based solely on his birth rank and family; one of the charges against Columbus was that he made noblemen do work! This ‘right to be useless’ was discussed in GGDM. As usual, audiences were kinder to and more appreciative of this movie than critics.</i></p>	
1715 The Sun King is Dead (documentary interviews/narration, 2015)	
<p>Reign fatigue, change in Government Titles, Little Ice Age, generational turn-over, Legacy:</p> <p>[speaking in French with English voice-over translation] “In 1715, the Versailles court was aging. Many old courtiers there, who knew the king when he was young, had remained loyal.” – Alexandre Maral interview, Curator, Chateau de Versailles.</p> <p>[speaking in French with English voice-over translation] “Versailles was synonymous with boredom. It was no longer synonymous with creativity and intellectual daring. Things were happening in Paris now.” – Raphael Masson interview, Curator, Chateau de Versailles.</p> <p>[speaking in French with English voice-over translation] “This more austere atmosphere of the end of the reign was mostly due to the King’s aging. He was less inclined to taste the entertainments that pleased the youth. He was with Madame de Maintenon [his second wife], who was also rather aged, being three years older than him [she was 80 years old]. So the aging couple tended to become withdrawn, especially since all the brilliant</p>	<p>‘changing Social or Estate Government Title,’ Winds of Change, <i>et seq.</i>, 5 Government Titles, pp. 642-644</p> <p>‘changing Structural Government Title,’ Extreme Make-over, Thirty Tyrants, and Home</p>

Quote Text	Relates To...
<p>personalities of the era had disappeared.” – Alexandre Maral interview, Curator, Chateau de Versailles.</p> <p>[speaking in French with English voice-over translation] “He had lost all of his greatest enemies, William of Orange, Leopold of Austria, he had no enemies left. He had outlived them. He had lost his greatest men, his generals, his artists. [lists names] They had all disappeared. This was 1715, the 18th Century had already begun, everything was changing around the King. The Enlightenment was here, Louis XIV could not be a part of the new century. He stood like one last rampart.” – H�el�ene Delalex interview, author of <u>Louis XIV intime</u> (2015).</p> <p>[Narrator] “Louis XIV ruled over France for 72 years, an endless reign, the longest in history over all periods and countries. Even his people grew tired of this king who seemed immortal, who outlived his own descendants, literally decimated between 1711 and 1712.”</p> <p>[unknown man, speaking in French with English voice-over translation] “First it was Louis XIV’s son, the heir apparent, who died in 1711. Then his grandson, the Duke of Burgundy, and the latter’s wife, the Duchess of Burgundy and their child, Louis XIV’s great-grandson, the eldest of the great-grandchildren also died in 1712.”</p> <p>[speaking in French with English voice-over translation] “So who was left? The little Duke of Anjou who was two years old, future Louis XV, the last grandson. And so it was on this young child of delicate health that the future of all the French monarchy depended. Louis XIV was very distressed by this series of deaths, but he carried on ruling the kingdom bravely. Yet, Madame de Maintenon wrote he sometimes came to her apartments alone. She said, ‘We shut the door, there was just the two of us, and he was overcome by uncontrollable tears.’” – H�el�ene Delalex interview, author of <u>Louis XIV intime</u> (2015).</p> <p>[Narrator] Increasingly isolated, Louis XIV was a king hated by his people. Tired of the endless military campaigns led since the beginning of his rule, particularly the last one, the War of the Spanish Succession, whose fifteen years of fighting had ruined the country”</p> <p>[speaking in French with English voice-over translation] “France was going through a very difficult period. The Royal Treasury was depleted. This era was called The Little Ice Age. It was minus 20 degrees Celsius in Paris.” – H�el�ene Delalex interview, author of <u>Louis XIV intime</u> (2015).</p> <p>[speaking in French with English voice-over translation] “Winters were particularly harsh. And when we say harsh, memorialist say the wine froze in the casks inside. They could not write because the inkwells froze.” – Raphael Masson interview, Curator, Chateau de Versailles.</p> <p>[speaking in French with English voice-over translation] “Conditions were disastrous for the people. There was a famine with its lot of epidemics and riots. This was one more ordeal on top of the Spanish war. One million deaths. Over five percent of the population died.” – H�el�ene Delalex interview, author of <u>Louis XIV intime</u> (2015).</p> <p><i>GGDM Commentary: This is an ideal example of the dynamic, wholistic interaction of parts envisioned in GGDM play: here we see reign fatigue (Conflict Checks), genera-</i></p>	<p>Wreckers, 6 Government Titles, pp. 650-651</p> <p>‘legacy discussion,’ The Insistence of Memory, 3 Temporal Technology, pp. 830-832</p> <p>Little Ice Age:</p> <p>Sands & Seas, 1 Entropy, p. 231 and Feature Quotes, bottom p. 230</p> <p>Viking Horns, 3 Disruption, pp. 286-287</p> <p>When the Themes Froze Over, 1 Order, p. 526</p> <p>Generational Turn-over:</p> <p>Artifice, 2 Constructural Elements, pp. 191-192</p> <p>Life, Taxes, Death, Taxes, 1 Taxation & Census, p. 296</p> <p>And the Cradle will Rock, 3 Culture, pp. 382-383</p>

Quote Text	Relates To...
<p><i>tional turn over (aging Enlightenments, loss of Proficiencies, inactive Constructural Elements), economic hardship (depleted Treasury, failure of domestic subsistence) and possible disruption events (military losses, population loss from the Little Ice Age) all working to end an era, to turn over a government, and eventually leading to revolution and explosive conquest.</i></p> <p style="text-align: center;">***</p> <p>[speaking in French with English voice-over translation] “The King almost lived again! People shouted, ‘It’s a miracle!’ There was movement in the court, many people had gathered in the antechambers of the Duke of Orléans, who was getting ready to rule. Chambered emptied, people rushed back to the King. This did not last, because the elixir had a limited time effect.” – Alexandre Maral interview, Curator, Chateau de Versailles.</p> <p style="text-align: center;">***</p> <p>[speaking in French with English voice-over translation] “When the king expired, the Duke of Orléans immediately went to pay homage to the young Duke of Anjou. He knelt before him without saying a word. The child understood by this gesture that he was the new King, that his great-grandfather had died. And he burst into tears.” – Hélène Delalex interview, author of Louis XIV intime (2015).</p> <p>[speaking in French with English voice-over translation] “He died, surrounded by the Faculty. He was not alone, there were also clergymen who prayed continuously. There were also servants, certain princes of his family, and he died on show, like he lived most of his life.” – Raphael Masson interview, Curator, Chateau de Versailles.</p> <p><u>GGDM Commentary:</u> <i>The young Duke of Anjou (future Louis XVth) was only just over 5 years old, so it is hard for me to imagine that he understood all that, I think there is a little romantic license being exercised. I believe the Faculty in this case refers to the ‘medical faculty of Paris’ – his attending royal surgeons – which is consistent with the use of the term in GGDM’s Colleges. Notably, they were concerned in the King’s death with being accused of medical malpractice.</i></p> <p style="text-align: center;">***</p> <p>[Narrator] “As soon as he disappeared, the Sun King became a mere individual, like any other. His authority was swept away because when he passed, his last wishes were trampled.”</p> <p>[speaking in French with English voice-over translation] “The very day of Louis XIV’s death, on the 1st of September, when the will was still secret, the Duke of Orléans was informed that he would be removed from regency. And extremely quickly, he organized for the following day, the 2nd, a solemn séance at Parliament, and there he played his part. He entered the Parliament, reminded them of the last words Louis XIV had told him, that he would keep all the rights his rank entitled him to. The will was opened, and then they learned that he was removed from regency. He pretended to be offended, to not understand. And finally, with a few arguments in one afternoon, he turned all the members of Parliament around.” – Hélène Delalex interview, author of Louis XIV intime (2015).</p> <p>[speaking in French with English voice-over translation] “Nothing could have been easier. He promised them the Earth, and the Parliament, like one man, entrusted all of the</p>	

Quote Text	Relates To...
<p>regency to Philippe of Orleans, and that was that.” – Raphael Masson interview, Curator, Chateau de Versailles.</p> <p>[speaking in French with English voice-over translation] “From then on, on the evening of the 2nd of September, it was settled. Two weeks later, there was a Parliament session with the <i>lit de justice</i>. A <i>lit de justice</i> is a session in the Parliament of Paris in the presence of the King. On the 12th of September, it was in five-year old Louis XV’s [the Duke of Anjou] presence, that the full powers were officially given to the Duke of Orléans, who was recognized as Regent.” – Gérard Sabatier interview, historian.</p> <p><i>GGDM Commentary: Louis XIV was the Duke of Orléans’ uncle and the Duke had married the youngest daughter of Louis XIV and Madame de Montespan, a royal mistress (not to be confused with the aforementioned Madame de Maintenon), who had seven children to Louis XIV and was exiled after the Affair of the Poisons mentioned in 3 Special Operations, pp. 1308-1309.</i></p> <p><i>Although never explicitly mentioned or even hinted at, I cannot help but to think that reign fatigue in the reign of Queen Elizabeth II of England is implied in this document as well, and certainly seems to have set in since the end of the Cold War.</i></p>	
The 5th Wave (movie, 2016)	
<p><i>Alien invasion movies, dehumanization, Minor Races, Young Adult fiction discussion:</i></p> <p>“That was the Third Wave. But even if you bug bomb a house, there’s always a few cockroaches left. Now we are like those cockroaches. And the others are picking us off. One by one. And because the Others look like us, we can’t trust anyone. How do you rid the world of humans? First, you rid the humans of their humanity.” – Cassi Sullivan (narration), The 5th Wave (2016).</p> <p><i>GGDM Commentary: Despite being classified as ‘young adult’ fiction, the first 45 minutes of the 2016 The 5th Wave movie is a <u>textbook clinic</u> on Earth invasion by aliens, and of any contest between an invading Major Race that has those abilities and a technological Minor Race as described in War of the Worlds, 4 Diplomacy, pp. 1144-1145 where major ecological damage to the planet is to be avoided. Half of the screen time of most alien invasion movies could be compressed into the first 45 minutes of The 5th Wave. The ‘first wave’ was a global EM Pulse to destroy our electric grid, and disable vehicles, electronics, communications and cause massive system failure, the ‘second wave’ was earthquakes to cause massive tsunamis to destroy coastal cities where most of humanity lives, the ‘third wave’ was a genetically-engineered virus to destroy the rest of humanity, the ‘fourth wave’ was infiltration of the remaining human population, and the ‘fifth wave’ was to trick humans into killing each other (that should not be too difficult or implausible, right?). This is an organized approach that the Psychlos in <u>Battlefield Earth</u> pursued only half-heartedly after they gained control of the planet, being more interested in mining riches.</i></p> <ul style="list-style-type: none"> I later watched Fox Network’s reimagined and updated 2019 War of the Worlds TV series and they had a similarly effective textbook attack on 21st Century Earth, starting with a massive EM pulse that knocked aircraft out of the sky and destroyed all communications, electronics, and stopped vehicles. But this one was more refined and effective in the way that The 5th Wave was not: It was attuned to human neurology and caused hundreds of millions, or billions, of human deaths from brain seizures in targeted urban areas. And similar to The 5th Wave, 	<p>‘Young Adult Fiction’ discussion, EN 7, 3 The Sidereal Stage, p. 127</p> <p>‘dehumanization in war,’ Killer of Giants, 1 Combat, pp. 939-940</p> <p>Alien Invasion Movies:</p> <p>‘aliens invasion movies make aliens just like us,’ Earth Landing, 2 Government Titles, pp. 593-594</p> <p>‘why Minor Races lose,’ War of the Worlds, 4 Diplomacy, pp. 1144-1145</p> <p>To Serve Man, 1 Diplomacy, pp. 1092-1093</p>

Quote Text	Relates To...
<p>the pulse was followed by deployment of tens of thousands of hunter-killer drones to hunt down surviving humans as they emerged from their shelters.</p>	<p>‘Minor Race inability to resist initial landings,’ Dropping In, 4 Combat, pp. 991-992</p>
<p>Achen, Christopher and Larry Bartles</p>	
<p><i>Christopher Achen and Larry Bartels following Edward Bernays:</i></p> <p>“Well-informed citizens[‘] ... well-organized ‘ideological’ thinking often turns out to be just a rather mechanical reflection of what their favorite group and party leaders have instructed them to think.” – Christopher Achen and Larry Bartels, <i>Democracy for Realists</i> (2016), p. 12 as quoted by Nicholas Allot, “The Responsibility of Intellectuals in the Era of Bounded Democracy,” <i>The Responsibility of Intellectuals</i> (2019), Ed. Nicholas Allot, Chris Knight and Neil Smith, p. 39.</p> <p><i>GGDM Commentary: This quote simply reinforces a point made throughout GGDM by use of Edward Bernays quotes, with additions from others. Like Proficiencies and Aspects in GGDM, one more supporting quote probably cannot be harmful.</i></p>	<p>‘invisible manipulation of public opinion,’ Edward Bernays quote, EN 1, 1 Culture, p. 359</p> <p>Edward Bernays bottom Feature Quote, 1 Government Titles, p. 584</p>
<p>Allot, Nicholas (w/ Chris Knight and Neil Smith, Ed.)</p>	
<p><i>Adversarial systems truth finding function:</i></p> <p>“Agreeing with this, one might note that RI [The Responsibility of Intellectuals] seems to presuppose that exposing political truths has a certain kind of instrumental value, namely that it will tend to make the world a better place by changing people’s political views. In fact, Chomsky’s position on this question is more nuanced. In an interview he said ‘I don’t have faith that the truth will prevail if it becomes known, but we have no alternative to proceeding on that assumption,’ and he has often endorsed Gramsci’s ‘optimism of the will’ as a necessary corollary to pessimism of the intellect.” – Nicholas Allot, “The responsibility of intellectuals in the era of bounded rationality and Democracy for Realists,” <i>The Responsibility of Intellectuals</i> (2019), Ed. Nicholas Allot, Chris Knight and Neil Smith, p. 32.</p> <p><i>GGDM Commentary: I agree with Chomsky’s above statements about the truth and that certainly applies to GGDM. The nuance here is that people will mistake GGDM’s axiomatic approach to macrosocial-civilization-whatever, for ‘pessimism of the intellect.’ That is, the Axiom of Human Meaning (‘humans need meaning’) carried through the GGDM simulation to its logical conclusions, will be called pessimistic if you are feeling kind, otherwise, many will call it nihilistic. Push aside the veils, take another view.</i></p>	<p>Cultural War, 5 Culture, pp. 428-429</p> <p>‘adversarial legal system, little gems of truth,’ Somewhere a Truth, 5 Fallen to Earth, pp. 1577-1578</p> <p>Axioms of Consequences, 1 Disruption, pp. 257-258</p>
<p><i>Elections are won on emotions, Truth Decay, anti-vaxxers, weltschang, etc.:</i></p> <p>“There is strong evidence that voting is not driven primarily by evaluation of the policies on offer. Recently, the political scientists Christopher Achen and Larry Bartels have argued that voting is not well explained as selection of a party with policies that match the voter’s preferences, nor as rewarding or punishing incumbents for their actions. Evidence includes the startling fact that votes are strongly affected by natural events. If Achen and Bartels are right, then there is a significant disconnection between widely available information and one of the central ways that citizens exert political power, and</p>	<p>‘elections are won on emotions,’ Chris Cillizza Feature Quote, 2 Culture, bottom p. 363</p>

Quote Text	Relates To...
<p>it is natural to suppose that the story is similar for other political behaviour besides voting. The challenge to RI [The Responsibility of Intellectuals] from this research is that telling the truth and exposing lies may not make much difference.</p> <p>A second problem is indicated by research on motivated reasoning and the ‘backfire effect.’ Facts that contradict political beliefs or discredit voters’ preferred electoral candidates tend to reinforce rather than dispel those beliefs and allegiances. We have a strong tendency to treat such facts with suspicion, while uncritically welcoming evidence that confirms our current views. Clearly, the challenge to RI posed by this work is that telling the truth may be counterproductive and damaging.” – Nicholas Allot, “The responsibility of intellectuals in the era of bounded rationality and Democracy for Realists,” in <i>The Responsibility of Intellectuals</i> (2019), Ed. Nicholas Allott, Chris Knight and Neil Smith, p. 33.</p> <p><i>GGDM Commentary: That telling the truth may be counterproductive or damaging is not new in the world, it is the reason for spies, crimes, cover-ups, military classified information systems, political scandals, family secrets. The specific issue of our time is that it is being applied in an information-flooded environment in a way to maximize exploitation of voter confirmation bias (as opposed to selling products to make money).</i></p>	<p>‘Truth Decay,’ Jennifer Kavanaugh and Michael D. Rich top Feature Quote, 2 Dreamtime, p. 143</p> <p>‘anti-vaxxers, weltanschauung,’ Bob Moser Feature Quote, 1 Information, p. 1334</p>
<p><i>In the last two years of working on GGDM, one might think that I should have tried harder to learn macrosociology while also finishing the game design. At age 50+ I apparently did not have the processing power and laser-like focus that I dreamily recall from my youth, despite having almost boundless time for two years:</i></p> <p>“Both sets of findings have been connected with the fact that human rationality is bounded in various ways: by time, attention span, processing power and the competing demands of life. We are finite beings, with only limited time and resources, and many other things to do besides keeping abreast of the activities of our governments....” – Nicholas Allot, “The responsibility of intellectuals in the era of bounded rationality and Democracy for Realists,” in <i>The Responsibility of Intellectuals</i> (2019), Ed. Nicholas Allott, Chris Knight and Neil Smith, p. 37.</p> <p><i>GGDM Commentary: Many other things to do ... like reading and playing GGDM! ☺ But essentially the comment applied above is outlined in the various reasons why an ‘escapist’ game of GGDM will eventually peter out – the ‘shelf-life’ of the game, see It Was the End of History, 1 Resolution, pp. 1456-1457. It is a problem most common in role playing campaigns, and is the reason why many tabletop gamers prefer one-off boardgaming; the issue is mentioned here and there throughout GGDM, e.g., Intermissions, et seq., 3 The Streams of Time, pp. 92-93.</i></p> <p><i>Isaac Arthur talks in his videos about a ‘post-scarcity’ civilizations, but rarely does science fiction imagine post-scarcity to mean infinite time, vastly expanded human attention span and processing power and no competing demands of life. Post-scarcity means usually material wealth and economic means. When science fiction does talk about those non-material scarcities, it generally does not end well for the characters or they cannot fully imagine the transhuman transformation it would bring.</i></p>	<p>Scarcity Discussions:</p> <p>Shoestring Production, 3 The Sideral Stage, p. 122</p> <p>Gone with the Wind, 1 Government Titles, p. 582</p> <p>Player Piano, 2 Eras, p. 770</p> <p>Corporation Games, 1 Corporations, p. 1243</p> <p>Naked Apes, 3 Colleges, pp. 495-496</p>
<p><i>The Bargain, oligarchic drift, and the quote about the collapse of public campaign finance in the US due to billionaire candidates:</i></p>	<p>The Bargain, 5 Culture, pp. 426-428 and ‘collapse of the campaign</p>

Quote Text	Relates To...
<p>“Another mechanism that very plausibly explains some of the mismatches between voter preferences and policy choices is the role of campaign finance. Thomas Ferguson’s investment theory of party competition, often cited by Chomsky, postulates that the need to raise campaign finance (‘the campaign cost condition’) reduces party politics to ‘competition between blocs of major investors.’ This means that voters are offered a choice between organisations that represent and will implement the preferred policies of certain areas of business, none of which is likely to match closely the preferences of ordinary voters. As Chomsky has pointed out, for a long time universal healthcare was the preference of the majority of voters in the US, but neither major party offered it.” – Nicholas Allot, “The responsibility of intellectuals in the era of bounded rationality and Democracy for Realists,” in <i>The Responsibility of Intellectuals</i> (2019), Ed. Nicholas Allott, Chris Knight and Neil Smith, p. 39.</p> <p><i>GGDM Commentary: This offers a potential insight to consider into Perfecting Proficiencies in GGDM, the game text really doesn’t explore what exactly it means to Perfect a Proficiency and that is left to the participants. But suppose for a second that one were trying to perfect a Medical Proficiency to place on the Public Space; would the preceding Allot quote be a factor in perfecting a Medical Proficiency? Throughout GGDM there is much discussion of manipulation of public opinion (e.g., through Edward Bernays quotes, Adolf Hitler quotes too), which could also be considered as an applicable factor in both Exposing Aspects and Perfecting Proficiencies in GGDM.</i></p>	<p>finance system,’ Paul Blumenthal quote, p. 428</p> <p>Perfect Proficiencies, <i>et seq.</i>, 3 Culture, pp. 381-382</p> <p>‘exposing aspects,’ A Bustle in Your Hedge-row, <i>et seq.</i>, 2 Culture, pp. 365-366</p>
<p>Aperture (YouTuber)</p>	
<p>Kardashev Scale, Eras & Uber Alles discussion, Super Void:</p> <p>“Humanity’s success is nothing short of spectacular, but on the universal scale, we may be rather insignificant. What would happen if we met an advanced alien species with technology more advanced than we could ever imagine? ... In 1964, a Soviet astronomer by the name of Nicolai Kardashev introduced a hypothetical scale that could be used to measure a potential civilization’s level of technology based on the amount of energy this civilization can produce and is known today as the Kardashev Scale. The scale has three traditional types, but many extensions and modifications to the scale have been proposed since its creation.</p> <p>The scale is logarithmic [i.e. orders of magnitude], meaning as we go on, the amount of power the civilization has is much, much more substantial ... Type 1, the smallest of the original types is also called a ‘planetary civilization’; this is most similar to our good old friend, Earth. ... Notice I said ‘most similar’ though, as the modern civilization here on Earth is not quite exactly fitting the Type 1 Civilization category. ... Rather than fitting into a Type 1 Civilization, we humans lined one of the extended types of civilizations: Type Zero. You see, when this scale was proposed, famous astronomer and astrophysicist Carl Sagan produced a formula to define a certain hypothetical civilization according to the Kardashev rating ... a proposed Type 0 civilization will control approximately 1 megawatt or 1 million watts of power which is miniscule compared to the amount of power we use on a daily basis. In 2015 alone, the total world energy consumption was 17.35 terawatts.... Plugging this number into P [in Carl Sagan’s equation] ... our Kardashev Civilization rating will be at Type 0.72... According to Carl Sagan, ‘Humanity is going through a phase of technological adolescence, typical of a civilization about to integrate the Type 1 Kardashev Scale.’ Michio Kaku, another brilliant theoretical physicist suggests that humans may attain Type 1 status in the next 100 to 200 years, Type 2 status</p>	<p>Uber Alles & Magic Formula, 2 Eras, pp. 767-768</p> <p>The Progress of Eras, 1 Eras, pp. 759-760</p> <p>Magnitude of Eras, 2 Combat, pp. 952-953</p> <p>Super Voids, Rifts:</p> <p>EN 16, 3 Movement, p. 867</p> <p>History in the Balance, 1 Expansion, p. 888</p> <p>Kardashev Scale:</p> <p>Scaling Eras, 1 Eras, pp. 755-756</p>

Quote Text	Relates To...
<p>in perhaps the next few thousand years, and Type 3 status in 100,000 to 1 million years. ... However, even this amount of power is tiny compared to the next type of civilization, Type 2.</p> <p>[Narrator discusses Type 2 Civilizations then moves on] Type 3 civilization is referred to as a galactic civilization and can control the total energy of its host galaxy. The amount of power this civilization would have is truly frightening and it's sorta in the realm of science fiction ... You see this civilization would function extremely similar to the way a Type 2 civilization worked, it would harness the power of stars, mine planets and asteroids and so on, but not only for one star but for billions of stars. A civilization like this would use planets and solar systems like Legos, building and deconstructing planets to build-up their empire elsewhere in the galaxy. The galaxy would ... become their playground and everything they do and use is merely a toy. Harnessing the energy of quasars would be like hitting the lottery for them; the supermassive black hole at the center of their galaxy could be used as an energy source for a Type 3 civilization. Galactic real-estate would become a reality with planets, stars or even complete solar systems being auctioned off by some supreme leader.</p> <p>Interestingly enough, this hypothetical galaxy may not even be noticeable; if such a civilization did exist, all of the energy from the stars would be held and used for whatever the civilization may need. This means all the starlight, gas and elements in an entire galaxy would become like your kitchen pantry. If all of the matter in their galaxy was exploited for energy, an outside observer would view the galaxy to be completely invisible. ... There is a place in space known as the Great Void. At nearly 330 million light years in diameter, the Great Void is one of the largest known voids in the entire universe, and is commonly referred to as a super void. This region of space is seemingly devoid of ... galaxies as we know it; a region of space with such a massive size as the Great Void contained, scientist estimate there should be at least 2,000 galaxies in this area of space, but today there have only been 60 galaxies that have been discovered in the Great Void. [you know what's coming...] Could it be Type 3 civilizations completely dominating an entire region of space, milking a 330 million lightyear wide region for resources?" Aperture [Narrator], "The Most Advanced Civilization In The Universe," Aperture YouTube Channel, July 8, 2017 ("Aperture, also known as Zynq, is an American YouTuber who makes videos about various scientific topics. [article contains a photo, but no real name]" – from Wikitubia article, "Aperture," December 19, 2020).</p> <p><i>GGDM Commentary: Compared to the scale of the universe, even a Type 3 civilization would be petty and insignificant as there are over two trillion galaxies. Having more and more power will not allow one to escape insignificance.</i></p> <ul style="list-style-type: none"> • <i>For an extended Kardashev scale discussion, see quote from "What If We're Living in a Type Five Simulation?" this document.</i> 	<p>Math Exercises, 4 Taxation & Census, pp. 326-327</p> <p>"Abusing the Kardashev Scale" TV Tropes Feature Quote, 2 Technology, top p. 701</p> <p>'heatsink discussion,' Dayworld, 3 Taxation & Census, pp. 315-316</p> <p>Neutral Emergence, 3 Fallen to Earth, p. 1537</p>
Applebaum, Ann	
<p><i>Idealizing lost past and lost empires as a political statement on the present:</i></p> <p>"People who dislike the present or are uncomfortable with what their country has become, very often begin to look to previous eras, they look back to different times, and romanticize them and seek to bring them back. Not in an aesthetic way or by repurposing the idea, but literally to bring them back. And this is what many nationalist projects are</p>	<p>'idealizing past as political statement on present,' Joseph Tainter</p>

Quote Text	Relates To...
<p>founded on, we want to bring back the time when we were young, or when our grandparents were young, and we remember the country being a certain way. You can very much see that as a facet of Trumpism as well, a cartoon vision of the 1950s, you know, when men were men, and women were at home, and there were no people of other races visible in public life.</p> <p>But that’s the view, that’s the image they want to bring back, and that’s the moment, when they say ‘Make America Great Again,’ that’s what they mean. They mean to make it like when it was run a certain way. It’s a way of denying the present, and denying all of the good things that have happened in America over the last two, three, four, five decades, and denying the diverse nature of the country and the incredible potential that it has... It’s also a form of solecistic and self-centered pessimism; I’m pessimistic because things aren’t the way I remember them. And that really leaves no space for young people, for new ideas, for refreshing visions of what the country can become.” – Anne Applebaum, Morning Joe, MSNBC, August 17, 2020.</p> <p><i>GGDM Commentary: This is why many people have from the beginning in 2016 said that Trump’s campaign slogan “Make America Great Again” is really code for “Make America White Again.”</i></p>	<p>quote, Orientalism, 4 Commerce, p. 1229</p> <p>‘fundamentalist medieval religious fantasy,’ Nothing to Offer, 1 Colleges, p. 454</p> <p>‘too late to turn back the clock,’ Green Anarchists from Earth, 1 Technology, p. 686</p> <p>See also, <i>Humanity+ quote, pp. 113-114, this document</i></p>
<p><i>Asymmetric Warfare, ‘degree of’ success in Special Operations, tribal politics at the ballot box/Peanuts Football Trick, effects of News Events:</i></p> <p>“For decades now, Russian security services have studied a concept called ‘reflexive control’ – the science of how to get your enemies to make mistakes. To be successful, practitioners must first analyze their opponents deeply, to understand where they get their information and why they trust it; then they need to find ways of playing with those trusted sources, in order to insert errors and mistakes. This way of thinking has huge implications for the military; consider how a piece of incorrect information might get a general to make a mistake. But it works in politics too. The Russian security services have now studied us and worked out (it probably wasn’t very hard) that large numbers of Americans – not only Fox News pundits and OANN broadcasters but also members of Congress – are very happy to accept sensational information, however tainted, from any source that happens to provide it. As long as it suits their partisan frames, and as long as it can be used against their opponents, they don’t care who invented it or for what purpose.</p> <p>As a result, supplying an edited audiotape or a piece of false evidence to one of the bottom-feeders of the information ecosystem is incredibly easy; after that, others will ensure that it rises up the food chain. Russian disinformation doesn’t succeed thanks to the genius of Russians; it succeeds thanks to the sharp partisanship of Americans. Russian disinformation works because Americans allow it to work – and because those same Americans don’t care anymore about the harm they do to their country.</p> <p>You can argue, of course, that these 2020 efforts don’t need to be taken so seriously, because they failed. Biden won. At least half the population did not believe the false accusations, or weren’t swayed by them. The Hunter Biden saga faded. But that misses the more insidious, longer-term effect of these kinds of games – or rather, the insidious, long-term effect of the behavior of the Americans who play them. Just because the Russian security services didn’t achieve their most important goal, the reelection of Donald</p>	<p>‘asymmetric war,’ Ivan Arreguin-Toft top Feature Quote and Offset Strategies, <i>et seq.</i>, 2 Special Operations, pp. 1285-1289</p> <p>‘degree of success in Black-Ops,’ Murder by Numbers, 2 Special Operations, p. 1303</p> <p>‘tribal war at the ballot box,’ John R. Schindler bottom Feature Quote, 4 Order, p. 577</p> <p>‘Peanuts Football Trick,’ Hans Fiene Feature Quote, 5 Government Titles, p. 637</p>

Quote Text	Relates To...
<p>Trump, doesn't mean that they and their American partners didn't do some collateral institutional damage along the way.</p> <p>For one, they have successfully undermined the reputation, the morale, and maybe even the capacity of the FBI. Last summer Peter Strzok, the FBI's former chief of counterespionage, told me that, under Trump, the bureau and the entire Department of Justice had a 'motivation not to get on the wrong side of a vengeful president.' That meant they had a motivation not to stop Giuliani and Derkach, for example, even though Derkach was known to be a Russian operative. The two men peddled disinformation together with impunity. The FBI and the DOJ didn't have a motivation to investigate Trump's role in these matters either, even though that was pretty obvious too. He was paying Giuliani, after all, to do what Giuliani was doing. America's counterintelligence teams, when faced with open collaboration between close associates of the president and known Russian agents, were rendered helpless." – Ann Applebaum, "The Science of Making Americans Hurt Their Own Country," The Atlantic, March 19, 2021.</p> <p><i>GGDM Commentary: This provides not only a prime example of a Special Operation in GGDM, but also could work as a News Event effect, for example, causing loss of Police Proficiencies, as noted many Special Operations Black-Ops could be News Events (see, In the Morning Papers, 2 Special Operations, p. 1301). It is no surprise that under Putin, a bitter former Soviet KGB agent of the late Cold War, Russia has continued the Cold War operations that were notably unable to prevent them from losing the Cold War. Such responses are asymmetric when the other side does not feel that they can reasonably compete on the operational levels – conventional military, economic, or diplomatic – of their adversaries. See also, Nicholas Allot quotes collectively, this document.</i></p>	<p>'the KGB won the Cold War espionage war,' Amy Knight quote and Kim Philby discussion, 2 Special Operations, pp. 1293-1294</p> <p>'overlap of Special Operations and News Events, and News Events vs. Plausible Deniability,' The News Brothers and Keep the Sand in the Sandbox, 2 Dreamtime, pp. 143, 147-148</p>
Arthur, Isaac	
<p>Local drift, small colonies, education, tech-logistics and infrastructure:</p> <p>"We should also keep in mind technology can get expensive; it takes huge supply trains and other infrastructure like education to keep technology running. And a lot of smaller colonies might not have that and prefer to go for a lower-tech solution." – Isaac Arthur, "Low-Tech Spacefaring Civilizations," Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, October 15, 2020.</p> <p><i>GGDM Commentary: This logistic is a theme running through GGDM which does not necessarily assume a post-scarcity civilization and as such, it would be too expansive to list all of the possible references. As stated in Ship Systems, 3 Movement, p. 854, GGDM does not assume Star Trek like technologies (especially replicators and matter transport) and even Star Trek does not present a completely post scarcity civilization.</i></p> <p><i>See also, related discussion of "novelty tech" items in Traveller RPG, EN 11, 5 Culture, pp. 432-433 and Arthur C. Clark's classic 1951 short story, "Superiority," discussed in 1 Patents, p. 740 and Areal Weapons, 3 Carriers & Fighters, pp. 1073-1074.</i></p>	<p>Human Drift-course, 3 Entropy, p. 246</p> <p>Steep Road, 2 Construction, p. 666</p> <p>And the Cradle Will Rock, 3 Culture, p. 382</p>
<p>Funny, artificial intelligence discussion:</p> <p>"Keep it simple, keep it dumb, or otherwise, you'll end up under Skynet's thumb!" – Isaac Arthur, "Low-Tech Spacefaring Civilizations," Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, October 15, 2020.</p>	<p>Vernor Vinge and Neil DeGrasse Tyson Feature Quotes and The Vinge Rule, 2</p>

Quote Text	Relates To...
<p><u>GGDM Commentary:</u> <i>Artificial intelligence is discussed in several places throughout GGDM in terms of combat (2 Colleges, p. 477), exploration (3 Movement, p. 855), diplomacy (2 Diplomacy, p. 1114), use of Enlightenments (2 Colleges, p. 478), and especially the Technological Singularity. See also, excerpts AI Problem in Corporations section.</i></p>	<p>Technology, pp. 705-706</p>
<p><i>COT and Enhancement Patents applied to ship speed, interstellar communications, small colonies:</i></p> <p>“If you’ve got new technology, as we all know so well nowadays, you are rather dependent on the various companies making constant updates, applications, repair parts and fixes. And at a certain level of advancement, for utility, a lot of folks, for a lot of applications, might decide that the technology that has been tried and tested for centuries and is now open license, is what they want to use. We have a lot of technology like that and we get more of it all the time. Oh, to be sure, we make tiny little improvements in almost everything, even stuff like how we make dimensional lumber for buildings or even the windows in them gets new tweaks and improvements, but that is likely to plateau out, and when you are talking about interstellar civilizations who need decades just for the schematics for a given new improvement to disseminate to the nearest colonies via light transmission, and with voyages of centuries to those same places, you are likely to see a lot of tried-and-true technology come into play.” – Isaac Arthur, “Low-Tech Spacefaring Civilizations,” Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, October 15, 2020.</p> <p><u>GGDM Commentary:</u> <i>The running joke in Stargate SG-1 television series was the humans’ ability to defeat the Replicators using rapid-fire gunpowder military small arms which the Asgard would have never thought of (Thor said, “We are no longer capable of that kind of thinking.”); the Asgard are a classic example of a race that ‘tech-ed themselves out of existence.’ Within GGDM, positions may continue to build and use lower Era technology throughout the game, and as discussed in Shipbreaking, 3 Construction, pp. 681-682, there is no provision in GGDM for mothballing obsolete ships.</i></p>	<p>Continuous Operational Technologies (COT) and Enhancement Technologies, 2 Patents, p. 740</p> <p>Dogstar, 2 Star-drive, p. 792</p> <p>Communications Breakdown, <i>et seq.</i>, 1 The Streams of Time, pp. 76-78,</p> <p>Transatlantic Communications, 1 Movement, p. 837</p> <p>‘small colonies,’ Steep Road, 2 Construction, p. 666</p>
<p><i>Colony Ships, Orbital Cities, CET:</i></p> <p>“The other reality is that while more technology always helps for settling space, once you’ve got it decently settled, you don’t need as much tech to keep it that way.” – Isaac Arthur, “Low-Tech Spacefaring Civilizations,” Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, October 15, 2020.</p> <p><u>GGDM Commentary:</u> <i>This provides some retroactive rationale for Colony Transports, in which the main technology is the Stardrive with a tin can built around it. A 1st Era Orbital City is a tin can in orbit.</i></p>	<p>Wagon Train to the Stars and Colony Cans, 1 Expansion, pp. 878-879</p> <p>Orbital City, 2 Construction, p. 667</p>
<p><i>Copying technology, training technicians and logistical support for technology:</i></p> <p>“You rarely need to be as smart to learn something as to invent it.” – Isaac Arthur, “Low-Tech Spacefaring Civilizations,” Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, October 15, 2020.</p> <p><u>GGDM Commentary:</u> <i>Sarah Kaplan noted that “you don’t always need to explain a phenomenon to use it” (see Feature Quote, 1 Eras, p. 761) in her article about Chinese quantum communication satellites. The Wikipedia article about Nicholas Appert, who invented or at least industrialized food canning in 1804, notes, “Appert never truly understood why his method worked (this being years before the science of bacteriology was</i></p>	<p>Letters Patent, 3 Patents, p. 748</p> <p>3 Culture, <i>generally</i></p> <p>‘not trying to recreate and exact copy of the item,’ Reverse Engineering, <i>et seq.</i>, 3</p>

Quote Text	Relates To...
<p><i>developed), it was so simple that it quickly became widespread.” This is something to consider in, for example, Reverse Engineering attempts in GGDM; you don’t need to know how to make fire, you can just steal a burning stick from the other tribe’s campfire and just make sure to keep feeding the fire and spreading it around.</i></p> <ul style="list-style-type: none"> • Music people may not consider this an apt analogy, but there are bands the create music and imagery, and then there are cover bands that come afterward. It doesn’t take as much brains to learn to play someone else’s music as it does to compose; if this is not true, the world would be full of composers. With the collapse of physical record sales in the digital download age, professional musicians have noted (and complained) that they make most of their money in live shows now, and that has always been the game of the cover band! Some cover bands like Rain (a Beatles cover band) and Brit Floyd have evolved huge shows now with their own merchandise sales on tables outside the venue (I saw both). 	<p>Technology, pp. 712-713</p>
<p><i>Local drift, variable technology:</i></p> <p>“The galaxy and the future can potentially host virtually endless variations of civilization, in this or that place and time ... that is one neat thing about our future as a spacefaring civilization, the path to all those new stars offers a path to near endless options for civilizations.” – Isaac Arthur, “Low-Tech Spacefaring Civilizations,” Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, October 15, 2020.</p> <p><u><i>GGDM Commentary:</i></u> <i>And this is the primary challenge of interstellar governments with endless frontiers, an issue discussed in Zero Sum Game and Interstellar Paleolithic Cultures, 6 Diplomacy, pp. 1171-1174. Emergence results from disparate combinations of basic elements, and each time a colony ship goes outward, the deck is shuffled.</i></p>	<p>Human Drift-course, 3 Entropy, p. 246</p> <p>‘value dominance,’ EN 11, 5 Culture, p. 432</p> <p>Neo-Luddites, 1 Technology, p. 686</p>
<p><i>Astronomy can get you home, astrology can’t (portability argument); Mars communication lag & FTL communication, aiming for an empty spot in the sky, all news in space is old news:</i></p> <p>“For centuries, humanity has used the stars to navigate our own world, but our future is to navigate to those stars and worlds around them. ... [brief discussion of Star of Bethlehem] ... but it stuck in my head as a kid ... that the stars move relative to each other and us. Our sky changes slowly, but it does change, some of it cyclically, some of it not. It’s something folks don’t often appreciate about trying to send a ship, or even a message to another star. If you aim for it, it won’t be there when you or your message arrive. Today we will look at interstellar navigation, but for completeness, we won’t just look at slower-than-light travel today but also faster-than-light navigation issues and intergalactic navigation issues, and even problems with popping forward and backward in time through a wormhole.</p> <p>But even without time-travel, the galaxy shifts a lot over time and not in the regular and repeating way we see in solar systems. The Earth has orbited the Sun over four billion times, and the Moon has orbited the Earth probably about 50 billion times, and each orbit is nearly identical to the last. But our Sun has only orbited this galaxy about 20 times and the galaxy never looked vaguely the same between each orbit. A few of the stars near us have been since our Sun’s beginning, co-moving from the original nebula they all formed from, but may have been swept out of the pack and some have migrated toward us, while many more are just passing by at different angles and were not our neighbors a million years ago and won’t be in another million. The Alpha Centauri system is well</p>	<p>‘portability argument,’ Sapience, 2 Expansion, pp. 897-898</p> <p>Communications Breakdown, <i>et seq.</i>, Creaky Communications, and EN 1 (Mars communication lag), 1 The Streams of Time, pp. 76-78, 78-79, 81</p> <p>‘all news in space is old news,’ Datastream, Freeze Frame, and Taking It All Down, 2 Information, pp. 1340, 1341, and 1343</p>

Quote Text	Relates To...
<p>known as the closest one to us, but its three stars are not siblings to our sun, which is nearly a billion years younger. At the moment, our solar system is moving in the general direction of Altair, the 12th brightest star in the night sky, 17 lightyears away. But what we mean is that we are moving toward its current approximate location at 26 km per second, which is still less than 1% of 1% of light speed. So don't worry, we won't hit it, not even close, though our Sun has often passed near other stars.</p> <p>[Slower than Light Speed] Even in a ship capable of near lightspeed, you can't just aim at a star and expect to arrive there, because you are looking at old light the star emitted tens of thousands or millions of years ago and you'll see the star moving along as you get closer to the newer light. Of course, you would try to predict the star's trajectory and plot an intercept course, but remember the star isn't in a simple elliptical orbit like a planet around a star, it's on a complicated trajectory affected by all of the other stars that will pass anywhere near it during that millennia of your travel. So you have to project the motion of all those stars as well. In other words, you'll need to model the motion of an entire section of the galaxy, so let's hope you have the data and processing power to do that. And while you are at it, make sure you don't encounter any poorly-timed supernovas and the star isn't going to be dead when you get there.</p> <p>You often hear people talking about navigating by pulsars, and that is a very good and also very limited means of navigation. [discussion of the formation of pulsars] Pulsars can vary in rotational rate from as little as a few milliseconds to several seconds, but each pulsar is pulsing at a very specific rate and spectrum, essentially a unique signature, though one that changes with time as the pulsing is taking up a lot of energy and the neutron star produced no new energy. ... This pulsing is also not omnidirectional, coming off the poles of the star, so is not visible as a pulsar from all angles. Thus, even though we estimate there are over a billion neutron stars in our galaxy, we've only detected a couple of thousand. ...</p> <p>[SN-1054, supernova recorded in 1054 by the Chinese] It's only a thousand years old from our perspective – the star having died several thousand years ago, but we are seeing it as it was when the light left. That's a thing to remember though, if you travelled there now, it would seem to age very quickly as you approached, especially if you were jumping there by warp travel of some sort. Its current period is 33.5 milliseconds ... and it is slowing down. Its period increases by an estimated 38 nanoseconds a day, or 0.0139 milliseconds a year. So if you suddenly fell through a wormhole to arrive nearby it, you wouldn't find it at that 33.5 millisecond rotational rate, you'd find it at more like 120 milliseconds, because it's 6,000 years older now that you're closer and has slowed a lot. ... Nor can you assume that a neutron star is slowing at a precise and constant rate over thousands of years. ...</p> <p>Key thing here is that while pulsars are great for figuring out your location during relatively mundane interstellar travel, it won't help you for getting hurled through vast amounts of space and time by some entity or anomaly as we often see in science fiction. You don't get chucked halfway across our galaxy, even to the same point in time – which is a dubious concept anyway – and just check your local pulsars for a quick positional fix. ... Given time to find all of the local pulsars and get a fix on the galactic center, the Andromeda Galaxy and so on, you'll be able to guess your location decently, but this won't be fast and it won't be precise <u>and isn't something just fixed by having way better computers</u>. If we are talking about getting hurled into other galaxies or any motion in time, then you are pretty much out of luck with pulsars.” – Isaac Arthur, “Interstellar</p>	<p><i>See also 'Cosmic Distance Ladder,' Matthew O'Dowd, "The New Crisis in Cosmology," for more 'nuts and bolts' of galactic distancing, this document.</i></p> <p><i>Or as the sign said, "If you don't know where you are going, you will probably end up somewhere else."</i></p> <p><i>There's a couple of different layers of meaning there...</i></p>

Quote Text	Relates To...
<p>Navigation,” Science & Futurism With Isaac Arthur (SFIA) YouTube Channel, December 17, 2020.</p> <p><i>GGDM Commentary: There is a lot more to this video, but this is sufficient to drive home the point for GGDM purposes. This is the <u>nuts and bolts of interstellar travel</u> that are slickly glossed over in both GGDM and in science fiction generally, which assumes that we have the data, processing power, understanding and foresight to get the correct ‘firing solution.’ The tiniest error would be fatal, leaving the ship stranded billions of km or even a light year from the target. There is tremendous plot potential (like agents backdoor inserting a small error into a navigation program) that is overlooked by science fiction and is certainly fodder for GGDM Concierge Interventions.</i></p> <ul style="list-style-type: none"> This is certainly an argument as to why we will need quantum computers someday, Sabine Hossenfelder noted, “All over the world, researchers are now trying to build a quantum computer that, if it ever works would vastly increase the number of computational problems that we can solve” (“Quantum Physics: Still mysterious after all those years,” on her YouTube Channel, May 30, 2019). 	
Ash, Arvin	
<p><i>Double Slit Experiments-Looking discussion, Temporal Ships and Temporal Operations, John Archibald Wheeler, Retconning the game, arrow of time-causality, naïve physics -intuition:</i></p> <p>“You know intuitively that your actions today will influence your circumstances tomorrow. But imagine turning this scenario backward; that your actions in the future may actually be influencing your circumstances today? Could it be possible that the future could influence the present?</p> <p>An enhanced version of the famous double-slit experiment, called delayed choice quantum eraser implies exactly that mind-blowing scenario – that future events can influence past results. ... In 1978, a physicist by the name of John Archibald Wheeler proposed a thought experiment, called ‘delayed choice.’ Wheeler’s idea was to imagine light from a distant quasar which is billions of light years from Earth, being gravitationally lensed by a closer galaxy. As a result, light from a single quasar would appear as coming from two slightly different locations, because of the lensing effect of gravity from a galaxy between Earth and the quasar. Wheeler noted that this light could be observed on Earth in two different ways: The first would have a detector aimed at each lensed image. Since the precise source of this light was unknown, it would be measured as particles of light when viewed, but if a light interferometer was placed at the junction of the two light sources, the combined light from these two images would be measured as a wave because its precise source would not be known. That’s the way quantum mechanics should work.</p> <p>This is called ‘delayed choice’ because the observer’s choice of selecting how to measure the particle is being done billions of years from the time that the particle left the quasar. So presumably, the light would have committed to being either a particle or a wave, billions of years before the measurement is actually made here on Earth.</p> <p><i>GGDM Commentary: Is this to suggest that the choice made by the observer on Earth affected the choice made by the light particle billions of years ago?</i></p>	<p>‘quantum physics, intuition, and the double slit experiment,’ Kate Becker Feature Quote, John Gribbin quotes, Peek-a-Boo, <i>et seq.</i>, and EN 6, 2 Expansion, pp. 893-897, 903-905</p> <p>‘naïve physics – intuition,’ Kate Becker Feature Quote, 4 Colleges, p. 505</p> <p>‘participatory universe,’ John Archibald Wheeler top Feature Quote, 1 Information, p. 1327</p> <p>Temporal Paradoxes in GGDM:</p> <p>‘temporal Special Operations and paradoxes,’ Time Safari, Inc., 1</p>

Quote Text	Relates To...
<p>This quasar experiment isn't practical, but modern equipment allows us to perform a similar experiment in the lab, where the decision to measure a particle or wave is done at random after the quantum system has 'committed.' And indeed his thought experiment is confirmed – that even if measured at random, when the path information is known, the light is a particle. When path information is erased by using an interferometer, the light is a wave. But how could this be? ... the light began its journey billions of years ago, long before we decided on which experiment to perform? It would seem as though the quasar light 'knew' whether it would be seen as a particle or wave billions of years before the experiment was even devised on Earth.</p> <p>Does this prove somehow that the particle's measurement of its current state has influenced its state in the past? This interpretation is where things get fuzzy. The most conventional way to interpret quantum theory is to presume quanta have a potential wave function, meaning it is really not a particle or wave, it's just a wave potential. And this potential collapses into a definite state when observed. In this view, the act of measurement gives reality to the quantum particle. So in the delayed-choice experiment, this means that the quantum doesn't become 'real' until you measure it. So this experiment does not prove that the present has influenced the past because the light could have been a wave and particle at the same time, only to become real when it was measured.</p> <p>However, another more recent experiment set-up used a more complicated method to determine this idea of the future influencing the past. It introduced something called the quantum eraser to the delayed choice. So it is called the Delayed Choice Quantum Eraser designed by Kim, Kulik, Shih and Scully in 1999. It is a complicated construction that introduced the entangled pairs of photons to Wheeler's delayed choice experiment.</p> <p style="text-align: center;">***</p> <p>Let's take a standard double slit set up for firing single photons, but instead of letting the photons go to the [detector] screen after it goes through the double slit, we will split the photon into two entangled photons using a barium borate crystal. Since these photons are entangled, we can take measurements of one photon without touching the other. In addition, we place a lens, such that regardless of whether the photon exits from the top slit or bottom slit, the two beams will always combine at Detector 1 such that we cannot know which slit the photon came from. So this lens acts as an eraser because it erases the path information of the photon.</p> <p>Next we will take several measurements on the entangled pair of the photons coming out of each slit. We place a beam splitter such that each photon has a 50% chance of being diverted downwards and a 50% chance of going through the splitter. We do this for photons coming from the top slit and the bottom slit separately. When the beam is diverted downwards, the two beams from the top and bottom slits combine such that the path information cannot be known. In other words, if Detector 4 [the downward detector] detects a photon, it will not have the 'which way' information. The combining of the two beams is the eraser – in other words, the 'which path' information is erased at Detector 4.</p> <p>But if the particle exits the top slit and is detected at Detector 2 [the top side detector], the 'which path' information is known, because Detector 2 can only detect photons from the top slit. Similarly, if the particle exits the bottom slit, and is detected at Detector 3 [the bottom side detector], the 'which path' information is also known because Detector 3 can only detect photons from the bottom slit. The results of the experiment are pretty amazing because here's what happens: When Detector 2 senses a photon, Detector 1</p>	<p>Special Operations, pp. 1268-1269</p> <p>'temporal ships,' Ghost Probabilities, <i>et seq.</i>, and What to Do with Paradoxes, <i>et seq.</i>, 2 Temporal Technologies, pp. 818-819, 822-825</p> <p>Retconning in GGDM:</p> <p>Things That Are True, 2 The Big Bang, p. 6</p> <p>'News Events should not retcon,' Keep the Sand in the Sandbox, 2 Dream-time, pp. 147-148</p> <p>'GGDM not designed for recon,' Type 5, 3 Beginnings, p. 43</p> <p>Arrow of Time:</p> <p>'arrow of time same for all races in the game,' Temporal Constructural Element, 1 Constructural Elements, pp. 173-174</p> <p>'cracked causality chaos prohibited,' The Door to that When is Closed and Un-rung, 1 Temporal Technology, pp. 804-806</p>

Quote Text	Relates To...
<p>[the top eraser detector] which senses its entangled twin, shows that it's a particle, not a wave – because we see a double line particle pattern. The same thing happens when Detector 3 senses a photon – Detector 1 [the top eraser detector] shows its entangled twin as a particle.</p> <p>However, when Detector 4 [the bottom eraser detector] senses a photon, Detector 1 [the top eraser detector] senses a wave pattern, not a double line particle pattern. So far, nothing surprising here right? This tells us that when the ‘which way’ information is known, that is, when the detector can ascertain which slit the photon came from, it always presents as a particle. But when the detector cannot ascertain which slit the photon came from, that is, when the ‘which way’ information is erased, then the photon acts like a wave.</p> <p>I'm being a little cheeky here because I left out a tiny but crucial detail that makes these results shocking. And that detail is the path to Detector 1 [the top eraser detector] is much shorter than the paths to Detectors 2, 3 and 4. So the photon is always detected at Detector 1 before it is detected on any other detectors! So this is the ‘delayed choice’ aspect of this experiment. And the interference pattern forms on Detector 1 even if the ‘which path’ information pertinent to the photons that form it are only erased much later in time at Detector 4 [<i>so the information ‘preexists’ in some form</i>]. And a double line pattern forms at Detector 1 even before it's ‘which path’ information is ascertained by Detectors 2 or 3 [<i>the detectors that can only be hit 50% of the time by photons from the top or bottom slits</i>]. This shows us that somehow the photon at Detector 1 ‘knows’ ahead of time which detector it's entangled pair will end up at in the future. So it seems to show that the future state of the photon at Detectors 2, 3, and 4 affect the past state of its entangled pair at Detector 1. And these results are absolutely consistent and have been demonstrated in multiple experiments.</p> <p><i>GGDM Commentary: The essence of engineering is to apply natural laws to solve practical problems; imagine the massive reality changing potential if we could find a way to apply delayed quantum erasers? We would become entirely different post-human creatures, for once, completely responsible for our own existence. Of course, GGDM is not set up for this kind of play...</i></p> <p>How is this possible? To be perfectly honest, I don't have an answer. No one has a good answer. If you have the answer, let me know – because there is a Nobel Prize waiting for you. But not knowing the answer is not going to stop our speculation! What is absolutely clear in this experiment is that the measurement of a particle in the present can influence the properties of that particle in the past. In other words, the decision made in the present can influence something in the past; the effect seems to precede the cause. But maybe our sense of time flowing in one direction is not something that quantum particles are constrained by; the entangled particles seem to be immune to the direction of time, or are somehow connected in time even when not connected in space. Maybe our causal experience is just that – an experience, but not the true nature of reality? Cause and effect seem to be temporarily separated in the quantum world.</p> <p>But let's extrapolate these results to their most absurd extremes. There can be no communication between the future and the past, this would violate all kinds of laws in physics, like conservation of information, energy, etc. But does backward causation mean that a future cause is changing something in the past?” – Arvin Ash, “Delayed Choice</p>	<p>Framework discussions:</p> <p>‘emergence,’ Order of Genesis, <i>et seq.</i>, and Frame It, 1 Order, pp. 522-527</p> <p>‘category error and fractured universe,’ Math Boy and Turbulence of Being, <i>et. seq.</i>, 2 Entropy, pp. 222-227</p> <p>‘religion as a framework problem in GGDM,’ Problem to Solve, 4 Fallen to Earth, pp. 1558-1559</p>

Quote Text	Relates To...
<p>Quantum Eraser: Shocking Results may show Future Affects Past,” Arvin Ash YouTube Channel, April 12, 2019.</p> <p><i>GGDM Commentary: Like arguments about ‘pre-life’ before birth, the suggestion that a quasar ‘knew’ how it would be measured billions of years later seems absurd on its face. And that is almost certainly the prime clue to the fact that we are looking at this wrong, we have the wrong framework. This framework and category error problem has been discussed in GGDM.</i></p> <ul style="list-style-type: none"> • If my future decisions are affecting my current circumstances, I cannot wait to punch my future self in the nose! ☺ <p><i>From a gaming point of view, one could say, well, this is just photons and quantum physics. But GGDM is a game or simulation or simulation game, in a science-fiction setting, and does – must – assume all sorts of wild science and technology advances that would be rejected by anyone with any sense in the current world. So this extension of the double slit experiment discussion in 2 Expansion (the core element of the ‘looking’ discussion in GGDM) could be creatively useful in the GGDM game, and is also quite educational as to ‘real world’ science! And science fiction has thrived on extrapolation of ideas from science, e.g., the ‘spindizzy’ anti-gravity device (see Spindizzy, 2 Stardrive, pp. 792-793).</i></p> <ul style="list-style-type: none"> • It’s kind of odd how that works. I have not heard ‘solve this problem and there is a Nobel Prize waiting for you’ line in years (I think the Nobel Prize has lost some glow recently), but then I suddenly heard it twice in two days, the second time from Machio Kaku, see Machio Kaku quote, this document. 	
Associated Press (uncredited staff writer)	
<p><i>Animal-rights Habeas Corpus cases, personhood, volitional:</i></p> <p>“An appellate court on Thursday upheld a lower court’s ruling dismissing a petition from an animal rights group for an elephant in the Bronx Zoo to get human-like rights and be moved to a sanctuary.</p> <p>The Nonhuman Rights Project had said Happy the Elephant was ‘unlawfully imprisoned’ at the Bronx Zoo, where she has been for more than 40 years. A judge in February, ruling against the petition, said New York state courts have ruled that animals are not legally ‘persons.’</p> <p>The appeals court ruling agreed with that decision and said, ‘a judicial determination that species other than <i>homo sapiens</i> are ‘persons’ for some juridical purposes, and therefore have certain rights, would lead to a labyrinth of questions that common-law processes are ill-equipped to answer.’” – Associated Press [uncredited author], “Appeals court upholds ruling over Bronx Zoo elephant,” December 17, 2020.</p> <p><i>GGDM Commentary: Is this funny? There was a Twilight Zone episode “People are Alike All Over” (1960) where a human was invited to a very friendly alien planet and found himself in a zoo cage; they built him a home, just like on Earth, but it was really a cage in a zoo. Now that is funny, in the context of GGDM! I wryly suggested that we may be part of some superbeing’s ant farm in EN 2, 1 Information, p. 1336.</i></p>	<p>Habeas Corpus Monkey-us, 2 Writs, p. 438</p> <p>Limp Chimps and ‘personhood discussion’ Daniel Dennett top Feature Quote, 2 Diplomacy, p. 1110 and Alien Persons <i>et seq.</i>, pp. 1110-1111</p> <p>In the Mirror, I Meta Me, 2 Constructural Elements, pp. 195-196</p>

The Atlantic with James Fallows

The end of the United States, cycles of history, pragmatic history, Adrianople, Odoacer, Long Night, corporations, medieval universities, transformation/reformation, social cohesion:

Narrator: The Roman Empire is often described as the world’s greatest civilization. It’s long, sad path of decline and fall is a story for the ages. What can Rome’s collapse teach 21st Century Americans?

James Fallows: There has been through American history this consciousness of vulnerability this consciousness of decline, this consciousness of a past greatness that somehow we may be falling short of.

[shows videos of Ronald Reagan and Donald Trump in speeches both saying, “Make America Great Again!”]

Narrator: Politicians have capitalized on this vulnerability, but they’re missing the point.

James Fallows: The narrative of decline and fall of Rome that has prevailed in America’s mind has assumed that the fall was both the end of the story and the bad part. What if, after the fall is the time when we should be concentrating on as modern Americans?

Narrator: There are many theories of what went wrong.

James Fallows: There’s corruption, there’s slavery, there’s overextension.

Narrator: The simplest theory involves a string of military losses that chipped away at its borders. Finally, a barbarian defeated the last emperor to rule from Italy [picture of Odoacer]. Historians consider this end of the Western Roman Empire. The part that tends to get all of the attention.

James Fallows: After the fall, you have the Bubonic Plague, you have the Dark Ages, and then eventually you come to the Renaissance.

Narrator: Scholars call the era in between, ‘late antiquity.’ This time of transformation gave rise to new systems of government, a new state religion, and artistic experimentation. And it can be a case study for America.

James Fallows: When Rome went away, some things were lost, but other things were created and became possible. The idea of modern corporations and business organizations, some concept of individual rights, the first glimmer of what became universities. There was a kind of experimentation which was the necessary pre-condition to the flowering of the Renaissance and onwards.

Narrator: How does the U.S. of today compare to the Rome of the past?

James Fallows: Over the last generation there’s almost nothing the national government system seems capable of; you have more and more national politics becoming a matter that you call tribal or like sports rivalries in a really nasty way.

Narrator: The empire might be fading, but cities and towns tell a different story at the local level.

James Fallows: Eighty percent of Americans across the country and of all different ethnicities and income levels consider the community where they live to be an excellent or quite good place to live. Seventy percent of Americans said that they trusted the people in their own neighborhoods.

Narrator: Just as the fall of central power in Rome made way for new possibilities, a weaker national government could lead to stronger local initiative.

Shattered States and The Last POTUS, 5 Government Titles, pp. 640-641

‘Battle of Adrianople,’ Valens & Alans and ENs 6, 7, and 8, 1 Expansion, p. 884, 889

Transformations, *et seq.*, 1 Reformation, p. 1379-1381

‘Pope Boniface VIII secularized medicine about 1300 A.D,’ The Black Death, 1 Disruption, pp. 252-253

‘the Roman fall eternally fascinates us,’ Rebels, Romans and Ruins of Religions, 1 Constructural Elements, pp. 182-183

‘continuity of the Roman Senate,’ EN 6, 2 Taxation & Census, p. 312

Pragmatic History:

Pragmatic Ethics, 3 Order, pp. 551-552

Pragmatic GGDM, 6 Combat, p. 1032

James Fallows: In almost any area of public policy you can think of, there are cases where communities, states and regions are taking the lead where national policy is not. We're seeing things like that in western Kansas, little farming town of Spearville just outside Dodge City, wind turbines becoming a major source of income for farmers. In every city of the United States you can see city-based activity to plant more trees. It may be the single most-effective short-term step to deal with carbon that's already in the atmosphere.

Narrator: The end of America as we know it, doesn't necessarily mean the end of America.

James Fallows: When a tree falls in the forest, there's suddenly sunlight for the saplings that have been struggling to rise. Modern Americans should be thinking about how to avoid the decline and fall of the American Empire, and also, what might come next." – Narrator (uncredited) plus Jim Fallows interview, "Will America Fall Like Rome?" The Atlantic YouTube Channel, November 14, 2019.

GGDM Commentary: "Can the U.S. fall like Rome?" is the underbelly of "Make America Great Again" which the Atlantic Magazine video shows both Ronald Regan and Donald Trump using in speeches. Regardless of the racism attached to MAGA (e.g., "Make America White Again") the Roman connection seems to be an intellectual undercurrent, dating back to the founding days of the country where the founders envisioned reestablishing a Roman-like Republic (e.g., Cincinnati, OH was named in 1790 for Lucius Quinctius Cincinnatus, a 5th Century B.C. pious, humble, selfless farmer-warrior hero of the Roman Republic). This November 2019 video from the Atlantic predates the October 3, 2020 David Pakman Show segment I used in the November 2020 entry for Periodic Public Space, and there is a similar video from Vice News titled, "How America Could Fall Like Rome," dated March 21, 2021!

- I remember reading a comment somewhere that one of the reasons that the Roman Empire survived their interminable civil wars was because regardless of what happened at the top, regardless of the chaos, the basic low-level and local administration of the empire continued unaffected; the contenders to the throne were careful not to kill the goose.

As noted in Artifice, 2 Constructural Elements, pp. 191-192, in Ibn Khaldun's theory, social cohesion is cyclical with power. Thus, power must respond to social cohesion and social cohesion dictates power and that was the point of the discussion of Artifice about generational change-over of Constructural Elements and government personnel.

Atwood, Margaret

Census (Marxian production and reproduction), passive acceptance of legitimacy:

"People like that in these kinds of regimes frequently say it would have been worse if not for me. Is that just an excuse, are they excusing themselves, are they telling the truth? ... Totalitarian regimes limit choice ... they limit it very stringently to go along with us, or these are the alternatives. So death, exile, prison, or at a lower level, just not having career or power. ... Well, they all have their reasons, what it comes down to is that they assert their right to control reproduction and they assert their right over people's bodies. ... Totalitarianisms, no matter what they say their aims are, no matter what's on the flag, they all have in common the rollback of women's rights. ... People may behave accord-

'production and reproduction,' Frank Elwell Feature Quote, 1 Taxation & Census, top p. 296
Legitimacy, *et seq.*, 3 Government Titles, pp. 607-609

<p>ing to circumstances, but they are also quite capable of compliance on the outside and resistance on the inside.” – Margaret Atwood on The Beat with Ari Melber, MSNBC, November 30, 2020.</p> <p><i>GGDM Commentary: Sexual dominance is inextricably woven with the male concept of power. It’s pretty basic, primitive, wrestling is the sport of ‘imposing your will on your opponent.’ Given that, what Atwood says is not at all surprising. Why do kings have concubines (the Chinese emperors had a formal concubine ranking system), why do rich men and powerful politicians have mistresses, why do masters take advantage of female slaves and servants?</i></p> <ul style="list-style-type: none"> • MSNBC notes that the interview was taped before the 2020 Presidential Election but not aired until after the election results were known. They felt it was important to point that out on YouTube. 	
<p>Ayvazyan, Sargis</p>	
<p><i>Ancient worldview, mythopoeic thinking, ritualistic religion and government (Roman contractual religion, ancient Judaism, etc.):</i></p> <p>“It should be noted that people were more religious in ancient times. The difference between now and then is that religion was not separate from the state, art or science. It was all one complete whole.” – Sargis Ayvazyan, Urartian Cuneiform Writing Teacher, Yerevan State University (Armenia) interview in Urartu: The Forgotten Kingdom (documentary, 2020).</p> <p><i>GGDM Commentary: Also notable was the allegation a few minutes earlier in the documentary that Urartu switched from bronze to iron weapons and their Assyrian rivals soon followed suit. The documentary thus makes the claim that the armies of Urartu were the first to use iron weapons, which has long been attributed to Assyria. This issue is discussed in I Combat.</i></p> <p><i>Second point, the documentary comments that the Urartu king (and commonly kings of the time) used titles like “King of the Four Winds” or “King of the Universe.” Any leader now who used such a title as “King of the Universe” would be laughed to their grave. We know so much more about the universe, we have some idea, though still evolving, of just how big the universe is and how tiny and insignificant the Earth is in relation. But when a king is considered to be a divine son of the gods, or a god on earth, they can, in a mythopoeic sense, claim to be King of the Universe when they have the biggest empire around. But it speaks to our ‘advance’ that it is nonsense now.</i></p> <p><i>See also, Magical Thinking, 3 Information, p. 1366 and “Flower Wars,” EN 6, Carriers & Fighters, p. 1065 and Neurotic Religion, 4 Culture, p. 412.</i></p>	<p>‘Roman contractual religion,’ 4 Fallen to Earth, p. 1554 and EN 6, p. 1567</p> <p>‘Siege of Jerusalem,’ EN 8, 1 Constructural Elements, p. 185 and ‘Jewish-Roman Wars’ Wikipedia Feature Quote p. 176</p> <p>Mythopoeic Thinking, 1 Temporal Technology, p. 809 and Henri Frankfort and Robert Segal Feature Quotes, middle p. 808</p>
<p>Babylon 5 (TV Series, 1993-1998)</p>	
<p>“Babylon 5 was the last of the Babylon stations. There would never be another. It changed the future and it changed us. It taught us that we have to create the future or others will do it for us. It showed us that we have to care for one another, because if we don’t, who will? And that true strength sometimes comes from the most unlikely places. Mostly, though, I think it gave us hope, that there can always be new beginnings. Even for people like us. As for Delenn, every morning for as long as she lived, Delenn got up before dawn and watched the sun come up.” – Susan Ivonova, closing narration, Babylon 5, “Sleeping in the Light” (last episode, Season 5, 1998.</p>	

Balderrama, Joseph (narrator)

Naval revolution, ship building (laying keel/ship building), Ship PE Patents in GGDM, Doctrinal Templates (logistics of uniform equipment), loss of prestige/legitimacy (ship sinking in public sight), absolute leadership owns the failure:

“Named after the Royal Family, the *Vasa* was built in 1626, a time when Sweden was becoming a military force. The Swedish King, Gustaf Adolph, had ambitious plans for his nation. Gustaf wanted to create a new type of navy. Instead of using ships simply to carry soldiers, he wanted them to be heavily armed gun platforms. King Gustaf had already reformed his army, making sure his soldiers all had the same type of musket. He wanted every ship in his navy to have the same type of powerful bronze cannons. The *Vasa*’s 64 guns could fire over 500 pounds of shot in a single broadside, travelling almost at the speed of sound.

That many 24-pounders needed an extra deck, so the shipwrights made the ship taller. That created a problem. [Andrew Lambert, naval historian, interview] ‘It’s going to be higher out of the water, more windage, more weight high up, but nothing extra below the waterline, no extra ballast, no extra stability. This ship is going to be dangerously top heavy. Anybody who knew anything about ships would have known that this was not a good idea. But the King is absolute, and the King’s will prevails.’ On the Sunday afternoon of the 10th of August, 1628, *Vasa* was finally ready to set sail [note that it took two years]. The King was away at war in Prussia, but thousands of his subjects turned out to watch. The *Vasa* sailed about 1,000 yards, and then the breeze picked up. [Fred Hocker interview] ‘And when the first gust of wind hit the sails, the ship began to heel to the port side ... And it hung there for a minute. It didn’t really come back up the way a ship should... Knowledgeable people onboard must have realized already that there was something wrong....’ But things escalated quickly. The sea began to pour in on one side of the deck, pushing the port side down even further. ... From that moment the *Vasa* was lost. [it sank in Stockholm harbor in 10 minutes, 30 people died as a result]” – Joseph Balderrama [Narrator], “Why This 17th-Century Warship Was a Disastrous Failure,” Smithsonian YouTube Channel, July 2, 2020 (originally aired on Combat Ships, “Doomed Ships,” June 1, 2020).

GGDM Commentary: *Ultimately, the King had the correct idea, but he went about it the wrong way. He didn’t listen to knowledgeable people and simply used his absolute authority to override. Heavily-armed broadside firing ships would determine naval superiority for the next several centuries. As the centuries progressed, each naval warship became equivalent to a small fortification in terms of costs and the number of guns onboard (see Spinal Mounted Weapons, 3 Carriers & Fighters, pp. 1075-1076).*

‘naval revolution,’ R. Ernest Dupuy and Trevor N. Dupuy Feature Quote and EN 13, 3 Carriers & Fighters, pp. 1073, 1078

Laying Keel and Shipbuilding, 3 Construction, pp. 675-676

‘ship Patents in GGDM,’ Physical Item Technologies, 2 Patents, pp. 739-740

Nationalist Armies and Combat Formations, 4 Colleges, pp. 502-503, 503-504

‘downside of dictatorial authority and responsibility,’ Chris Buckley and Steven Lee Myers quote, 3 Government Titles, pp. 615-616

Ball, Krystal

This echoes comments on propaganda and psy-ops:

“The key to an effective attack is that it has to ring true. There has to be some essential grain of truth that yeah, you can take it and stretch it and caricature it, you can take it from there, but the initial core insight has to land in some way.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, October 8, 2020.

GGDM Commentary: *Mea culpa: Seven months after publication, I have no idea why the Daniel Lerner quote is on p. 1101, instead of in the Propaganda section at the top of 1 Diplomacy.*

Daniel Lerner quote, 1 Diplomacy, p. 1101

Pedagogy of Propaganda, 1 Kairotic Moments, pp. 1424-1425

<p>Religion (the argument that although we are secular, pretty much everything underlying our civilization comes from discarded religion), Constructural Elements, public relations:</p> <p>“They are very invested in their signaling of virtue. So in the department of Donald Trump, the way that they feel to signal their virtue is to say the most outrageous or extreme thing about him. In this [case] the way to prove that they are better people than the Republicans is by expressing their well wishes. It created though, this tension, this dynamic that didn’t actually really make sense when you put the two things together.” – Krystal Ball, Rising: The Week with Krystal & Saager, The Hill YouTube Channel, October 10, 2020.</p> <p><i>GGDM Commentary: Public virtue signaling is a religious artifact of the holier-than-thou and self-righteous and Church-supported government legitimacy (e.g., see 1715 The Sun King is Dead, this document), the replacement of religious beliefs with secular values is discussed many places in GGDM, but everything we are, do, and believe is still affected by the legacy of religion.</i></p>	<p>Another Duality, esp. Douglas Adams quote, and Modernity Machines, 1 Technology, pp. 694-696</p> <p>Modernity, 3 Constructural Elements, p. 207</p> <p>Be Fruitful, 4 Culture, p. 411</p>
<p>Bad Guy can be right/isn’t always wrong, Saturday morning cartoon morale/morality:</p> <p>“First of all, it is stupid to say that if someone did bad things, you can never ever say anything good about them? Are we children?” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, April 24, 2020.</p> <p><i>See also, ‘Bad Guy’ discussions: The Devil’s Argument and Crappy Things Must Happen, 1 Entropy, p. 216, and EN 10, 3 Beginnings, p. 45.</i></p>	<p>An Observation, 2 Information, p. 1339</p> <p>Morality vs. Morale, 5 Combat, p. 1008</p>
<p>Regeneration Proficiency, division of labor, forward expectations:</p> <p>“What we are talking about here is real family values. We just looked at polling that has 80-something percent of Americans support affordable child care. This should not be a partisan issue. And he [David Dayen, Exc. Editor The American Prospect] brought up something that I thought you’d find interesting ... he talked about how the way we used to handle this is force women to stay home and they dealt with all the care needs, and we still have a system now that people have to have two income earners that hasn’t adjusted whatsoever to that new reality which I thought was an interesting way of thinking.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, October 24, 2020.</p> <p><i>GGDM Commentary: There are many different definitions of politics, in GGDM, politics is the allocation of resources (in 1 Taxation & Census) and another definition of politics is ‘culture war’ (in 5 Culture). These two foil off one another throughout GGDM, but are neither exclusive nor mutually exclusive, for example, the two come together in the issue of social safety nets. John Meacham said, “Politics is the art of the possible.” (see quote this document). Another possible GGDM-linked definition of politics arising from the above quote, is that it is ‘forward expectations.’ This is consistent with the discussion of ‘progress’ throughout GGDM.</i></p> <p><i>See also, Progress Discussions in GGDM: Progress, 1 Eras, p. 759, The Bargain, 5 Culture, pp. 426-428, Technosolution, 1 Patents, p. 726, Forward Expectations, 1 Disruption, p. 255.</i></p>	<p>Regeneration Proficiency, 3 Culture, p. 398</p> <p>Forward Expectations, 1 Disruption, p. 255</p> <p>Definitions of Politics in GGDM:</p> <p>Interstellar Politics, 1 Taxation & Census, p. 295</p> <p>Cultural War, 5 Culture, pp. 428-429</p>
<p>“As I recently laid out, unlike some on the left and the never-Trump right, I don’t view Trump as a Hitlerian figure so much as a late-stage capitalism nightmare; the ungodly</p>	<p>Who Are You, 3 Dreamtime, p. 168 and ‘fame</p>

<p>combination of celebrity culture, reality TV and consumerism as a religion.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, October 27, 2020.</p> <p>“[Pres. Trump’s] not cut from the cloth of dictators, strong men and fascist like Hitler, Mussolini, or even Victor Orban or Bolsonaro; he’s cut from the cloth of Wendy’s, get-rich-quick schemes, and 90s episodes of Cops. Now that’s not to say [Pres. Trump’s] not dangerous mind you, late-stage capitalism is quietly murdering Americans every single day, killing us through a food system built around addiction and binging rather than nourishment, a health care system designed to make you a good customer with lucrative chronic conditions, a consumer culture designed to create ever more insecurities rather than satisfy your needs.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, October 1, 2020.</p> <p><i>See also, Capitalism quotes by Frank Elwell (discussing Braverman), EN 10, 2 Eras, p. 778, ‘capitalism and paying taxes,’ Timothy Stanley bottom Feature Quote, 2 Taxation & Census, p. 311, and Roula Khalaf, 5 Culture, p. 428.</i></p> <p><i>See also, main discussion of emergent consumerism, 2 Commerce, pp. 1196-1198 and Neurotic Religion (‘consumerism’), 4 Culture, p. 414.</i></p>	<p>and infamy,’ Chris Cillizza Feature Quote, p. 169</p> <p>The Adult Table, 3 The Big Bang, p. 13</p> <p>To be a Rock and Not to Roll, 3 Culture, p. 367</p>
<p><i>On executives receiving massive bonuses (or a golden parachute) before company files for Chapter 11 Bankruptcy Protection:</i></p> <p>“When we talk about a rigged economy, this is it. Where your company goes under and you still win.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, October 27, 2020.</p> <p><i>GGDM Commentary: Who loses in a bankruptcy proceeding? The creditors. They get pennies on the dollar, and oftentimes, the company reorganizes and emerges from bankruptcy. So it creates a situation where the company executives can bonus themselves and golden parachute from the plane as it’s going down, and someone else pays for it. This is not an issue that I can argue is directly addressed or directly relevant to GGDM, but it’s there, for example, I note that literal and figurative bankruptcy led to the collapse of the feudal system and Europe was only rescued by sailing ship exploration and exploitation of the rest of the world.</i></p>	<p>‘figurative and literal bankruptcy of the feudal system,’ The Black Death, 1 Disruption, p. 253</p> <p>Why Europe and the West, David Landes excerpt, Eras</p>
<p><i>Cognitive dissonance, consequences must proceed change:</i></p> <p>“These areas of dissonance are fruitful terrain for possible change. ... If there is one thing I know, it is never to underestimate the ego, and the male ego in particular.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, October 28, 2020.</p> <p><i>See also, ‘prophecy fail,’ Vaughn Bell Feature Quote, 2 Wheel in the Sky, top p. 1488.</i></p>	<p>Axioms of Consequences, 1 Disruption, pp. 257-258</p>
<p><i>Popularism, ‘white man’s burden’ ideology, transactional thinking:</i></p> <p>“While policies should certainly be judged on their merits rather than their popularity, there is something a little odd and white-savior patronizing about the fact that Affirmative Action appears to be most popular among white liberals and viewed with indifference, even contempt, among the very minorities it’s supposed to aid. ... If the people that the policy is supposed to benefit don’t actually see the benefit, then what exactly are we doing here? ... If the folks you are aiming to help seem very uninterested in the flavor of ‘help’ [making quote hand gestures] you are actually offering; in fact, the more you dig into the policy, the more it seems like it’s more about making affluent white people feel good about themselves and about the elite institutions and environments they inhabit, much more so than it is a project of justice. ... So diversity has been sold to affluent</p>	<p>Kalderan Surrender, 5 Combat, pp. 1014-1015</p> <p>Lunette Ring Weight, 2 Culture, p. 362</p> <p>The Bargain, 5 Culture, p. 426</p>

<p>whites, not really as a project with the end goals of justice, though the trappings of that are nice and make them feel really good, but as a lifestyle brand. And diversity has also been sold on a strictly transactional level too, as something that is actually beneficial to you and your kid.” – Krystal Ball, Rising with Krystal & Saager, The Hill YouTube Channel, November 19, 2020.</p> <p><i>GGDM Commentary: Krystal Ball was discussing the rejection in 2020 of a referendum in California to reinstate Affirmative Action which had been suspended in the 1990s; the referendum lost by 15 points, including in fourteen heavily Latino counties and only won a majority in Los Angeles and San Francisco.</i></p> <p><i>There is a lot in this one, some of it goes to the discussion in GGDM that you cannot help people who don't want to be helped (a civilization cannot be helped if it is resisting foreign ideas, peace cannot occur until the sides see no other option) and it also goes to the heart of The Bargain discussion, it actually sort of connects the two.</i></p>	<p>Assassination of Count Bernadotte, Greys Diplomacy, 1 Diplomacy, p. 1097</p> <p>‘white man’s burden,’ (ideology from Runyard Kipling’s 1899 poem) in Elder Race, 5 Diplomacy, pp. 1153-1154 and One and All, 3 Taxation & Census, p. 323</p>
<p><i>Craving for Pride, need for meaning, political secession, rhetoric, domestic subsistence level, Versailles Syndrome (Capital Colony out of touch), political paralysis-Power Activation failures, legitimacy-Conflict Checks:</i></p> <p>“... the people who run things in this town [Washington, D.C.] who, by the way, only benefit from this view of politics where it’s completely existential and where your true adversary and enemy is your neighbor or the blue state next door vs. the people here who can’t get their act together to give the American people a tiny little bit of something [the COVID 19 stimulus] to get through winter during a pandemic and mass depression. So, I think this [secessionist] rhetoric, first of all I think it’s false, it’s completely untrue, I think people in this country are basically committed to very similar things, they want to be able to have a decent life for themselves, for their families, some pride and some meaning in their lives and their communities, some hope for their children. Like it’s pretty simple and pretty basic. And it’s only people here who benefit, and by the way, people who run major cable news networks, where the whole thesis and the whole central premise ... they’re the only ones who benefit from this type of rhetoric, viewing your neighbors, the state next door, the city a few hundred miles away ... as the real enemies, as the real adversary.” – Krystal Ball, Rising with Krystal & Saager, December 11, 2020.</p> <p><i>GGDM Commentary: This is an example of the kinds of tensions that could exist between colony planets under an interstellar government (and also within regions on a single colony planet). You don’t have to look far; history and current events provide plenty of fodder for GGDM, just toss them up in the sky and extrapolate at will! And we’re not even talking about aliens here! Even among colonies in an interstellar civilization populated by the same race and culture, what could be easier to spin as the real enemy than people who are on another colony planet in the same system or lightyears away?</i></p> <p><i>See also, Inside the Hyperspace Bypass, et seq. and Moving the Swamp, 2 Order, pp. 533-536. GGDM does not directly address or have a mechanical process for when a position’s Capital Colony physically exists and is not ‘disrupted,’ but is ‘out of touch’ with the rest of the civilization, but rather, it is handled in other ways such as failure of Conflict Checks (Foreclosure of a Dream, 3 Government Titles, pp. 616-617) and inactivation of Constructural Elements (Disruption Events at colonies, Apostasy on Ships, see Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy summary).</i></p>	<p>‘Eric Hoffer, craving for pride,’ Wikipedia quote 3 Commerce, p. 1219</p> <p>‘Axiom of Human Meaning,’ Humans Need Meaning, 1 Beginnings, pp. 23-24</p> <p>Rhetoric Proficiency, 3 Culture, p. 398</p> <p>‘Colony domestic subsistence,’ Resources, 2 Taxation & Census, p. 301</p> <p>‘Power activation failure,’ Presence and Power Off, 2 Constructural Elements, pp. 189, 193.</p>

The Bargain, Forward Expectations, Domestic Subsistence, this even goes a slight bit to the anti-natalism and Genesis Mandate arguments:

KRYSTAL BALL: ...but we wanted to take a moment to zoom out and look at the overall landscape of the country, which look, the bottom line is whichever candidate wins we are in very troubled times with a lot of deep problems and anxiety in this country.... [referencing NYT report] so look at these numbers of how many Americans are concerned that the next generation is going to be worse off, I mean that is a stunning number and maybe the most critical metric of how we are doing as a society if only six percent are saying ... the next generation is going to be better than I. I mean, that is so counter to our whole sense of the American dream and sense of the inevitability of progress which we've had and held in this country for decades. ... So you can just see overall ... that next generation worse off number, Saager, is so telling about how pessimistic Americans are right now about the future of this country.

SAAGER ENJETI: That is the entire story to me, which is that if you don't believe that your kids are going to be better off than you, then what's the whole point of this whole thing? What's the whole point of life? *That's literally the primary drive of human evolution is to stay alive and procreate, and then in order to keep your kids alive and better off so they can do the same thing.* If you don't think that, that leads to some deep nihilism and that is what I think you see within our politics. – Rising with Krystal & Saager, The Hill YouTube Channel, November 3, 2020.

GGDM Commentary: *Anti-natalism rests on two arguments: 1) It is impossible to argue that anyone can be born 'for their own good' – it is just absurd – and 2) It is impossible to guarantee that being born in this world, the creature will not come to harm or suffer the harms of being in this world – in short, there is no benefit at all to being born! Religion and some philosophies try to address the problem in different ways; for example, Abrahamic religions tried to mandate reproduction by putting it in the first chapters of the holy book – it's called the Genesis Mandate (discussed in GGDM). Reincarnation systems try to tell us that in being born to the world, we might eventually escape the prison – Saṃsāra – and achieve ultimate enlightenment, merging with the cosmos. And all of them try to tell us, in various ways, that life is precious, a divine gift, special, that we should be thankful for (and PTL & pass the plate!). To accentuate this point, Christianity even tosses in the resurrection of Christ, and the raising of Lazarus from the dead by Christ – do you think Lazarus was happy to find himself back on Earth – against his will, for a second time?*

- I am not sure how this would work exactly, without creating a pre-birth existence – but it would be fascinating to write a story where someone was actually born 'for their own good' – perhaps it would be a messianic story, maybe Christ was 'born' for his own good?

On the flip side of this, Derek Parfit and Nick Bostrom seem to argue that we have a moral duty to continue humanity or more precisely, an overwhelming moral imperative to avoid calamity, in which category Bostrom places human extinction. Do you? So there you have the tension between harm to individuals from being born, and harm to humanity from extinction.

Now, cycling back up to the discussion, it seems that Krystal & Saager and the NYT are suggesting that people inherently think that if their children are not going to be better off than they are, they are causing harm to their children whom they were responsible for

'Colony domestic subsistence,' Resources and Red Planet, 2 Taxation & Census, pp. 301, 307

'production and reproduction,' Frank Elwell Feature Quote, 1 Taxation & Census, top p. 296

Forward Expectations, 1 Disruption, p. 255

The Bargain, 5 Culture, p. 426

Genesis Mandate/anti-natalism:

'anti-natalism,' Wikipedia Feature Quote, 3 Beginnings, bottom p. 39

Be Fruitful, 4 Culture, p. 410

Fuzzy Places, 5 Taxation & Census, p. 339

Be Fruitful and Multiply, 1 Expansion, p. 877

EN 8, 4 Fallen to Earth, p. 1567

<p><i>bringing into the world. This most certainly dilutes the ‘blame shifting mechanism,’ described in Be Fruitful, 4 Culture, pp. 410-411. This is the <u>essence</u> of Forward Expectation and something that could be considered in GGDM colonization.</i></p>	
<p>Political selection systems, partisanship (Addison), Enlightenments (leadership qualities):</p> <p>KRYSTAL BALL: The Loeffler-Warnock race is like the pilot, or like a test, of whether candidate quality actually matters at all. Because Reverend Warnock is very talented, very charismatic, he’s obviously a preacher, so he’s incredibly effective on the stump, was very effective in the debate last night, thinks fast on his feet, has charm and appeal, and as we played [previous video clip] she [Kelly Loeffler] has like negative on all of those qualities. Not to mention is the richest member of all of Congress, is wildly out of touch, doesn’t know how to answer basic questions, and so obviously is just reciting the talking points she memorized from her consultants. So if candidate quality matters at all, you would think that Warnock has a shot in that race. I am just not sure that, especially in a race like this that has been so nationalized, that it actually matters.</p> <p>SAAGER ENJETI: I don’t think it matters. Nate Silver [of FiveThirtyEight] did an analysis on this before the election of how candidate quality has been declining over time in terms of its importance over the last 25 years because of rank partisanship. [more criticism of candidates Kelly Loeffler and David Purdue] So, overall here, not the best our country has to offer, but probably what we deserve. – Rising with Krystal & Saager, The Hill YouTube Channel, December 7, 2020.</p> <p><u>GGDM Commentary:</u> <i>As an aside, Sen. Loeffler’s “robotic” performance at the debate with Rev. Warnock goes to the issue of Aspects in GGDM, and the discussion of emotions and special positions without Aspects. Rev. Warnock won the January 2021 election.</i></p> <p><i>See also, Soph-Ants, 4 Culture, p. 407, and Interdisciplinary Approach and Payment of Generations, 4 Colleges, pp. 507-509 on the issue of leadership.</i></p>	<p>Subjects and Citizens, 2 Government Titles, p. 599</p> <p>“Mischief of Party Spirit,” Joseph Addison top Feature Quote, 2 Disruption, p. 265</p> <p>Hand-wringing Aspect and Arête for All, 3 Colleges, pp. 487, 496</p> <p>Enlightenment and Web of Night, 2 Colleges, pp. 475-476, 477-478</p>
<p>Bardella, Kurt</p>	
<p>Echoes Chris Cillizza’s comments about Sean Spicer, Donald Trump, and the Kardashians, self-perpetuating or runaway processes:</p> <p>“Showered with non-stop attention, Trump learned from the news media that the more sensational his rhetoric became, the more he could own the airwaves. It didn’t matter what people said about him, just as long as they were talking about him. How many times have we heard political and media observers ask out loud, ‘When will this insanity stop?’ The answer is simple: It’ll stop when we stop feeding oxygen into this firestorm of our own making.” – Kurt Bardella, op ed., “Get ready to change the channel and stop giving Donald Trump the attention he craves,” USA Today, December 7, 2020.</p> <p><u>GGDM Commentary:</u> <i>This is a beautiful example of how abuse of News Events, and one-upmanship in News Events in GGDM can spin the game out of control or descent into absurdity. The way to stop a game that is going Monty Haul on News Events is to just stop, to collectively rein in News Events – and in fact, that is precisely what happened to Donald J. Trump when his social media accounts were closed.</i></p>	<p>‘moment in our culture,’ Chris Cillizza quotes, 3 Dreamtime, p. 168 and ‘fame and infamy’ Chris Cillizza Feature Quote, p. 169</p> <p>‘abuse of News Events,’ Keep the Sand in the Sandbox and Diplomatic Protest, 2 Dreamtime, pp. 147-148, 148-149</p>
<p>Bennett, James C., Michael Ignatieff and Nick Cohen (Anglosphere discussion)</p>	
<p>Anglosphere, cultural drift, romantic narcissism, cultural affinity:</p>	<p>‘cultural affinity,’ Naturalization, 3</p>

<p>“The Anglosphere, as a network civilization without a corresponding political form, has necessarily imprecise boundaries. Geographically, the densest nodes of the Anglosphere are found in the United States and the United Kingdom. English-speaking Canada, Australia, New Zealand, Ireland and English-speaking South Africa (who constitute a very small minority in that country) are also significant populations. The English-speaking Caribbean, English-speaking Oceania and the English-speaking educated populations in Africa and India constitute other important nodes.” — James C. Bennett, <u>The anglo-sphere challenge: why the English-speaking nations will lead the way in the twenty-first century</u> (2004), p. 80 (available free on Google Books).</p> <p>“He [Robert Conquest] seems to believe that Britain should either withdraw from Europe or refuse all further measures of cooperation, which would jeopardize Europe’s real achievements. He wants Britain to throw in its lot with a union of English-speaking peoples, and I believe this to be a romantic illusion.” – Michael Ignatieff, “The Anglosphere,” <i>The New York Review of Books</i>, May 11, 2000 (available free online, just Google it).</p> <p>“‘Anglosphere’ is just the right’s PC replacement for what we used to call in blunter times ‘the white Commonwealth’.” – Nick Cohen, “It’s a Eurosceptic fantasy that the ‘Anglosphere’ wants Brexit,” <i>The Spectator</i>, April 11, 2016 (available free online).</p> <p><i>GGDM Commentary: This entry is demonstrative of an argument about the ‘Anglosphere’ and the ‘special-relationship’ that was pulled into the Brexit and Trumpism arguments. Within GGDM play, the corresponding relationship would likely be found in colonies and their former sovereign or the original Native Population Type that founded the colony, and possibly also – depending on what degree this is taken – between Homeworld and populations of the associated Lost Colonist Primal State position. In Babylon 5 TV series, for example, even though Mars became ‘independent’ of Earth, a cultural connection and cordial loyalty to the ‘humanosphere’ would remain.</i></p>	<p>Order, pp. 557-558</p> <p>‘Dallos anime/ The Moon is a Harsh Mistress,’ EN 9, 2 Taxation & Census, p. 313</p> <p>Lost Colonist, 6 Beginnings, p. 63</p> <p>Anglosphere:</p> <p>Homogenized Milk, 3 Commerce, p. 1222</p> <p>‘resistance to the metric system in the Anglosphere,’ EN 7, 2 Structural Elements, pp. 201-202</p> <p>‘Dr. Who discussion,’ X-Factor, 2 The Streams of Time, pp. 86-87</p>
<p>Biden, Joe</p>	
<p>International Prestige:</p> <p>“The rest of the world looks at us ... they follow us not just because of the example of our power, but also the power of our example.” – Joe Biden, interview with Jake Trapper, CNN, December 3, 2020.</p> <p><i>GGDM Commentary: This is pretty much the definition of international prestige. Prestige appears many places throughout GGDM, notably, the erosion of Roman prestige (upon which the empire, like the United States, depended), e.g., see On Being Roman, 6 Government Titles, p. 654. See also, Fist Fights in Parliament, 2 Order, pp. 532-533.</i></p>	<p>Samurai Crabs and Esteem & Prestige, 3 Government Titles, pp. 610, 614</p> <p>Trail of Tears, 2 Disruption, p. 278</p>
<p>Board Game Geek (website)</p>	
<p><i>This is from the BGG (Board Game Geek) Ratings page under the heading, “Common Proposals and Complaints.” It goes to a lot of things at the heart of GGDM mechanics to implement the simulation – the problem of reducing social ideas to simulation mechanics, it goes to News Events (Modifications and Diplomatic Protests), Writs and Patents Interpretations, the ‘devils in the details’ discussions:</i></p> <p>Various ratings-related proposals and complaints appear repeatedly in the forums.</p> <p>Very many diverse proposals for “improved” formulas, sometimes including purported “mathematical proofs” that the new proposal is clearly superior.</p>	<p>Ethics & Interpretations, 3 Diplomacy, p. 1136</p> <p>The Problem of Immersion, 1 Culture, p. 352</p>

<ul style="list-style-type: none"> • Complaints about low ratings perceived as malicious or trolling, with various proposals to disallow such ratings (which are complicated once one tries to formalize them in detail, e.g. how to define and prove a “bad faith” rating, how to police them, etc.). • Complaints about ratings wars between 10-raters (“Cool minis, can’t wait for this game!”) and 1-raters (“Countering the hype!”) • Complaints about ratings for unreleased games, with various proposals to disallow rating unreleased games (which are complicated when trying to formalize them in detail, e.g. how to define an unreleased game, how to police this, what about playtesters and others who really have played it, what about games with multiple versions & editions, etc.). • Proposals for different text descriptions / meanings of the values 1-10. • Proposals to only allow people to rate games which they’ve played, or which they own. (But many users have no interest in logging plays or marking their owned games. And nothing prevents users from falsely logging fictitious plays or falsely marking a game owned.) • Proposals to only allow people to rate games if they also write a user comment about the game. (Which would probably cause an increase of hastily typed use-less vapid user comments.) <p>Current BGG policy is that users are allowed to rate games however they wish, as long as each person only rates a given game once.</p>	<p>Fuzzy Ops, 3 Special Operations, p. 1306</p> <p>What If I Get a Nasty Papercut?, 1 Corporations, p. 1250</p>
<p>Bowers, Betty (comedic character)</p>	
<p><i>Funny, introduction of god into an argument:</i></p> <p>“I’m not judging, I am just passing along the verdict.” – Ms. Betty Bowers, “Fake Christian of the Week: Jerry Falwell, Jr.,” Mrs. Betty Bowers, America’s Best Christian YouTube Channel, August 28, 2020.</p>	<p>Invoking God, 1 Reformation, p. 1384</p>
<p><i>This goes with the 2017 Philip Bump quotes about election fraud:</i></p> <p>“Evidence of election fraud is sorta like Jesus, you have to believe in it without seeing it, otherwise you have no faith.” – Ms. Betty Bowers, “The Voter Fraud Fraud,” Mrs. Betty Bowers, America’s Best Christian YouTube Channel, November 12, 2020.</p> <p><i>See also, Philip Bump quote regarding election fraud claims, 1 Entropy, p. 229.</i></p>	<p>‘election fraud,’ Philip Bump bottom Feature Quote, 1 Disruption, p. 262</p>
<p>Bratge, Willie, Capt. (Hauptmann)</p>	
<p><i>Colony and Ground Unit surrender and concern for personal historical legacies:</i></p> <p>“Then I happened to look toward the tunnel exit, civilians have hoisted the white flag! They’re leaving the tunnel together with the soldiers! It’s impossible to go on fighting now. Gentlemen, the white flag has been hoisted without our consent. We are still subject to the regulations of the Geneva Convention. If we continue to fight, we will give the enemy the right to demolish everything. And all of these women and children, we will be morally responsible for them. I therefore order a ceasefire. Destroy your weapons and we will be the last ones to leave the tunnel.” – Capt. Bratge, black and white interview video shown in Mark Felton’s “Remagen 1945 – The Race for the Bridge,” Mark Felton YouTube Channel, October 9, 2019.</p>	<p>Win, Place or Show and Over My Dead Body, 5 Combat, pp. 1010-1012</p> <p>The Insistence of Memory, 3 Temporal Technology, pp. 830-832</p> <p>‘elections vs. legacies,’ Charlie</p>

<p><i>GGDM Commentary: Hauptman Bratge was the commander of the defenses at Remagen Bridge in 1944. The telling was long and overwrought to a Shakespearean Macbeth level, by Capt. Bratge who was seated in front of a large floor abacus and classroom chalkboard covered in rows of writing (clearly props). Capt. Bratge seems to have been very concerned about his legacy, for being blamed for the surrender at Remagen Bridge, and sought to refute the charges at dramatic length. In March, 1962, on the 17th Anniversary, according to a Stars & Stripes article, Capt. Bratge attended a reunion of veterans of the Battle of Remagen Bridge. See also, https://www.stripes.com/news/what-finished-the-bridge-at-remagen-1.18143</i></p>	<p>Dent quote, 3 Culture, bottom p. 390</p>
<p>Breach (2007, movie dialogue)</p>	
<p>Information Operations, Counter-Intelligence Missions and Operations, Warrant Officer Walker:</p> <p>Robert Hannsen: That was turf protections you were just watching in there. Didn't you spot it? Organizational arrogance. "No we don't want to learn anything from the CIA. We want the CIA answering to us!" [Walking past a SCIF] You know what's going on behind that door? ... Analyst, looking for a spy inside the intelligence community. Highest clearance. But there aren't any CIA officers in there. You know why? Because it's a CIA officer we're trying to build a case against. Now, could the mole be someone from the Bureau and not the CIA? Of course. Are we actively pursuing that possibility? Of course not. 'Cause we're the Bureau and the Bureau knows all. Cooperation is counter-operational and that's the mentality. Of course, the enemies of this country aren't so picky; they'll work with anyone who shares their hatred of us. Bureau hasn't learned that lesson yet.</p> <p>[<i>Mens rea? A bit ironic, eh?</i>]</p> <p style="text-align: center;">***</p> <p>Robert Hannsen: You know why the Soviet Empire collapsed? ... I made a career of studying them; they were smarter than us. More devious, more determined. So why did they fail? Godlessness. Atheism.</p> <p>[<i>Tina Turner didn't have the courage to sing, "And what does God have to do with it? What's God but a silly human notion?"</i>]</p> <p style="text-align: center;">***</p> <p>Agent Burroughs: You've come to admire him, I see. ... Respect him? ... Well that was inevitable; for our purposes it was sort of necessary. But he's a traitor, Eric. He started spying for the Russians we think in 1985. He's given them military secrets, intelligence secrets, he gave them our Continuity of Government Program, which told them where the President would be taken during a nuclear or terrorist attack. And the Vice President, and the Congress, and the Cabinet. The damage he's done to the U.S. Government is in the billions. But that's just the money part. He's also given up lives; sources we were working with. In one of his drops he identified Valery Martynov and Sereii Motorin, two KGB agents we'd turned. They were flown back to Moscow and executed. We don't have a handle yet on how many of our assets he's compromised. Maybe 50, maybe more.</p> <p>Our file on him, came from two Russian defectors. The Bureau paid \$7 million for it. Of course, everything in the file is inadmissible [in Court]. We make our own case independently or he walks. Not that it matters, but the sexual stuff is also true. Irrelevant, but true. The stories on the internet, they're about his wife, using her real name. Sweet</p>	<p>Family of Spies and I Spy, <i>et seq.</i>, 2 Information, pp. 1348-1352</p> <p>'counter-intelligence in GGDM, CIT, <i>et seq.</i> and Counter-Operations, <i>et seq.</i> (including flipping agents), 3 Special Operations, pp. 1320-1324</p> <p>'continuity of government plan – the charters vault,' EN 1, 1 Kairotic Moments, p. 1426</p> <p>'Vasili Mitrokhin extraction,' excerpt of The Mitrokhin Inquiry Report (re Melita Norwood) and Assets (including Anna Chapman and Jack Barsky), 2 Special Operations, pp. 1291-1292, 1304</p>

little anecdotes about how much she loves rough sex, that sort of thing. He's a big fan of strippers, too, has been for years. But his grandchildren do love him, that part I can't argue.

Erik O'Neill: There's no such thing as the "Information Assurance Division" is there?

Agent Burroughs: No, we created that to lure him back from State; 9930 [his office] was built for him too. Video, audio, bafflers in the vents, heat sensors, motion sensors, probably enough microwaves in that office to cook a chicken. I am sorry we had to mislead you, but this is the worst breach in the history of U.S. Intelligence; unusual steps were required. The good news is, you got your wish; you are in the middle of the biggest case we've ever run.

[The problem with this scene is that Eric now has to go back to work for Hannsen and act like nothing has changed, because Hannsen is very smart, paranoid, and observant.

According to Wikipedia, for this, the Russians, who probably never knew his identity, paid him 1.4 million in cash and diamonds. Warrant Officer Walker was, according to the Wikipedia article, citing to Victor Cherkashin's book, compromised by 'turned KGB agent' Valery Martynov who was in turn compromised by Robert Hannsen and CIA double agent, Aldrich Ames and executed in Moscow in 1987. And so the spy world goes round and round.]

Agent Burroughs: A couple of years ago, the Bureau put together a task force. Lots of assets had been disappearing, sources like Motorin, Martynov. Dozens of them, vanishing. So this task force was formed to find the mole who was giving them up. Our best analyst pouring over data for years looking for the guy, and they could never quite find him. Guess who we put in charge of the task force? [camera pans to a picture of Hannsen] He was smarter than all of us. Actually, I can live with that part, it's the idea that my entire career has been a waste of time, that's the part I hate. Everything I've done since I got to this office, everything we've all been paid to do, he was undoing it. We all could have just stayed home.

Robert Hannsen: [in a letter to the KGB in the FBI file] One might propose that I am either insanely brave, or quite insane. I'd answer neither, I'd say insanely loyal. Take your pick, there's insanity in all of the answers. – from Breach (2007, movie dialogue).

[Loyal to what? While the line is quite clever, it is unclear what he thinks that he is loyal to...]

GGDM Commentary: Warrant Officer Walker was arrested in May 1985. I was in high school, less than a month from graduation and had been in the USMC Delayed Entry Program since I turned 16. Warrant Officer Walker's misdeeds were so shocking to me (well, because I was naïve, ok? despite being far more worldly than my peers) and it stuck with me such that I have a continuing fascination with Cold War espionage that I indulge once or twice a year. Part of that fascination is evident in the Special Operations section which I struggled with mightily over the months and years and I am still not sure I got it quite right. The real problem turned out not to be the Special Operations part, but rather, the nascent interstellar setting – I was forced to reckon with game issues that screen sci-fi seems to breeze past. It is thus that I have sought to supplement Special Operations by quotes and commentaries here in Babble-on; it will be interesting to see if

anyone is ever devious and determined enough to make Special Operations truly special in a GGDM game.

- At one point, Erik O’Neill says, “I tell so many lies I have a hard time remembering them all!” That is precisely how I felt when watching The Man in the High Castle, I kind of burned out of it after the first season and I thought it was probably because **everyone** is lying all the time. Writers love it for the drama, some audiences really get into the lies and twists and turns – and maybe I would have when I was younger – but I found it tiring. I guess that makes me a simpleton. I also burned from watching Lost somewhere near the end of the second season and Lost it.

Britt, Ryan

GGDM story arcs, how players can make each other and the game story better:

“There are a few patient zeroes for proving serialized storytelling on TV viable. Breaking Bad, Mad Men, Battlestar Galactica, and the so-called ‘golden era’ of TV aren’t possible without a few under-the-radar precedents. Different critics will point to different examples, but when it comes to science fiction and fantasy shows, that list gets a lot smaller. Some might say Buffy’s interconnected season-long arcs are the most influential, while Trekkies tend to lean heavily on the innovation and risk-taking of Deep Space Nine’s serialization in later seasons. In fact, one prominent DS9 podcast – The Rules of Acquisition – has effectively argued that DS9 created the foundation for all contemporary TV that followed. And then there’s The X-Files.

All of these examples are valid because, clearly, in the late 1990s, there was a vortex swirling that led to a revitalization of TV conventions that was most noticeable in genre shows. Buffy and DS9 probably deserve equal credit, but in terms of its influence on science fiction, and Star Trek in particular, the series that is (sometimes) overlooked is Babylon 5. By July 1994, Babylon was wrapping up its first season, and the future of science fiction on TV would never be the same...

In retrospect, Babylon 5 made Star Trek better in the 1990s. Like Paul McCartney being inspired by the Beach Boys in the ‘60s, Babylon 5 was the scrappy ‘90s sci-fi underdog that, in a roundabout way, inspired the best of Trek to be better. Here’s why...

Okay. So, there’s no reason to believe that Deep Space Nine ripped-off Babylon 5 in the ‘90s, but that doesn’t mean Deep Space Nine and Voyager weren’t made better by the existence of some friendly competition. Documentaries like What We Left Behind make it clear that DS9 had its own agenda, separate and apart, from, well, pretty much anything. That said, DS9 didn’t start out as a serialized show. Those big story arcs came later. Babylon 5 on the other hand, did start out serialized, which when you consider that most seasons were 22 episodes long, that’s really saying something. DS9 always had ongoing storylines, but the heavy serialization – the types of back-to-back story arcs that happened during the Dominion War – happened years after the show got off the ground. Did Babylon 5 give the writers’ room of DS9 the confidence to go this route? Most would probably say no. And yet, B5’s serialization was its signature. With DS9, the serialization became its signature eventually. ... It’s not provable, but with so many Star Trek people working on Babylon 5, it feels unlikely that the writers and producers never watched the show. Because if they had, it seems like they would have been fired-up.” – Ryan Britt, “How Babylon 5 Made Star Trek Better,” Den of Geek, July 20, 2020.

‘News Events should not retcon,’ Keep the Sand in the Sandbox, and ‘collective participatory storytelling,’ White Gold Wielder, 2 Dreamtime, pp. 147-148, 153-154

Emergent Narrative, 3 Constructural Elements, pp. 205-206

Sci-fi television story arc:

‘television story arc is a covenant with the viewer,’ Arc Covenant, 1 Entropy, pp. 218-219,

‘Babylon 5 series writing,’ see Anthony Leong quotes, 1 Entropy, p. 219, 2 Entropy, p. 238, and 1 Culture, p. 353,

‘Babylon 5 overtly describes emergence,’ EN

<p><i>GGDM Commentary: The Big Idea of GGDM is certainly inspired by or derived in part from watching the beginning of serialized TV science fiction in the 1990s.</i></p> <ul style="list-style-type: none"> • A trial is a story told to a jury, I have heard that many times in legal circles, each side tells a story and presents evidence and the jury decides who is credible to what degree. Retconning is the reason for the rule that issues not raised at trial cannot be raised on appeal, attorneys cannot retcon the trial on appeal. Thus, trial proceedings are filled with objections, sidebars and speeches, to preserve issues. <p><i>See also, Story Arc in GGDM: ‘Kairoitic Moments,’ Wells of Initiation, 3 Kairoitic Moments, p. 1441, ‘appeal to story arc is designer’s white flag,’ In the Mirror, I Meta Me, 2 Constructural Elements, pp. 195-196, ‘genocide in GGDM,’ Speciesism, 6 Combat, p. 1025, ‘end of the game,’ The Million Year Picnic and It Was the End of History, 1 Resolution, pp. 1455, 1456-1457, ‘Concierge discretion,’ The Ends of the Circle, 5 Government Titles, p. 639, ‘News Events,’ Eigenstates, 3 Dreamtime, pp. 163-164, ‘development of new extrasensory abilities,’ Farsight, 3 Information, pp. 1362-1363...¹</i></p>	<p>8, 3 Fallen to Earth, p. 1549, ‘DS9, Dominion War arc,’ EN 4, 2 The Streams of Time, p. 87 and EN 9, 2 Order, p. 545</p>
<p>Broome Jr., Taft H</p>	
<p><i>Praxeology, Axiom of Human Action, Axiom of Human Meaning, second strata epistemology classification, morale in combat:</i></p> <p>“<i>Praxiology, occasionally praxeology and rarely praxæology, is from the Greek paraxis meaning goal-directed action, and logos in the sense of knowledge or information. Apparently having stipulative origins in French, namely, praxéologie (Mitcham), the lexical term praxiology was introduced by Tadeuz Kotarbiński (1886–1981) in 1965. Polish philosopher and co-founder, with Jan Łukasiewicz and Stanislaw Leśniewski of the Warsaw Center of Logical Research (Warsaw Circle), Kotarbiński used praxiology to reference an area in the philosophy of action that was distinguished from other such areas by its focus on efficient action. With adaptations to engineering, business, law, and more, and with discussions relating efficient action to mathematics, the natural sciences, technology, and ethics, praxiology has developed along three major lines: Kotarbińskian, analytic, and synthetic.</i></p> <p><i>Kotarbińskian praxiology, also traditional or classical praxiology, begins with a practical situation said to be complex and exigent, and with a wish to change it to some prescribed future situation. The process of changing a practical situation is subjected to nine value foci called the Es (Collen): efficiency, effectiveness, efficacy, ethicality, economy, educability, executability, evaluability, and expendability. Inasmuch as some Es are factual in nature, for example, efficiency, praxiological inquiries in such areas have been referred to as sciences. Although some Es are more qualitative in nature than others, for example, ethicality, no evaluative hierarchy among the Es exists. Thus economics can compete with ethics in praxiological decision making. The remaining lines of praxiological development focus on one or another phase in the process of change.</i></p> <p><i>Analytic praxiology including pragmatic praxiology refers to an analysis of a situation, specifically, a prediction – based on knowledge of its component parts and their connections – of its response to prescribed stimuli or service conditions. The name pragmatic praxiology derives from the centrality given to the prediction of consequences in the theories of pragmatism crafted by Immanuel Kant and Charles Peirce (Ryan et al. 2002). The main question is epistemological: What do humans know will result from what they</i></p>	<p>‘Axiom of Human Meaning,’ Humans Need Meaning, 1 Beginnings, pp. 23-24</p> <p>‘morale in combat,’ Lynn Montross top Feature Quote, 5 Combat, p. 1005</p> <p><i>Montross is given as a possible example of praxeology in military science</i></p> <p>Axiom of Human Action:</p> <p>Thorsten Polleit quote, EN 5, 1 Beginnings, p. 32</p> <p>Axiom of Human Action, 4 Culture, p. 417</p> <p>‘GGDM Power Activations are the Axiom of Human Action,’</p>

¹ The concept of game story arc and television story arcs are discussed throughout GGDM, this list is not exhaustive of all of the discussions and side-mentions, it is intended instead to be a representative list.

do? The task of responding to this question often falls to the sciences. Historically significant contributions to analytic praxiology may well be found in the histories of systems analysis and cybernetics. (Mitcham 1994).

Synthetic praxiology including design praxiology extends the task of analytic praxiology from creating knowledge about consequences of action to the making of plans for action. A design is a choice from a portfolio of possible future situations; it is a choice based on analyses of these situations and the processes required to realize them. The main question is methodological: How do humans change the world to realize their wishes? Historically significant contributions to synthetic praxiology surely lie among the works of Wojciech W. Gasparski on design and Henryk Skolimowski on the ethics of design ends, but they may also be found in the histories of operations research and management science. (Mitcham 1994)

Kotarbiński, analytic, synthetic, and other praxiologies comprise a general praxiology spawning applications to the professions. Because of its transdisciplinary aspirations, taxonomic issues arise where such applications, or special praxiologies, meet the academic disciplines of professional education. Would a praxiology of law correspond to jurisprudence? Would theology be a praxiology for organized religion? Where does praxiology of education fit into philosophy of education? If management science is rightly called management technology, would praxiology be its philosophical aspect? (Bunge 1999). Is military science a praxiology?

The transdisciplinary mode is but one of four modes by which praxiology might engage another learned discipline. In the cross-disciplinary mode the tools and methods of praxiology are used to inquire into another discipline. For example, instead of attempting to prove that engineering is a case of praxiology, one might demonstrate that engineering possesses praxiological properties or natures. In the multidisciplinary mode, tools and methods of praxiology are brought together with those of other disciplines. Remaining intact and distinct, these disciplines join to produce novel subdisciplines. For example, when Ludwig von Mises made praxiology the method of the Austrian School of Economics, he crafted the subdiscipline that can be called praxiological economics. In the interdisciplinary mode, tools and methods of praxiology may likewise be brought together with those of other disciplines, but they would not remain intact. Rather essentials of each would be organized into coherent wholes or novel disciplines displaying principles that disagree with principles of their parent disciplines. For example, chemical engineering, which possesses nonscientific principles, namely Koen's (2003) heuristics, is to a degree the result of an interdisciplinary engagement of praxiology with chemistry.

At about the same time that Kotarbiński was working out praxiology, John Dewey (1859-1952) was working out his naturalism. Both of their transdisciplinary ideas began with practical situations. Dewey worked within a Cartesian framework developing cognitive abilities to make change, which loosened the grip that classical education had on education. In the cross-disciplinary mode with education, Dewey emphasized the needs of the individual to advance the ideals of a capitalistic democracy, and gave ethics primacy. Kotarbiński worked within a Marxist framework developing the human will to make change. Putting ethics in the Es with economics, Kotarbiński emphasized the needs of the state. In the United States, the technocracy movement of the 1930s, which advocated a dictatorship of engineers (Layton 1971), and the communist scare in the early-1930s, which was followed by McCarthyism in the 1950s, were not favorable to praxiology. In Poland, Nazi oppression and subsequent communistic regimes virtually

Acts & Scenes, 3
The Sidereal
Stage, pp. 121-
122

'law of diminishing utility,' Thorsten Polleit quote, EN 9, 1 Colleges, p. 471

Philosophical Questions, 1
Fallen to Earth, p. 1492

Existential Void:

The Key to the Singularity, 1 Beginnings, p. 22

In the Mirror, I
Meta Me, *et seq.*,
2 Constructural
Elements, pp.
195-196

'Existential Void
vs. Camus' EN
11, 3 Kairotic
Moments, p. 1454

'atheism and
meaninglessness'
Michael Robbins
Feature Quote, 1
Technology, p.
696

Second Layer/ Second Strata Epistemology:

EN 21, 1 Con-
structural Ele-
ments, p. 188

EN 10, 2 Culture,
pp. 376-377

*In GGDM's dis-
cussion, I classi-
fied praxeology*

cut off international scholarly communications. These social factors left the STS [Science, Technology & Society] movement, which was underway in the United States by the early 1970s, to independently develop many ideas discussed in praxiology. In 1978, Karol Wojtyla became Pope John Paul II, the first Polish Supreme Pontiff, and interest in Polish scholarship increased. By 1978 though, STS gained currency with an attendant lessening of the importance of the theory of praxiology.” –Taft H. Broome, Jr. (Professor of Civil Engineering, Howard University), from Encyclopedia.com article, “Praxeology,” captured April 8, 2021 (italics in original).²

GGDM Commentary: GGDM does a very poor job of separating praxeology generally from Ludwig von Mises’ ‘praxiological economics.’ Id. I have surveyed about a half dozen articles in April 2021 on the subject of ‘what is praxeology’ and I felt that the encyclopedia.com article was the most comprehensive and the best organized; putting everything (including Mises) in proper places within the praxeology framework and not placing the emphasis too much on the Austrian School (as many other sites do).

But I also found the approach to explaining ‘what is praxeology’ to be widely variable, for example, I thought the opening sentence of “What the Hell is Praxeology” from praxeology.net contained an important point (this emphasizes the analytic category outlined by Broome, above):

- *“Praxeology is the study of those aspects of human action that can be grasped a priori; in other words, it is concerned with the conceptual analysis and logical implications of preference, choice, means-end schemes, and so forth.”*

Note the emphasis on ‘a priori’ instead of a posteriori, libertarianism.org notes in its praxeology article,

- *“There is a sense in which Misesian praxeology was a definitive, if delayed, solution to the 19th-century Methodenstreit between Austrian economists, principally Carl Menger, and the Prussian Historical School. Proponents of historicism, according to Mises, ‘tried to deny the value and usefulness of economic theory. Historicism aimed at replacing it by economic history.’”*

While finally, the Routledge Encyclopedia of Philosophy praxeology article, written by Bengt Molander, seems to be a complete outlier in placing praxeology origins in Scandinavia rather than farther south,

- *“Praxeology started in Norway and Denmark and is still strongest in the Scandinavian philosophical community, though it has also had a considerable influence in the German speaking world. It began in the 1960s as a discursive, analytical practice in the circle around the Norwegian philosopher Jakob Meløe (1927-), which later, in the 1970s, came to be known as ‘praxeology.’”*

Meløe is not mentioned in any other article on the origin or definition of praxeology.

- I thought it notable that the Stanford Encyclopedia of Philosophy has no entry for praxeology; it is possible that they do not consider it properly a philosophic subject, or it is more likely that they don’t know what to call it and no one has volunteered to write an article on it that is acceptable to the encyclopedia board.

as a ‘second strata’ field

Decline of Rhetoric and Classics in Schools:

New Mission, 1 Colleges, p. 462

Stellar Synekism, 1 Commerce, pp. 1183-1184

² The STS movement has been replaced around the millennium with STSE, Science, Technology, Society and Environmental Education.

The second aspect of GGDM and praxeology is that GGDM parallels Misesian praxeology in that the Axiom of Human Meaning – humans need meaning – is the starting point of ‘reconstruction’ of macrosociology in GGDM from which all else flows (e.g., the Existential Void, culture, interpretations, fuzzy groups), while in Austrian Economics, the Axiom of Human Action (“One of the implications that can be logically deduced from the irrefutably true axiom of human action is that human action is purposeful (or conscious) action – action that is directed at attaining certain ends.” – Thorsten Polleit, Mises Institute, 2011) is the font from which Mises reconstructed economics “as a formal-logical science.” Id.

It is thus that while GGDM (and me personally) do not reject empiricism per se, it is important to understand the attempt that is made by GGDM to construct a single axiomatic basis for human society, culture, and civilization. Possibly I am in error in classifying the axiomatic approach I have taken as ‘macrosociology’ but I don’t think anyone has invented a different term and I don’t have any better right now either.

- Notice the careful distinction made by Professor Broome between trans-, multi-, inter-, and cross-disciplinary applications? Those terms are often confused and confusing in our language.
- His comment about John Dewey “loosening the grip of classical education” are very interesting; I’d not heard that angle before, but it fits with the discussion in GGDM of how the 18th and 19th centuries saw the teaching of rhetoric and the classics replaced with teaching grammar, composition, punctuation and spelling to standardize English and integrate immigrant children (in the United States, this was *weaponized* to mainstreaming Native Americans through forced tribal public schools). During the same period, or starting a century before, science and math had increasingly replaced philosophy, religion, and scholasticism in schooling.

Bryan, Chloe

Communication:

“The main question appears to be whether Tapbacks are meant to function as actual messages or as social media reactions. (Before you ask: Yes, iMessage is a social network.) Apple’s blurb on the subject calls Tapbacks a way to ‘quickly reply’ to texts. But the mechanics and appearance of the feature are more similar to, say, a Twitter like, which is decidedly not a reply. A reply is (generally) meant to move a conversation forward; a reaction, which often marks the end of an exchange, reflects on messages already sent. So when someone reacts to your question with a thumbs up Tapback, you just don’t know: Are they reacting to the message (‘Thanks for asking me to go to the beach’) or are they replying affirmatively to the message’s contents (‘Yes, I will go to the beach’)? If someone sends you a heart Tapback in lieu of a reply, are they saying ‘I’m into that’ or ‘OK, but I would like the conversation to end?’” – Chloe Bryan, “No one agrees on what iMessage Tapbacks actually mean,” Mashable, May 22, 2019.

GGDM Commentary: The art of the ‘non-committal’ reply or non-answer answer reduced to a symbol on your phone. Think of it this way, how many times do we not know what exactly is communicated by a casual shrug from another person? You know why you shrug, but do you know what they mean by a shrug? Now, it’s kind of funny, but this could also describe (or provide an example of) communications between alien species in

Communication Proficiency, 3 Culture, p. 384
 ‘website target audience, men and women speak different languages,’ Minister of Loneliness, 3 Fallen to Earth, pp. 1530-1531

<p>science fiction or GGDM – and GGDM does not assume any slick technocure like ‘universal translators’! Heck, it could even describe many human male-female conversations and then add to that that they are communicating via iMessage!</p>	
<p>Cannister, Ryan and Hayden Crocker</p>	
<p>Loren Eiseley’s ‘Adamic Eden,’ Martin Luther’s ‘man wants to be God,’ Exploration Hazard Rolls, ‘dying Homeworld’ Fundamental Realities, Lost Colonists Primal State:</p> <p>“By 2540, we’d ravaged Earth. So we looked to the stars for a new home. However... we had little success. I am the sole crew member of the tenth and last mission and I have reached my destination. I’ve landed on this new world, the only word I can use to describe it is ... green! A color I haven’t seen on Earth in years. The similarities to the old Earth are miraculous. I’ve begun testing to see if it can support us [Results: Positive 98% survivability]. As expected, this planet could be a new home [sitting and thinking, staring at the computer]. I don’t know why, but I’m waiting to send my results to Earth. It’s something about the pure, natural beauty of this planet. I hold in my hand the key to my race’s salvation. However, what’ll we do after we strip this planet, and the planet after that? I’ve been on this journey for ten years [by the look of the young actor that would mean he left when he was about 10 or 15 years old] and the reports from Earth continue to make me think about what I am doing here. I am prolonging the most pernicious thing I know to exist; I’ve seen the destructive power of the race I am supposed to save. I’ve watched the reports of settlements being vapor bombed, and whole cities being burned to the ground over a few scraps of food. Is a worthy race the one that replaces the beauty of nature with jungles of steel and smoke? Who am I to decide the fate of the human race? This is why the beacon will never be turned on [throws computer in the water and wanders off]. I’m not doing my race, they’ve done that to themselves.” – Character narration (Ryan Cannister), “Close Proximity,” written by Hayden Crocker, Crocker Film Productions YouTube Channel, November 2, 2014.</p> <p><u>GGDM Commentary:</u> <i>Well, that explains what happened to the other nine missions; there are nine other planets out there with single human explorers wandering around the jungle! This very short (4:09), very low-budget film captures perfectly Loren Eiseley’s ‘Adamic Eden’ comment:</i></p> <ul style="list-style-type: none"> • <i>“Is man at heart any different from the spider, I wonder: man thoughts, as limited as spider thoughts, contemplating now the nearest star with the threat of bringing with him the fungus rot from earth, wars, violence, the burden of a population he refuses to control, cherishing again his dream of the Adamic Eden he had pursued and lost in the green forests of America...” – Loren Eiseley, “The Hidden Teacher” (1969).</i> <p><i>Food for thought on many issues in GGDM ... ‘dying Homeworld’ Fundamental Realities, scouting and exploration Hazard Rolls (as in, was the Scout Ship really destroyed, did it really ‘disappear’?), Lost Colonist Primal State (except that he is now wandering around alone on a primeval planet... so how does that story end without an Eve?), nexus moments and species self-consciousness, even Martin Luther’s ‘man wanting to be god’ comment...(#17 in Luther’s 1517 “Disputation Against Scholastic Theology”). Apparently they were unable to send a seed ship instead (robots wouldn’t have reflected on it, this result would have been avoided).</i></p> <ul style="list-style-type: none"> • This is the only film on the Crocker Film Productions YouTube Channel. 	<p>Loren Eiseley ‘Adamic Eden’ bottom Feature Quote, 4 Writs, p. 453</p> <p>Martin Luther Thesis 17 quote, 1 Technology, bottom p. 695</p> <p>‘exploration hazard roll,’ Then Never Comes, 3 Expansion, pp. 907-908</p> <p>Homeworld and Lost Colonists Primal States, 6 Beginnings, pp. 62-63</p> <p>Fundamental Realities, <i>et. seq.</i>, 3 Beginnings, pp. 37-38</p> <p>‘seed ship,’ TV Tropes quote, 1 Stardrive, p. 781</p>

Carlson, Tucker

Falling testosterone levels, falling sperm counts among Western males:

“So we spent last year hearing about a health crisis, the pandemic, but there are a lot of health crises. This may be the biggest one: Falling testosterone levels which have completely reshaped our society and falling sperm counts which may make it impossible to continue the human race.” – Tucker Carlson, Tucker Carlson Tonight, March 1, 2021, clip taken from Brianna Keilar, “Partisan Junk Food” (at the 2 minute mark), CNN YouTube Channel, March 6, 2021.

GGDM Commentary: I must begin with a disclaimer: I do not watch Tucker Carlson, personally, I think he looks like a mental patient who is off his meds, he always looks and comes across as disturbed, paranoid, and pissed off, a guy you think probably has a gun under the desk, skinhead tattoo and sets houses on fire. Maybe I know a thing or two about that ... but it’s not attractive on-air, even in an opinion program. Tucker Carlson is like listening to Trump speak, I can’t stand more than a minute. I obtained this quote from a Tucker Carlson clip played by Brianna Keilar while she was eviscerating him and Fox News (rival of her network CNN, they bash each other all the time); what arrested my attention was his mention of two issues I had discussed in GGDM: declining testosterone and sperm-count levels. I never expected that to be directly mentioned on air, especially by Tucker Carlson.

- This is certainly not to imply any connection between what I have written in GGDM and Tucker Carlson’s content – that would require someone to have actually read GGDM and that someone would need to be on Tucker Carlson’s staff, either of which are near impossibilities.
- Almost as though torched by Tucker Carlson’s comments, CBS News aired a segment and posted it to their YouTube Channel on March 25, 2021 titled, “Declining fertility rates could threaten human race, health officials say.” The video opens in the very first minute by mentioning the 60% drop in birth rates (world fertility rate, births per woman) and matching drop in sperm counts since the 1960s. The program and its guest, Dr. Michael Bloom, blamed the accumulation of chemicals in the environment. I have noted since then a few other recent news videos addressing this issue as it ripples across news media; they feel like they have to report it, but I don’t think anyone knows what to do with it.

Testosterone Bubble, 3 Technology, pp. 722-723

‘sperm count fall,’ Moving Parts, 4 Taxation & Census, pp. 331-332

Earlier age of menarche is a third population issue discussed in 4 Taxation & Census

Carter, Royal (narrator)

Ecumenical Councils, St. Cyril of Alexandria, Marburg Castle Colloquy, Latin Empire, schisms:

“But due to the translation differences and apparent disconnect of understanding between the East and West, at the time that the Nicene Creed was changed, many from the Western Catholic side aimed to settle this argument with the explanation that using the intention of the Latin translation, the West only meant to add onto the statement by clarifying that the Holy Spirit can only exist alongside the Father and Son, not that both are the creator or source of the Holy Spirit, which would indicate that the spirit is of lesser status than the Father and Son. Still, even though the addition of the *Filioque* could arguably be valid in terms of its meaning, there was another reason that the East was wildly disapproving.

To grasp why, you first have to understand the chain of events that occurred during the creation of the Nicene Creed. The first event of extreme relevance is the [First] Council

Fuzzy Beliefs, 4 Culture, pp. 407-408

Wake, Waking, 2 Government Titles, pp. 592-593

How Many Angels, 1 Reformation, pp. 1385-1386

‘Avignon Papacy, Western Schism,’

of Nicaea of course. This was the council in 325 at which the original Nicene Creed was written with both the East and West in attendance. Although no mention of the Holy Spirit's procession is made, next in 381 was the Council of Constantinople, including only the East. At the Council of Constantinople, the Eastern Church made some adjustments to the original Nicene Creed and that is technically where they added the portion of the Creed which addresses the procession of the Holy Spirit. The creed remains known as the Nicene Creed in reference to the original, but it is important to note that it is not the original contents of the Creed that is used today and that was changed in Latin translation.

That fact becomes immensely applicable at the East-West Council of Ephesus in 431 where Canon VII was established to say, 'The Holy Council decrees that no one should be permitted to offer a different Creed of Faith, or in any case, to write or compose another, than the one defined by the Holy Fathers who convened in the city of Nicaea...' Which in itself may not seem completely damning for the West until you add the fact that the Council president, St. Cyril of Alexandria also declared, 'We prohibit any change whatsoever to the Creed of Faith drawn up by the Holy Nicene Fathers. We do not allow ourselves or anyone else to change or omit one word or syllable in that Creed.' Nevertheless, while St. Cyril's statement complicates matters, there remains one obscurity given the fact that the original Creed was changed at the Council of Constantinople. This begs the question of whether the East had already violated [in 381] the new Canon [of 431] or did they intend the Constantinople update of the Creed as the 'creed drawn up by the Holy Nicene Fathers'? The answer to that could be what makes or breaks the West's validity in their own adjustments of the Creed.

But either way, this discord remained a building tension. In addition to the unresolved issue, the East and West also could not seem to find middle ground on two other matters: The use of unleavened bread for the Sacrament of Communion or whether clerics should remain celibate or not. On the subject of the bread dispute, the Western Church believed that unleavened bread should be used because of the fact that it is historically more likely that Jesus would have used unleavened bread at the Last Supper. On the point of celibacy, the West was determined to maintain that all priests and bishops must be celibate and unwed, while the East accepts married men to be ordained as priests, though they cannot remarry if their wife dies and only Bishops are required to stay celibate. Despite the lack of a direct condemnation from the West of married priests at the time of the Great Schism, the idea of complete celibacy was already being pushed on the one side.

Potentially, these religious disputes could have been peacefully resolved if more effort had been made, but there were also political disagreements as well. Maybe most notably, the decision of whether the Pope should be of higher authority than any Patriarch or other leader or not. The East naturally strongly disapproved of this statement and tensions began to rise between the Pope and the Patriarch of Constantinople. Though the East and West as a whole were responsible for the strain, the immediate event of the Schism in 1054 might be soundly pinned on the contemporary Patriarch of Constantinople, Michael Cerularius. Determined to maintain the Eastern Church's independence from being overrun by the West, Cerularius seemed almost intent on creating a Schism. Initially when the Byzantine Emperor Constantine IX Monomachos wished to align with the Pope and the Roman Empire against the threat of the Normans, Cerularius refused to cooperate whatsoever. In 1052, the Patriarch went so far as to demand that all Latin churches within his diocese use the Greek language and practices. Two years later, Pope Leo IX, utterly resolute on negotiating an alliance with the Byzantines, sent three legates

Moving the Swamp, 2 Order, p. 536

Terra Sancta, 1 Kairotic Moments, p. 1420

Latin Empire:

The Singleton, 1 Government Titles, pp. 579-580

EN 8, 1 Expansion, p. 889

In Open Space, 7 Combat, pp. 1036-1037

Fourth Crusade/Sack of Constantinople:

Bulwark of the Past, 2 Eras, pp. 773-774

Manzikert, 2 Construction, p. 671

Consider the geo-historical accident: Constantinople was closer to Terra Sancta and the Western Crusades had to pass through Constantinople! In fact, the Byzantines had asked for help from Rome, which is how the entanglement all started ending in the 1204 A.D. Sack of Constantinople!

to Constantinople. Unwavered from his obstinance, Cerularius flat out refused to meet with the legates.

As the situation continued to drag on with no clear end, the Pope died back in Rome and left one of his legates, Cardinal Humbert de Silva Candida with a new idea: Saturday, July 16, 1054, Cardinal Humbert marched into the Hagia Sophia Cathedral during Divine Liturgy and placed a Charter of Excommunication right on the main altar, officially excommunicating Patriarch Michael Cerularius and his Church. In retaliation, Cerularius excommunicated the Papal Legates and according to some historians, the Western Church along with them. Although this mutual excommunication was not the source of the Great Schism of 1054, it stands as the final straw for both sides and the marker of division of Christianity into today's Catholic and Orthodox denominations." – Royal Carter ("Narrated by Royal Carter"), "Why did the Great Schism Happen?" Knowlegia YouTube Channel, November 30, 2020.

GGDM Commentary: St. Cyril of Alexandria was a historical wrecking ball! Hard to see any 'saintly' wisdom in him. In addition to historical details and context on some of what is mentioned in GGDM, this story also offers great story material for the game, if participants want politico-religious story element, just substitute the Homeworld and any current large colony, or current Capital Colony if not the Homeworld, for Rome and Constantinople; especially after a Terra Sancta has been declared in the game. Or even the Capital Colonies of a Homeworld and related Lost Colonist positions, players just need to color in between the lines. Schism should not be confused with Reformation.

Carville, James

Legitimacy:

"Well first of all, Chairman Steele and I have argued over the years about who to vote for, but we've never argued that people shouldn't have the right to vote. It's kind of a ridiculous argument, we've moved the ball from I like my person better than your person. But I think over the years we've had an unspoken agreement that you oughta let people vote and his position was, he hoped they voted for Republicans and I hoped they voted for Democrats. Look, 64% of the people in Florida voted to give convicted felons the right to vote; are we really gonna argue in Georgia whether the waitress at the waffle house gets the right to vote? Whether the Delta baggage handler can vote, whether the greeter at Home Depot can vote? I mean, that's the level of what the conversation is now, Republicans no longer run on an agenda, they're trying to distill and narrow the voting bloc to where only their people can vote. I mean, I've never ... people will say well 'he fought and bled for this country, for your right to vote,' that's no longer a talking point in the Republican party. It's such a ridiculous escalation of something that's going on that I don't think the Chairman and I would have ever thought we'd be having this discussion back in 2012 or 2008 or 4 or whatever the heck it was; it's pretty ridiculous! But we're having it." – James Carville appearance with Michael Steele on The Beat with Ari Melber, MSNBC, March 25, 2021.

GGDM Commentary: Inherently any government is only legitimate to those who voted for it and they just hope for passive acceptance from the rest. Now, if you narrow those who can vote for or against you, you aren't convincing anyone who isn't already convinced and you are increasing the vast pool of those whom you hope will just passively accept legitimacy of the government.

- Quite frankly, this is a curiously feudalistic approach to maintaining power.

'passive acceptance,' Legitimacy and Authority, 3 Government Titles, pp. 607-609

Electors of the Holy Roman Empire:

'election of Rudolf of Habsburg,' Mountains of the Mind, 7 Combat, pp. 1041-1043

'Martin Luther and the German Peasant's War,' Seconding That, 2 Dreamtime, p. 149.

Case, Clarence Marsh

Progress, Forward Expectations, Technosolution, Happiness Meta-Aspect, Sociology as science vs. philosophy, anti-natalism/Genesis Mandate:

[p. 160] “The closest logical relation subsists between religion and progress because both words express a process of evaluation. Progress is not to be conceived apart from one’s own scale of values. Things are progressing or retrogressing according to the point of view of the beholder. But religion also names a more or less subjective fact. It is understood, in the present discussion, to mean the complete, whole-hearted reaction which a human being makes to life and the universe in its most significant aspects, especially the attitude which seeks to appreciate rather than to analyze or utilize, and which strives to relate one’s self to reality in its final and permanent and inmost meaning, as the individual and his group may conceive it or feel it. Religion is thus seen to be a matter of appreciation in the widest and deepest sense, and is primarily a process of evaluation. So true is this that when people say that such and such a thing, eugenics for example, ‘ought to be made a matter of religion’ it implies a recognition of the fact that religion is the organization of the supreme values of life, and simply amounts to saying that the program of eugenics is sufficiently important to find a place among those values.

It is thus apparent that both progress and religion reduce to processes of evaluation, of judgment of worthfulness or its opposite, especially as applied to the most permanent and important aspects of experience. Consequently we need not expect to formulate a concept of progress without finding it necessary to reckon with religious considerations. Since religion is essentially the total reaction of human beings in terms of worth, value, and ultimate significance, it follows that social philosophy cannot shrink from the attempt to formulate the nature of social progress, even if some eminent sociologists have despaired of the task. That the problem has proven too elusive for sociological methods of thought, at least as developed thus far, is recognized by Professor [Edward Alsworth] Ross, when he confesses that it is ...

hopeless as yet to look for a test of progress that shall be objective and valid for all. Since change is a matter of observation, whereas progress is a matter of judgment involving the application of a subjective standard, those who desire to see sociology a true science are justified in insisting that social dynamics deal with the factors and manner, not of social progress merely, but of social change. [citing to Foundations of Sociology, p. 186³]

This is perhaps entirely legitimate for sociology, in so far as it aspires to become a quantitative science rather than a philosophy, but its abandonment of the one field makes its success all the more contingent on an early conquest of the other. On the other hand, religious and social philosophy is left to shoulder alone the task of attempting a comprehensive formulation of the goal of our collective striving. For religion does not refuse to put forth at least an earnest effort to infuse some definite meaning into the vague term ‘progress,’ with which every man on the street, as well as every scholar in his study or classroom, attempts to conjure, while not one knows what he, himself, much less his interlocutor, means by the word. We have here therefore a yet unfinished task for theology and social philosophy. Not that they, in themselves alone, are capable of such a prodigious task. That is something which will require the combined efforts of many thinkers

‘happiness as the Meta-Aspect of humanity,’ The Happy Hurkle, *et seq.*, 4 Culture, pp. 409-410

‘supra-legitimacy,’ Type 3, 3 Beginnings, p. 42

Sociology’s struggle for science recognition:

Aspects of Sociology, *et seq.*, 2 Culture, pp. 371-374

Clarence Marsh Case quote and discussion in Unsolved Problems, 3 Constructural Elements, pp. 209-211

Progress Discussions in GGDM:

Progress, 1 Eras, p. 759

The Bargain, 5 Culture, pp. 426-428

Technosolution, 1 Patents, p. 726

Forward Expectations, 1 Disruption, p. 255

(continued on next page)

³ Professor Ross was Doctoral Advisor to C. Wright Mills and resigned from Stanford under threat to termination for anti-Asian immigration language in speeches and lectures. He was also a critic of the predatory practices of the railroads, which puts him on the ‘right side of history,’ as the railroads were popular villains in early Western movies.

in many fields. But something is gained when sociology, which has least to be accused of in the way of modesty, definitely relinquishes a piece of territory so vitally connected with social thinking.

Starting, as it did with Comte, upon a distinctly materialistic and positivistic bias, sociology was not greatly spiritualized in the hands of [Herbert] Spencer and [James] Ward – the other two of the first great sociological triumvirate. It should be noted, however, that we use the word ‘spiritual’ here in its narrower and more commonly accepted meaning, for when one considers the wider problem of the relative preponderance of blind material forces on the one hand and those of mind, i.e., the ‘psychic factors,’ on the other, Ward’s noble championship of the latter sets him in the forefront as the transcendent figure of sociological theorizing.

But we are speaking here of the distinctly religious aspect of sociological thinking, and on this point Ward himself perceived the brutal inadequacy of the scientific, or naturalistic, concept of progress, and in his memorable work, *Applied Sociology*, he passed beyond it into a strongly ethical conception of social improvement as the true goal of all sociological reasoning. In so doing, after quoting Spencer’s essay on *Progress, Its Law and Cause*, he remarks that Spencer ‘goes on to show that ‘organic progress consists in a change from the homogeneous to the heterogeneous’ and says that ‘this law of organic progress is the law of all progress....’ ‘In dealing with that branch (i.e., pure sociology) I have even gone,’ continues Ward, ‘farther than Spencer, and shown that perfection of structure is only a means to the ulterior end of converting the maximum quantity of inorganic into organic matter.’

In the context of this passage, and elsewhere in his writings and university lectures, Ward confessed the somewhat sordid nature of such conceptions, and later on in the passage quoted he questions whether the word ‘evolution’ would not, in this instance, better suit the case than the word ‘progress,’ reserving for the latter a meaning such as we find expressed in his *Dynamic Sociology* and later works, wherein he clearly affirms that ‘social progress means more than the mere maintenance of the social organism, just as individual life means more than the bare conservation of the bodily existence. No progress is real that does not constantly show a reduction of the aggregate suffering or an increase of the aggregate enjoyment throughout society,’ coming finally to the unequivocal assertion that ‘human progress may be properly defined as that which secures the increase of human happiness. Unless it do this, no matter how great a civilization may be, it is not progressive.’...

GGDM Commentary: Note that Professor Ross quoted by Professor Case distinguishes change from progress. In *1 The Streams of Time*, p. 74, the Aristotle top Feature Quote defines time by change, and change by time, meaning that time is empirically observable by change and change is the only way to measure time. Progress, as discussed in *GGDM* is always a matter of judgment, as indicated by Professor Ross, and so is not objective, but is subjective and subject to ideology, government Conflict Checks, etc.

What is interesting though is that the discussion of Ward’s “conception of social improvement as the true goal of all sociological reasoning,” may be linked to the later relationship of sociology to progressive and liberal movements (what Professor Jonathan Turner called, “Social Warriors”), which led, according to sociologist Stephen Turner (quoted in *3 Fallen to Earth*, p. 1540) to the loss of “a wide public on questions about the nature of society, altruism and the direction of social evolution.”

Genesis Mandate/anti-natalism:

‘anti-natalism,’ Wikipedia Feature Quote, 3 Beginnings, bottom p. 39

Be Fruitful, 4 Culture, p. 410

Fuzzy Places, 5 Taxation & Census, p. 339

Be Fruitful and Multiply, 1 Expansion, p. 877

EN 8, 4 Fallen to Earth, p. 1567

- The modern tension and question, as far as I have determined, is the true purpose of sociological thinking/reasoning: 1) social improvement/progress or 2) a scientific understanding of human society? They seem to be incompatible because ‘progress’ is an ideological animal, subjective judgment, whereas understanding is without a goal other than increasing itself, to be further penetrating.

[p. 165] It thus appears that materialism, or naturalism if preferred, really lacks the logical basis for a conception of progress. Religion, on the other hand, is in a way to the manner born, its very breath of life being that evaluating attitude which is so essentially involved in such a process that some sociologists, as shown above, would reject the word. But whether religious philosophers can reduce the spirit of their world-view to the terms of a convincing and definite formulation of the legitimate goal of human group strivings is another question. The concept will doubtless need to be consistent with the accepted philosophy of evolution, yet it must escape the fatal tendency of such thinking to conceive of a process which ends only in destroying its own products – a monstrous proletariat which devours its own offspring!

For this is precisely the tragic outcome which is presented to us in the spectacle of humanity toiling painfully from the level of the clod and the beast of the field to a dignity of moral and spiritual aspiration which crowns men and women with ‘the upward looking and the light’; which builds in the human soul the ‘music and the dream’; which comes so ‘trailing clouds of glory’ that the soul may walk in ‘the light that never was on land or sea’ – and then suddenly dashes the whole spiritual beauty of life into the debris of an infinite world-wreck without the turning of an eyelash. Under such an outlook no reasoned view of progress is possible except by parts and piecemeal. The evolutionary process evolves beings capable of cherishing thoughts almost divine, and then calmly tramples them into the muck of infinite helplessness and despair. The travail of ages is thus for naught, and nothing can have value except as it fits the moment and the temper of the beholder....

GGDM Commentary: I have taken the liberty of adding a paragraph break to the original text of this quote because he did tend to write overlong complicated paragraphs. An illumination of this concept is present in [this document](#), compare the foregoing to quotes by Lynn Margulis about the nature of Gaia and Charles Mann’s reflections about Lynn Margulis, below in [this document](#). We are naturally horrified by natural processes that result in our non-existence, and naturally grant divinity to those which led to humanity, but is that enough basis for what Clarence Marsh Case advocates above? This is the existential void.

[p. 169] The legitimate conclusion from these reflections seems to be that the definition of progress in adequate and comprehensive terms is logically impossible apart from that appreciating, evaluating reaction of the whole man, including his emotional nature, toward life and the world, which is the soul of religion. Consequently ‘progress,’ for irreligious thinkers, must of necessity remain a term which, in spite of its constant use, can have no definite content. And it is quite evident, moreover, that the constant use of ‘evolution,’ as signifying ‘progress,’ by scientific thinkers is entirely without logical warrant or justification. The truth is that no one can affirm that the human species, the social order, or the world as a whole will continue to develop toward higher levels, rather than lower, without an exercise of faith in some ongoing aspect of the universe which guarantees the permanency of the values of existence. But such a belief is essentially religious, so that we are led to the conclusion that apart from the religious attitude as herein defined no such thing as progress can be logically conceived or even consistently believed in.” –

Clarence Marsh Case, “Religion and the Concept of Progress,” *The Journal of Religion*, March 1921, Volume 1, Number 2, pp. 160-173.

GGDM Commentary: This article was written and published in 1921, three years before the publication of Outlines of Introductory Sociology (1924), the introduction to which is quoted throughout GGDM in empirical and epistemological classification arguments about sociology, and illustrating the history of sociology in the 20th century. This entire article is thus a deeper insight into the developing thought of Professor Case who was then at the University of Iowa, who had previously been a school teacher and principle and a pastor (back when being a pastor and a sociologist was not considered strange).

- Finding this article was valuable in my understanding of Professor Case’s writings; the more I read of Professor Case, the more GGDM oddly feels like a ghost of his work. Now to be clear, though I had rescued his book from a trash heap in the early 1990s, I had it on the shelf and didn’t even really look at it until 2018, when I started reading his introduction. Professor Case’s introduction was adopted into GGDM and had an impact on the final development of the game, but the seeds were already there, for example, it gave better expression to the ‘epistemological fraud’ argument that had been morphing in the game for many years. There are also other ideas and arguments in GGDM that developed independently of Professor Case that I find reflected in his writings, for example, the Existential Void and Axiom of Human Meaning (he did not use those words).

Existential Void, Axiom of Human Meaning:

[p. 163] “The conception, worked out by [Herbert] Spencer, of an endless series of evolutions and dissolutions, covering millions of years, whereby all the inconceivable variety and richness of our planetary world is slowly evolved only to be dissolved instantly into world-dust by some stellar catastrophe, and thus endlessly evolving again to repeat the process – all this presents a series of rhythmic risings and fallings which ends always in a chaos as utterly meaningless as that with which it began. At every stage, and in every cranny of the world-wide unfolding which constitutes any such cycle, there is indeed an inexhaustible meaning which it is the very business of science to discover and promulgate in terms of the whole self-envirning, self-conditioning process. But the process itself, as a whole, though it consume billions of aeons in its evolution before being shattered into world-mist and star-dust, presents absolutely no meaning satisfying to the moral yearnings of mankind, or capable of being expressed by reason in terms of permanent worth and value. According to the naturalistic conception of the world, nothing in the universe possesses an abiding value or meaning of any sort whatsoever. With progress at every step, there is total absence of progress in the entire movement as a whole. We have thus the one case in the universe in which the whole is not equal to, but infinitely less than, the sum of the parts!” – Clarence Marsh Case, “Religion and the Concept of Progress,” *The Journal of Religion*, March 1921, Volume 1, Number 2, pp. 160-173.

GGDM Commentary: This encapsulates what Michael Robbins called (quoted in GGDM), “ontic description vs. ontology” and describes the fundamental awakening and tension of the 20th century. And this is – probably – the core of science fiction.

See also, The Ontological Terrorism of GGDM, 3 Fallen to Earth, pp. 1529-1530 and Indifference of Apathy Excerpts, Constructural Elements.

‘Axiom of Human Meaning,’ Humans Need Meaning, 1 Beginnings, pp. 23-24

Existential Void:

The Key to the Singularity, 1 Beginnings, p. 22, In the Mirror, I Meta Me, *et seq.*, 2 Constructural Elements, pp. 195-196,

‘Existential Void vs. Camus,’ EN 11, 3 Kairotic Moments, p. 1454, ‘

atheism and meaninglessness,’ Michael Robbins Feature Quote, 1 Technology, p. 696

Survival optimism, immortality discussion, modernity and secularization, global warming, afterlife and Happiness Meta-Aspect, the Repugnant Conclusion, Legacies:

[pp. 166-168] “This objection has been partially anticipated, however, by Professor [Hartley Burr] Alexander, in his paper on ‘The Belief in God and Immortality as Factors in Race Progress.’ Recognizing that moral bankruptcy of naturalism which has been sketched above, Professor Alexander points out that, according to such philosophy,

the man of the future is to be one willing to devote himself to the development of an efficient physical life on this earth. He is to do this, aware that in the course of nature all his material works, all his physical achievements, must come to naught. A dead and ruined planet is the ultimate goal of his physical efforts.

Now if such end and such result were to be his sole inspiration, I believe and affirm that his role would be an impossible one..... The physical life, the life of the great Commune of Man here on earth, must be valued not for its own sake but for the sake of the ideal human character which such a life is to develop. [citing to *The Hibbert Journal*, October 1910, pp. 186-187⁴]

He next shows that belief in a world-intelligence to which the plan and purpose of each human life is important, and a faith that this world-intelligence, which is really God, will guarantee ‘a consummation of the life here begun in a world to come,’ is necessary ‘in order to satisfy reason.’ Without asserting ‘any a priori certitude’ as to the existence of such a Being, Professor Alexander sees in such beliefs a positive and valuable equipment for the will to live, and to live with zest and efficiency. In the light of these convictions he is led to affirm that ‘nature decrees that the man who survives, the race that persists, must believe these things, they are a part of the equipment of the fittest to survive.’

In this brilliant paper Professor Alexander has urged with great cogency some exceedingly important considerations. From an a priori standpoint his reasoning seems quite convincing, but perhaps a final decision cannot be won apart from an appeal to statistical evidence, which in this case would be hard to get. It may come down in the end to the question whether modern men tend to attach greater or less importance to such beliefs, as compared with earlier generations. While time alone can provide the answer, some argument, if not actual evidence, has already appeared.’ By some it is maintained that the desire for immortality is declining among the most progressive races. But the experience of multitudes who have gone through the horrors and sorrows of the recent world war would indicate quite the contrary, and tends to show that the soul thirst of heartbroken human beings for ‘the living God’ is not less fundamental or less imperative than in the days when the Psalmist of Israel longed for God as the hart panted after the water brooks. It is recognized, however, that this will be held to be a natural outcome of the present reversion to a pain economy, and that mankind will regain its spiritual indifference as it regains its fatness and security.

However it may be as to the actual prevalence, under normal social conditions, of such a mental experience, the answer is of considerable logical importance for a theory of social progress. For, as Professor [Ralph Barton] Perry shows in his searching chapter on ‘The Moral Tests of Progress,’ [citing to *The Moral Economy*, 1909] progress is really a quantitative conception, inasmuch as it signifies an increase of the good of life, whatever that good may be. Consequently, the question of the value of a sense of God and immortality

‘immortality,’ *Senescence*, 4 *Taxation & Census*, p. 328

‘happiness as the Meta-Aspect of humanity,’ *The Happy Hurkle, et seq.*, 4 *Culture*, pp. 409-410

‘global warming is the natural consequence of technological culture,’ *The Air That I Choke*, 3 *Taxation & Census*, pp. 318-319

Modernity and Western Secularization:

Modernity and Anti-Semitism, 3 *Constructural Elements*, pp. 207-209

Modernity Machines, 1 *Technology*, pp. 696-697

‘relationship of consumerism and secularization,’ *The Paradox of Thrift and Consumerism and Modernity*, 2 *Commerce*, pp. 1197-1198

‘knowledge of ancient Rome decreased with secularization,’ EN

⁴ The article title is “Religion and Progress,” (*The Hibbert Journal*, Vol. 9) written by H.B. Alexander, U. Nebraska-Lincoln. The entire issue of the *Hibbert Journal* from the U. of Toronto library, is preserved on the Internet Archive and the quoted text may be found at the bottom of p. 185 (<https://archive.org/details/hibbertjournal09londonoft/page/184/mode/2up>).

<p>assumes a position of the utmost importance for our theory of progress. Is such a belief among the real goods of life? Is it not the highest good, the finest product of evolution, when abstracted from all superstitions, fears, and sectarian dogmatism and left to stand in its simple dignity as the most comprehensive, elevated, and mentally chastening value-judgment and worth-reaction of which conscious life is capable? If so, then we are led to conclude that religion has an inextinguishable importance, an indispensable function, in human existence. So full of meaning is it, upon this hypothesis, that the naturalistic philosophy really pictures to us an immeasurably vast process of evolution, which works up from the primeval chaos, through countless ages, to the creation of a being whose exalted conception of duty and destiny constitutes, even for his own happiness no less than for his moral discipline, the supreme good of life, and yet this very process requires for its completion the uttermost shatterment of that supreme good, along with all the lesser goods of life. And this, say the prophets of materialism, is progress!" – Clarence Marsh Case, "Religion and the Concept of Progress," <i>The Journal of Religion</i>, March 1921, Volume 1, Number 2, pp. 160-173.</p> <p><i>GGDM Commentary:</i> <i>What's kind of interesting here is that Prof. Case refers to World War I as "the recent world war" without capitalization rather than as The Great War, the term popular at the time. This makes the concept of 'world war' apparent in the early 1920s rather than post-WWII.</i></p> <ul style="list-style-type: none"> I had commented in EN 12, 2 Constructural Elements, p. 202, that if a time traveler went back to the 1920s, they'd have to be careful not to call The Great War or the War to End All Wars of 1914-1918, "World War I." Certainly Professor Case recognized The Great War conceptually as a 'world war' in 1921 and could not have known with certitude when or if there would be another, but does not seem optimistic that it would not happen again, perhaps within his own lifetime. 	<p>10, 1 Kairotic Moments, p. 1428</p> <p>'Protestants won the Reformation,' <i>Understanding the Question</i>, 1 Reformation, pp. 1377-1378</p> <p>Legacy Discussions:</p> <p>The Insistence of Memory, 3 Temporal Technology, pp. 830-832</p> <p>'extended legacy,' <i>The Inge Process</i>, 5 Diplomacy, pp. 1161-1163</p> <p>'learning legacy as a designer,' <i>Historical Cycles</i>, 1 Resolution, pp. 1457-1458</p>
<p><i>Survival optimism, Happiness Meta-Aspect, hope, equality of physical and social sciences:</i></p> <p>[p. 169] "Religion, according to this argument, has been preserved, and not eliminated, through social selection, because optimism is a more successful frame of mind than pessimism, and it is his trust in the help of higher powers and his belief in a heavenly hope even when every earthly good seemed lost, which has made of man the unconquerable battler against every wind of circumstance. But that attitude of mind is in its very essence religious, and therefore it is that religion, whether true, in the metaphysical sense, or merely a beneficent illusion, 'has proved to be a working philosophy of life.' It is a postulate which works out constructively and successfully in experience, and is consequently, in the view of the present writer, of precisely the same validity as the theory of electrons or any other working hypothesis of science." – Clarence Marsh Case, "Religion and the Concept of Progress," <i>The Journal of Religion</i>, March 1921, Volume 1, Number 2, pp. 160-173.</p> <ul style="list-style-type: none"> <i>Cf.</i> "At the neurological level, negative emotions far outnumber the positive emotions that humans can use during interaction (indeed, four of at least the five primary emotions that have been elaborated by hominin neurology are negative [anger, fear, sadness, disgust] whereas one is positive [happiness])." – Jonathan H. Turner and Seth Abrutyn, "Returning the 'Social' to Evolutionary Sociology: Reconsidering Spencer, Durkheim, and Marx's Models of 'Natural' Selection," <i>Sociological Perspectives</i>, 2017, Vol. 60(3) 529–556 (p. 544). 	<p>'happiness as the Meta-Aspect of humanity,' <i>The Happy Hurdle, et seq.</i>, 4 Culture, pp. 409-410</p> <p>'contractual religion,' <i>Is the Religion Worshipful, Deferential or Philosophical and The Zero Sum Problem of Religion</i>, 4 Fallen to Earth, pp. 1554, 1561-1562</p> <p>Hope in GGDM:</p> <p>'hope is fear of our own futility,' <i>What is Hope</i></p>

<p>GGDM Commentary: <i>It is the final sentence of the preceding quote in which he advances another argument for <u>equality of sociology and the physical sciences</u>: Consistent common experience of history is the same as any empirical law of physics. It is notable that history is considered in most places to be an ‘empirical science’ and Jared Diamond described it in terms of ‘natural experiments’ (see Jared Diamond quote, 3 Constructural Elements, p. 210) and J.B. Bury <u>insisted</u> on it in 1930:</i></p> <ul style="list-style-type: none"> ✓ “I may remind you that history is not a branch of literature. The facts of history, like the facts of geology or astronomy, can supply material for literary art; for manifest reasons they lend themselves to artistic representation far more readily than those of the natural sciences; but to clothe the story of human society in a literary dress is no more the part of a historian as a historian, than it is the part of an astronomer as an astronomer to present in an artistic shape the story of the stars.” – J. B. Bury, “The Science of History,” <i>Selected Essays</i>, 1930 (text available on Google Books). • Notice that in the paragraph above, Professor Case uses the term, ‘social selection,’ demonstrating that by 1921, the concepts of evolutionary natural selection had already been ported to sociology – where social forces select for or against developments to solve problems – a process now known as social dynamics. Jonathan H. Turner and Seth Abrutyn has subsequently divided social selection forces and processes into Durkheimian, Marxian, and Spencerian selection forces and noted that religion has the ability to cut across all classes, stratifications and corporate units (see quotes this document). <p><i>Thus, Clarence Marsh Case insists that sociology is the equal of any science when it notes historical experience. And since, as he, Jared Diamond, and Ludwig von Mises argued, human experiences are not repeatable like lab experiments, history must in most cases be the basis of sociology.</i></p>	<p>Then?, 2 Diplomacy, pp. 1115-1116</p> <p>‘combat die rolls and hope,’ The Heroic & the Dismal, 3 Combat, pp. 979-980</p> <p>Sociology’s struggle for science recognition:</p> <p>Aspects of Sociology, <i>et seq.</i>, 2 Culture, pp. 371-374</p> <p>Clarence Marsh Case quote and discussion in Unsolved Problems, 3 Constructural Elements, pp. 209-211</p>
<p><i>Aging of Aspects, Enlightenment, RPs, loss of Proficiencies to Generational Turnover, actualization of Fuzzy Groups for Writ activation, capitalization of words:</i></p> <p>[p. 170] “It remains to be seen how long it will take for the moral and spiritual power of the generation just passing away to become a spent force. Furthermore, probably all truly ministering spirits who report themselves as holding to no religion, really cherish a cheerful faith in Evolution, Progress, or some other capitalized word which guarantees a fruitful outcome for their unselfish labors; a confident optimism which renders one essentially religious in the meaning of the term as used in this essay.” – Clarence Marsh Case, “Religion and the Concept of Progress,” The Journal of Religion, March 1921, Volume 1, Number 2, pp. 160-173.</p> <p><i>See Aging Out in GGDM: ‘aging of Aspects,’ Between the Candle and the Stars, 2 Culture, pp. 366-367, ‘aging of Enlightenment,’ Tuition & Tenure, 2 Colleges, p. 474, ‘aging of RPs,’ Aging Resources, 2 Taxation & Census, pp. 304-305, ‘generational turnover of Proficiencies,’ And the Cradle will Rock, 3 Culture, pp. 382-383, ‘gradual change in worldview,’ Artifice, 2 Constructural Elements, pp. 191-192.</i></p>	<p>‘actualization of Fuzzy Groups,’ Actualization, 4 Culture, p. 406</p> <p>‘capitalization of words,’ Capitalizing, 2 Order, pp. 536-537</p> <p>Empirical Mythology, <i>et seq.</i>, 1 Technology, pp. 691-692</p>
<p><i>Interpretation vs. Facts, conspiracy theories:</i></p> <p>[p. 171] “But while facts, so far as established, must be faced rather than argued with, it would be a misfortune to adopt in the same way every logical implication involved.” – Clarence Marsh Case, “Religion and the Concept of Progress,” The Journal of Religion, March 1921, Volume 1, Number 2, pp. 160-173.</p>	<p>Flavors of Fact, Loud Barking, and Five Types of Facts, 1 Dream-time, pp. 134-137</p>

<p><i>GGDM Commentary: I could not have said it better and, in fact, I probably didn't. Conspiracy theorists should take note.</i></p> <p><i>See also, Conspiracy Theories discussions: Conspiracy Theories, 2 Dreamtime, p. 153, Hot Dog Conspiracies, 2 Entropy, p. 238 and 'alternative facts' USA Today Editorial Board quote, 3 Special Operations, p. 1317.</i></p>	
<p>Similar to the 'sociology has drifted from its roots' argument, ontic description vs. ontology, blame-shifting mechanism, afterlife models, animals don't know death, Erasmus:</p> <p>[pp. 171-172] "This hypothesis is borne out by the well-recognized fact that psychology has steadily drifted away from its original mother, which is philosophy and metaphysics, and has moved toward physics, biology, and physiology. An examination of the subjects developed in leading psychological monographs and articles for the last ten years will impress on any observer the astonishing preponderance of physical measurements, especially as applied to minute studies of the more strictly individualistic and materialistic aspects of the various sensations, perceptions, and higher intellectual processes. In the vast, rich field of the emotional life, the field of the sentiments, and the supremely significant but difficult realm of group experience, psychology, in the strictly orthodox sense, had, until recently, done very little. Yet here is precisely where the great problems of religion lie. Our conclusion then is that even while accepting the facts established by Professor [James H.] Leuba's research, we shall indeed be quite unphilosophical, and consequently superficial, to accept any indifference toward religion on the part of scientific men as valid evidence against its social value or even its absolute truth.</p> <p>The significant suggestion from the situation seems to be that the supreme task of the present century will have to be the construction of a spiritual view of life, a task for which physical science, including most of current psychology, is entirely disqualified, but which will have to be the work of a truly scientific philosophy and metaphysics. The course of evolution has maneuvered mankind into an exceedingly dark blind alley in these later days. The brutes have no knowledge of death and hence no fear of it, or need of a remedy. Less sophisticated men are aware of their impending doom, but religious faith in God and immortality robs the grave of its sting. The thoroughly modernized man, if the inference from Professor Leuba's studies is to hold, contemplates the extinction of all his works without remedy – the one redeeming feature being that he seems, according to the figures, to be inclined not to care." – Clarence Marsh Case, "Religion and the Concept of Progress," The Journal of Religion, March 1921, Volume 1, Number 2, pp. 160-173.</p> <p><i>GGDM Commentary: This is interesting compared to I Dreamtime where I identified Christianity's obsession with what people really believe as the mother of modern psychology (along with the secularization of medicine in 1300 A.D.). Whereas Professor Case comes to the conclusion that the parents of modern medicalized psychology are philosophy and meta-physics. At some point in my life, I heard religion called 'the poor cousin of philosophy' – so it all kind of links up – but at the least, as I argued in GGDM, religion is a community moral system tied to the concept of a supreme authority over mankind as the ultimate judge. So it all ties together, it is only that Professor Case and I have sliced the pie slightly differently.</i></p> <p><i>The last few sentences of this quote may be offensive to some, but in the 'brutes' comment, I was reminded of Roger Caras' observation that animals don't know their own mortality (see quote, 5 Taxation & Census, p. 337). Certainly the comment about 'less</i></p>	<p>'sociology has drifted from its roots,' Frank Ellwell quote, immediately after the Professor Case quote that psychology is recognized recently as a science, 3 Con-structural Elements, pp. 210-211</p> <p>'ontic description vs. ontology,' Michael Robbins Feature Quote, 2 Reformation, bottom p. 1393</p> <p>'blame-shifting mechanism of religion,' Be Fruitful, 4 Culture, pp. 410-411</p> <p>Afterlife as a function of Human Time:</p> <p>'two models of birth and death,' Point of No Return, 4 Fallen to Earth, pp. 1564-1566</p> <p>'fundamental problem of Abrahamic religion,' Sapience, 1 Beginnings, pp. 28-29</p>

<p><i>sophisticated men’ will sting in the religious circles (noting that Professor Case was also a pastor!), but Desiderius Erasmus had already commented on that issue five hundred years ago (from 1 Reformation, p. 1376):</i></p> <p>✓ “There are monasteries where there is no discipline, and which are worse than brothels – <i>ut prae his lupanaria sint et magis sobria et magis pudica</i>. There are others where religion is nothing but ritual; and these are worse than the first, for the Spirit of God is not in them, and they are inflated with self-righteousness. There are those, again, where the brethren are so sick of the imposture that they keep it up only to deceive the vulgar. The houses are rare indeed where the rule is seriously observed, and even in these few, if you look to the bottom, you will find small sincerity. But there is craft, and plenty of it – craft enough to impose on mature men, not to say innocent boys; and this is called profession. Suppose a house where all is as it ought to be, you have no security that it will continue so. A good superior may be followed by a fool or a tyrant, or an infected brother may introduce a moral plague. True, in extreme cases a monk may change his house, or even may change his order, but leave is rarely given. There is always a suspicion of something wrong, and on the least complaint such a person is sent back.” – Desiderius Erasmus, Letter to Lambertus Grunnius (August 1516) (discussing the rule of celibacy in monastic orders)</p>	<p>‘Hayflick limit is the reason for afterlife,’ Senescence, 4 Taxation & Census, p. 328</p> <p>‘leaping the barrier of our own mortality,’ The Insistence of Memory, 3 Temporal Technology, pp. 830-832</p>
<p><i>Kantian is and ought, Ideological Constructural Element, the changing character of early Christianity as a social movement:</i></p> <ol style="list-style-type: none"> I. One seldom-recognized reason for the social conservatism of the church is the fact that church members are implicated in the social order and inevitably judge affairs in the light of their practical interests. Moreover, church members as such possess no superior knowledge of social laws and forces. II. Yet Christianity itself is an essentially revolutionary program, inasmuch as it counts the happiness of no man more important than that of any other, and permits no special interest to take precedence of the general welfare. III. Christianity is concerned more with the distribution than the production of wealth, and this interest allies it most closely with the modern social problem, which is one of distribution primarily. Yet the social implication of church members renders it impossible for the pulpit to take radical ground without disrupting the congregation. IV. The consequence is a dilemma, in which the church has to see her practice as an actual institution continually fall short of her convictions and her commission as an ideal spiritual community. <ul style="list-style-type: none"> - Clarence Marsh Case, “The Dilemma of Social Religion,” The Journal of Religion, May 1922, Volume 2, Number 3, pp. 277-290. <p><i>GGDM Commentary:</i> <i>It is in many respects difficult to separate Protestantism from Sociology and there’s a decent whiff of that here in his comments about practical interests and the separation between practice and convictions. In the early 20th Century, before becoming a Professor of Sociology, Clarence Marsh Case was a school teacher and principle, and also a pastor and it is thus not surprising that he wrote sociology articles for The Journal of Religion. But still, Protestantism aside, this argument summary adds value to the discussion of religion and legitimate authority in GGDM and provides material for the Concierge and players to consider in-game.</i></p>	<p>‘Kant’s is and ought,’ Wikipedia quote re Compatibilism, 2 Culture, pp. 373-374</p> <p>Ideological Constructural Element, 1 Constructural Elements, pp. 179-180</p> <p><i>(this provides a practical limit to the ICE in GGDM)</i></p> <p>The Core of Christianity, 1 Kairotic Moments, pp. 1423-1424</p> <p>‘Mainz and the Baden-Palatine War,’ EN 6, 3 Government Titles, pp. 622-623</p>

Cass, Oren

Plutocracy, Legitimacy, the Bargain, Oligarchic Drift:

“I think we are always going to have government of and by the influential. I mean, by definition, if you are the people running the government, or the culture, the economy, you are going to be the influential and powerful people. But for the democracy to have legitimacy, it still has to be for all the people. And so I think the challenge is twofold, one is to persuade people that what we are doing right now isn’t working very well. I think most people are well meaning, and believe or have convinced themselves that whatever agenda they like best is actually is the right agenda, so it’s important for them to understand that it’s not, and secondly, it’s important to understand that in the short run you can do whatever you think is best for yourself, but that is not sustainable in the long run and that I think so many of the challenges we are seeing in America and the direction the country is headed, at the end of the day, is a bad outcome for everyone. And it’s going to be the biggest fall for those who are highest up.” – Oren Cass (American Compass magazine) on Rising with Krystal & Saager, The Hill YouTube Channel, October 15, 2020.

GGDM Commentary: This very much ties the concept of government to collective outcomes, good or bad. In this sense then, government legitimacy is tied to progress or the lack of it, as I have mentioned in GGDM that avoidance of the bad result is simply mediocrity and mediocrity is failure. GGDM participants should consider then that Conflict Checks for Government Titles might and probably do, represent the concept of progress as seen by that civilization at that time, and thus the failure of a Social or Estate Title is the collective ‘bad outcome’ of that course of action.

The Bargain, 5 Culture, p. 426
‘legitimacy is being tested at all times,’ Carte Blanche and Foreclosure of a Dream, 3 Government Titles, pp. 615-617
Oligarchic Drift, 3 Entropy, p. 246
‘mediocrity is failure,’ Mediocrity for Most, 3 Colleges, p. 498

Chesterton, G.K.

Cave Paintings, humanity at the top of the heap:

“It is the simple truth that man does differ from the brutes in kind and not in degree; and the proof of it is here; that it sounds like a truism to say that the most primitive man drew a picture of a monkey and that it sounds like a joke to say that the most intelligent monkey drew a picture of a man. Something of division and disproportion has appeared; and it is unique. Art is the signature of man.” – G.K. Chesterton, The Everlasting Man (1925).

- *Cf. Erasmus says temper your enthusiasm Chesterton!* “I have no patience with those who say that sexual excitement is shameful and that venereal stimuli have their origin not in nature, but in sin. Nothing is so far from the truth. As if marriage, whose function cannot be fulfilled without these incitements, did not rise above blame. In other living creatures, where do these incitements come from? From nature or from sin? From nature, of course. It must be borne in mind that in the appetites of the body there is very little difference between man and other living creatures. Finally, we defile by our imagination what of its own nature is fair and holy. If we were willing to evaluate things not according to the opinion of the crowd, but according to nature itself, how is it less repulsive to eat, chew, digest, evacuate, and sleep after the fashion of dumb animals, than to enjoy lawful and permitted carnal relations?” – Desiderius Erasmus, “In Praise of Marriage” (1519).

GGDM Commentary: So herein we have Chesterton arguing that man is different in kind from the brutes and special, while Erasmus argues that man is like the brutes and

‘the relationship of fire to cave paintings, storytelling, religion and mysticism,’ The Secret of Fire, 3 Technology, p. 721
Humanity at the Top of the Heap:
‘teleology in evolutionary biology,’ Patent Defect, 3 Patents, p. 752
‘greater alien intelligence,’ Perception, 3 Information, pp. 1358-1359

<p><i>thus what man does naturally is not a sin (because there is no sin in brutes), comparing sex to eating, sleeping, and bodily functions. This is an echo of religion vs. science and evolution, oddly with the modern man coming down on the side of religion and man's special place and the cleric of 500 years ago coming down on the side of naturalism.</i></p> <p><i>See also, John F. Kennedy quote this document on the value of art in civilization. I am also put to mind of the famous scene of the feral children's "The Tell of Captain Walker" in Mad Max: Beyond the Thunderdome (1985).</i></p>	
<p><i>Piltown Man Hoax, Dogmatism, Agnosticism, Paleoanthropology/ paleoarcheology:</i></p> <p>“On the assumption of that evolutionary connection (a connection which I am not in the least concerned to deny), the really arresting and remarkable fact is the comparative absence of any such remains recording that connection at that point. The sincerity of Darwin really admitted this; and that is how we came to use such a term as the Missing Link. But the dogmatism of Darwinians has been too strong for the agnosticism of Darwin; and men have insensibly fallen into turning this entirely negative term into a positive image. They talk of searching for the habits and habitat of the Missing Link; as if one were to talk of being on friendly terms with the gap in a narrative or the hole in an argument, of taking a walk with a non-sequitur or dining with an undistributed middle.</p> <p>Unfortunately the same school of writers pursue the same style of reasoning when they come to the first real evidence about the first real men. Strictly speaking of course we know nothing about prehistoric man, for the simple reason that he was prehistoric. The history of prehistoric man is a very obvious contradiction in terms. It is the sort of unreason in which only rationalists are allowed to indulge. If a parson had casually observed that the Flood was antediluvian, it is possible that he might be a little chaffed about his logic. If a bishop were to say that Adam was Pre-Adamite, we might think it a little odd. But we are not supposed to notice such verbal trifles when skeptical historians talk of the part of history that is prehistoric. The truth is that they are using the terms historic and prehistoric without any clear test or definition in their minds. What they mean is that there are traces of human lives before the beginning of human stories; and in that sense we do at least know that humanity was before history.” – G.K. Chesterton, <u>The Everlasting Man</u> (1925) (the full text of this chapter and, by links the entire book, can be found at https://worldinvisible.com/library/chesterton/everlasting/part1c2.htm).</p> <ul style="list-style-type: none"> • “Chesterton’s somewhat loosey-goosey outline of history doubles as the best modern argument for Christianity I’ve ever read. You have to give in to the Chestertonian style, but if you do, be careful – you might just be converted.” – Ross Douthat, “Ross Douthat’s 6 Favorite Books on Religion,” <u>The Week</u>, April 15, 2018 (Ross Douthat is quoted in 4 Movement and 3 Kairotic Moments in GGDM). <p><i>GGDM Commentary:</i> <i>I freely admit that although G.K. Chesterton was a turn-of-the century polemic Christian apologist, I find his writing and arguments both entertaining and arresting, sort of like a really much gentler, nicer opposite of the later Christopher Hitchens. Good cop, bad cop, in the discussion of religion and evolution; now that would be a fascinating debate, wouldn't it? Chesterton vs. Hitchens! Hitchens has the advantage of 80 more years of science but I think Chesterton could hold his own and disarm Hitchens a little (Rabbi Wolpe, who debated Hitchens, noted in Slate in 2011 that Hitchens could be sloppy with facts).</i></p>	<p>‘Piltown man, scholarly fraud,’ Seema Rawat and Sanjay Meena quote, EN 6, 1 Information, pp. 1337-1338</p> <p>‘dogmatism,’ Loud Barking, 1 Dreamtime, p. 135</p> <p>‘paleoarcheology is sifting through waste dumps and burial mounds,’ EN 7, p. 683</p>

<ul style="list-style-type: none"> • Chesterton’s entire books and chapters are available free online in several places as their copyrights have expired. Chesterton is a good example of why copyrights must expire and works must pass into the public domain within a century or less. I once read a science fiction short story debating this issue, the proposal was to provide forever copyrights; I don’t recall the title or author of the story, but powerful corporations have successfully lobbied Congress to extend copyrights several times to protect their intellectual properties into the 21st century. <p><i>See also, Agnosticism in GGDM: Bertrand Russel “What is an Agnostic” quotes, pp. 1561-1562 and EN 4, p. 1567 and Thomas Huxley and Leslie Weatherhead bottom Feature Quotes, 4 Fallen to Earth, p. 1566, ‘agnostics and morality,’ Bertrand Russell top Feature Quote, 5 Fallen to Earth, p. 1569, ‘reconciling science and religion,’ Bertrand Russell quote, 1 Technology, p. 692.</i></p>	
<p>Chideya, Farai</p>	
<p><i>Culture War, groupthink, anti-governing crowd, Flavors of Fact, dogma:</i></p> <p>“I have been kind of trying to sound this alarm since 2015, that we are entering a culture war and that people would act based on their team, not based on facts. So there is something that some sociologists call ‘blue lies’ which is basically lying for your team. What we are seeing at this stage of the culture war is that people who know far better are repeating stuff that they know are lies because they are doing it for their team and because their team, frankly, can be quite dangerous. I think that one thing we have to remember is that some lawmakers are now afraid of their own constituents, and that is one of the reasons some of them are supporting the [former] President; there was a Democratic lawmaker who talked about his colleagues crying before the impeachment vote because they were like, ‘our families could be targeted.’ So let’s not forget that’s the point it’s gotten to.” – Farai Chideya commenting about CPAC 2021 on Brian Stelter “Reliable Sources,” CNN, February 28, 2021.</p> <p><i>GGDM Commentary: “Blue lie” is an interesting term, I am not sure if I heard it before and forgot about it, but it fits perfectly within sociology’s concept of ‘groupthink.’ She also touches on a point that explains why religion has been so overpowering as a cultural or social force in previous millennia and centuries, and which is currently prominent in Southeast Asian countries where Islamic vigilantes kill atheists and law enforcement doesn’t care or is impotent to stop them: the translation of culture war to personal physical harm. Placed in this context, people will engage in ‘white lies’ without remorse to avoid imminent threat of physical harm to themselves or their friends, family, or group; thus the ‘blue lie’ of sociologist is explained in part, on a personal level, by the ‘white lie’ of ethics (by both normative ethics and consequentialism).</i></p> <p><i>See also, Western esotericism: Wikipedia quote, 1 Entropy, middle p. 218, ‘can’t turn back the clock’ discussion Green Anarchist from Earth, 1 Technology, p. 686, and ‘techno-mages as sci-fi Western esotericism’ 3 Information, p. 1362.</i></p>	<p>Cultural War, 5 Culture, pp. 428-429</p> <p>‘anti-governing crowd,’ Walter Hudson top Feature Quote, 5 Government Titles, p. 636</p> <p>Flavors of Fact, Loud Barking, and Five Types of Facts, 1 Dreamtime, pp. 134-137</p> <p>‘alternative facts,’ USA Today Editorial Board quote, 3 Special Operations, p. 1317</p> <p>‘propaganda is not alternative facts,’ Daniel Lerner quote, 1 Diplomacy, middle p. 1101</p>
<p>Chomsky, Noam</p>	
<p><i>Original Responsibility of Intellectuals thesis:</i></p> <p>“It is the responsibility of intellectuals to speak the truth and to expose lies. This, at least, may seem enough of a truism to pass over without comment. Not so, however.</p>	<p>Integrity and Intelligentsia Proficiencies, 3 Culture, pp. 390-391</p>

<p>For the modern intellectual, it is not at all obvious.” – Noam Chomsky, “A Special Supplement: The Responsibility of Intellectuals,” The New York Review, February 23, 1967.</p> <p><i>GGDM Commentary:</i> Chomsky’s basic charge throughout his life is that intellectual elites serve the government and not the truth, that the ‘lies’ they concoct have very real consequences (in his time, the Vietnam War). GGDM discusses throughout the idea of propaganda and public relations and spin, etc., but this charge is also a decent issue to keep in mind regarding Colleges in GGDM and their relation to the Government Titles.</p>	<p>Expose’ News Event, Diary of a Madman, 4 Writs, pp. 449-450</p>
<p>Chomsky following Bernays:</p> <p>“By manufacturing consent, you can overcome the fact that formally a lot of people have the right to vote. We can make it irrelevant because we can manufacture consent and make sure that their choices and attitudes will be structured in such a way that they will always do what we tell them, even if they have a formal way to participate.” – Noam Chomsky, “What makes mainstream media mainstream,” Z Magazine, October 1997.</p> <p><i>GGDM Commentary:</i> It is extremely odd that the discussion of Responsibility of Intellectuals finds its language in Bernays who was rather the opposite of the Responsibility of Intellectuals; in fact, one could argue that Chomsky’s career is a consequence of Edward Bernays success! Thus, they have a causal, historical relationship.</p> <p><i>Within GGDM play, there is a question of to what extent ‘manufacturing consent’ equates to Intelligentsia Proficiency, are they the same or is Intelligentsia Proficiency something else, is there a more objective meaning to the Proficiency? Who does it serve?</i></p> <p><i>See also, Intelligentsia Proficiency, 3 Culture, pp. 391-392.</i></p>	<p>‘invisible manipulation of public opinion,’ Edward Bernays quote EN 1, 1 Culture, p. 359</p> <p>‘manipulation of public opinion,’ Edward Bernays bottom Feature Quote, 1 Government Titles, p. 584</p>
<p>Romantic Narcissism, Romantic Nationalism, Integrity and Nationhood Proficiencies:</p> <p>“It is not that I am not a fan of American exceptionalism. That is like saying I am not a fan of the moon being made out of green cheese – it does not exist. Powerful states have quite typically considered themselves to be exceptionally magnificent, and the United States is no exception to that.” – Noam Chomsky, interview with The Young Turks, October 26, 2010.</p> <p><i>GGDM Commentary:</i> The concept of exceptionalism is necessary to modern nationalism, does one want to consider themselves a citizen of a non-exceptional state? Yes, arguably there are millions of citizens of states that are considered poor, non-exceptional, but notice that they tend to be less patriotic toward their states, which are usually endemic with corruption, exploitation, and abuse. Thus, one might see a <u>correlation between</u> the concept of exceptionalism in nationhood and <u>patriotism</u> for that nation-state, the greater the collective patriotism (regardless of justification), the greater the idea of national exceptionalism vs. other nation-states.</p> <p><i>See also, Patriotism discussions in GGDM: ‘ultranationalism as self-intoxication, confusing extremism for patriotism,’ 4 Order, top p. 573, ‘patriotism allows governments to rouse nationalism,’ Aspect, 2 Writs, p. 438, ‘using patriotism against pacifist,’ Hermann Goering quote, EN 13, 6 Diplomacy, p. 1180, ‘pulpit patriotism,’ Frank Elwell top Feature Quote (summarizing C. Wright Mills), 1 Taxation and Census, p. 295.</i></p>	<p>Integrity and Nationhood Proficiency and ‘a nation,’ Dean Inge Feature Quote, 3 Culture, pp. 390, 393</p> <p>‘romantic narcissism,’ Alan Wolfe top Feature Quote and Handwriting Aspect, 3 Colleges, p. 487</p> <p>Romantic Nationalism, 3 Government Titles, pp. 618-619</p>

<p>Judgment, Skepticism, Critical Thinking:</p> <p>“I try to encourage people to think for themselves, to question standard assumptions,’ Chomsky said when asked about his goals. ‘Don’t take assumptions for granted. Begin by taking a skeptical attitude toward anything that is conventional wisdom. Make it justify itself. It usually can’t. Be willing to ask questions about what is taken for granted. Try to think things through for yourself. There is plenty of information. You have got to learn how to judge, evaluate and compare it with other things. You have to take some things on trust or you can’t survive. But if there is something significant and important don’t take it on trust. As soon as you read anything that is anonymous you should immediately distrust it. If you read in the newspapers that Iran is defying the international community, ask who is the international community? India is opposed to sanctions. China is opposed to sanctions. Brazil is opposed to sanctions. The Non-Aligned Movement is vigorously opposed to sanctions and has been for years. Who is the international community? It is Washington and anyone who happens to agree with it. You can figure that out, but you have to do work. It is the same on issue after issue.” – Noam Chomsky, quoted by Chris Hedges, “Noam Chomsky Has ‘Never Seen Anything Like This’” Truthdig, April 19, 2010.</p> <p><i>GGDM Commentary: Power is the direct opposite of multi-nationalism, and this is the question that is rhetorically asked in 1 Diplomacy, bottom p. 1095. Which side of the answers to the rhetorical question participants choose will determine the game story.</i></p> <p>See also, ‘skepticism’: Tim Minchin quote, 4 Fallen to Earth, p. 1556, and Carl Sagan top Feature Quote, 2 Technology, p. 700.</p>	<p>Psy-ops, 1 Special Operations, p. 1280</p> <p>Jill Gabrielle Klein Quote, 6 Government Titles, bottom p. 649</p> <p>Joanna & Albert, 2 Fallen to Earth, p. 1524</p> <p>Arrears in Aristos, 2 Entropy, p. 234</p>
<p>The Air that I Choke, climate change, the three freight trains coming down the track:</p> <p>“We will emerge [from the pandemic, but] we’re not going to emerge from another crime that Trump has committed, the heating of the globe. The worst of it is coming – we’re not going to emerge from that. ... All around the world, countries are trying to do something about it. But there is one country which is led by a president who wants to escalate the crisis, to race toward the abyss, to maximize the use of fossil fuels, including the most dangerous of them, and to dismantle the regulatory apparatus that limits their impact. There is no crime like this in human history. Nothing. This is a unique individual. And it’s not as if he doesn’t know what he’s doing. Of course he does. It’s as if he doesn’t care. If he can pour more profits into his pockets and the pockets of his rich constituency tomorrow, who cares if the world disappears in a couple of generations?” – Noam Chomsky from Jacobian Magazine interview transcript, June 23, 2020.</p> <p><i>GGDM Commentary: One interesting additional point to be made with regards to the GGDM interstellar setting: What Chomsky is commenting about are human disregard for their own homeworld. Imagine the exploitation and disregard in an interstellar setting where business greed is <u>destroying someone else’s homeworld or colony planet</u>? This is a case then where science fiction can take an Earth problem and toss it up into the sky and extrapolate it to the worse possible end; this is the germ of the concept of spacefaring corporations as evil residents and antagonist in science fiction. As noted in 3 Commerce, oppressive foreign business practices can lead to revolts, and there is great story potential for the game if the local population has the ability to violently object.</i></p> <ul style="list-style-type: none"> • This is not entirely dissimilar to or disconnected from the policing problem; when something happens (e.g., the death of Daunte Wright by police shooting), people get more upset when they find out that police officers don’t actually live in their 	<p>The Air that I Choke and Pollution Potentials, 3 Taxation & Census, pp. 318-319</p> <p>Standing on the Tracks, 3 Entropy, pp. 244-245</p> <p>Putting Away Childish Things, 1 Temporal Technology, pp. 812-813</p> <p>Resident Evil, <i>et seq.</i>, 1 Corporations, p. 1241.</p> <p>‘Roman predatory lending practices,’ Boudicca’s Revolt, 3 Commerce, pp. 1212-1213</p>

community, it gives the appearance of being sent in to enforce, an occupying force. Within GGDM, this is the problem described in terms of Pacification.

See also, 'Police as occupiers,' Tar Baby Pacifier, 5 Combat, p. 1021, and 'militarization of policing,' The Roslin Maneuver, 2 Government Titles, p. 591.

Cillizza, Chris

Disruption Events, Special Operations (treating 9/11 attack as a GGDM 'Special Operation'), social safety net discussion, technological empowerment, cultural shift (generational migration of Constructural Elements), happiness meta-aspect, supra-legitimacy Nietzsche's warnings about atheism:

“Now, as I wrote about this phenomenon which is even more pronounced among young people all the way back in 2015, I wrote these words, ‘The erosion in confidence is impossible to blame on any one factor because it’s so widespread. I believe that the attacks of Sept. 11, 2001, made clear in a very powerful and frightening way that those tasked with protecting us might not always be able to do it. That led to a general sense of unease amid the populace that the bad behavior of Wall Street, the faltering economy, an ineffectual Congress and the string of high-profile killings of black men by police have all heightened.’ Ha, was so smart back then! Had more hair too.

The pace of those doubts and the level of mistrust has only accelerated in the years since I wrote that as large institution after large institution has been shown to have failed in major and glaring ways. The ability of a single person to directly question the motives and actions of an institution ... has without question, far-reaching consequences. There is no question that it has meant that large companies and organizations have been forced into self-examination as to why they do what they do. And in some cases, it has forced change on them, change that would not have even been thinkable as recently as a decade ago. This is obviously a very good thing.

Now, what the collapse of trust in these once unquestioned pillars of culture has also meant though, is the increasing realization that we are all operating without any real safety net. If we slip, there may be no one or nothing we can trust to catch us. What that leads to is increased sense of unease and anxiety, the idea that we are simply on our own, adrift in a world in which there are no more trusted referees. This is the reality we collectively face at the end of the second decade of this 21st century. Yes, we are more empowered and more able than ever before to question authority and be listened to, but institutional failures that have been exposed have left us more isolated, more fragmented, and in a lot of cases, less happy.” – Chris Cillizza, “Here’s why Meghan’s interview with Oprah matters,” The Point, CNN, March 9, 2021.

- Cf. “Their opinion might be roughly summarized in the words of Arnold Toynbee: ‘With the increase in our power, our sense of responsibility and our sense of distress increases.’ Toynbee has said that the growth of science and technology makes more acute the disparity between the real and the ideal.” – Brian Aldiss, Galactic Empires Vol. 1.

GGDM Commentary: *This is the essence of the Disruption Event and disruption mechanics in GGDM, I could not have described it better. Anxiety, unease, no safety net.*

As for Meghan Markle (see title of video), she discovered too late the truth of the bargain that was made to keep the British 'monarchy' on permanent life support so long ago, that they are just zoo animals, pieces on the board, to be trotted out to represent the Queen – the first clue to your true status should be when you are assigned a 'handler.'

‘social safety nets,’ David Leonhardt Feature Quote, Social Safety Net, and The Bargain, 5 Culture, pp. 424-428

‘modern royals are living ghosts,’ EN 3, 1 Taxation & Census, p. 300

Technological Empowerment:
The Human Adventure and Time Safari, Inc., 1 Special Operations, pp. 1266-1269

More or Less and Technological Unemployment, 2 Eras, pp. 771-772

Disruption Events:
Disruption Event, Hand me the Hemlock, Stewed, Brewed, Boiled, Baked, or Fried, and Double Your Troubles, 1 Disruption, pp. 255-261

Trouble in the Trees, Rousing the Rabble, Interesting Times, 2

<p><i>The current state of the monarchy in England can be viewed as a ‘safety net’ created when political and social chaos, loss of British national identity, was feared if the monarchy were abolished, the result is a monarchy that is effectively just a large PR Firm.</i>⁵</p> <p><i>See also, ‘generational migration of Constructural Elements,’ Artifice, 2 Constructural Elements, pp. 191-192, ‘happiness as the Meta-Aspect of humanity,’ The Happy Hurkle, et seq., 4 Culture, pp. 409-410, ‘supra-legitimacy’: Type 3, 3 Beginnings, p. 42, and The Earthly Entanglement, 2 Government Titles, pp. 586-588, and ‘Nietzsche’s warning,’ Michael Robbins Feature Quote, 1 Technology, middle p. 696.</i></p>	<p>Disruption, pp. 270-272</p> <p>‘surface population destroyed by hostile act,’ Mars Bombing Run, 2 Disruption, pp. 274-275</p>
<p>Coates, Ta-Nehisi</p>	
<p>Racism:</p> <p>“But race is the child of racism, not the father.” – Ta-Nehisi Coates, <u>Between the World and Me</u> (2015).</p> <p><i>GGDM Commentary: To anyone who learns the history, a simple question becomes obvious: If the Nazis were so proud of what they did, why did they secretly try to hide it and erase the evidence beginning in May 1942? Why Sonderaktion 1005? I mean, they were the national government of Germany! If the KKK is so convinced of the rightness of their cause, why the bedsheet hoods and the cover of night?</i></p>	<p>Elder Race and Real Racism, 5 Diplomacy, pp. 1153, 1155</p> <p>‘Operation Reinhard death camps,’ EN 4, 3 Diplomacy, pp. 1137-1138</p>
<p>Cohen, Brian Tyler</p>	
<p>Corruption:</p> <p>“Just because the corruption is happening out in the open doesn’t mean it isn’t corruption.” – Brian Tyler Cohen, “Protestors storm Postmaster General DeJoy’s apartment complex,” Bryan Tyler Cohen YouTube Channel, August 15, 2020.</p> <p><i>GGDM Commentary: Corruption is discussed throughout GGDM and is, of course, a fine tool for game storytelling – remember, most stories are about bad things happening to people (good people, bad people). One could call casinos, ‘corruption in the open,’ heck, we even given them a license and walk in willingly! Is it any surprise then that organized crime has so long been associated with casinos and other open gambling?</i></p> <p><i>See also, Integrity Proficiency, 3 Culture, p. 390, and Framing Collapse, 1 Constructural Elements, p. 183.</i></p>	<p>Real Corruption and ‘JP Morgan sons and daughters program,’ Matt Egan Feature Quote, 1 Corporations, pp. 1239-1243</p> <p><i>See also, Simon Whistler quote about Bugsy Siegel, <u>this document</u></i></p>
<p>Colbert, Stephen</p>	
<p>This agrees with the definition of a game given in 1 Resolution:</p> <p>“There were no winners last night, except for Ares the trickster god of chaos. The winner implies a contest where the parties follow agreed upon rules to reach a specific goal. This was more like watching a basketball game where the final score was ‘the beautiful flames, they talk to me.’” – Stephen Colbert, “Stephen Colbert’s LIVE Monologue After The First Trump-Biden Presidential Debate,” The Late Show with Stephen Colbert YouTube Channel, September 30, 2020.</p>	<p>What is a Game, 1 Resolution, p. 1455</p> <p>‘abuse of News Events,’ Keep the Sand in the Sandbox and Diplomatic Protest, 2</p>

⁵ I have noted previously in GGDM (see Liberal, 5 Culture, pp. 425-426) that in England I would automatically be considered a ‘Republican’ which is a sort of dirty word on both sides of the Pond (for different but amazingly similar reasons). ☺

<p><i>GGDM Commentary: The “specific goal” of a debate is to find truth, or at least to publically show opposing positions in the most favorable light; this has been so since Ancient Greek dialectic. And why there are rules of court and an adversarial system where both sides examine witnesses and evidence to find truth. When that specific goal is derailed, you have farce and fracas (and contempt of court). Even though GGDM is a game, it is also a simulation and players will eventually decide what is the ‘specific goal’ of the game, even if just to have fun (the old gaming club line, “What is the object of the game? To have fun!” which is intended to keep people from taking the game too seriously). Whatever the ‘specific goal’ of the GGDM game is or becomes collectively, it is possible to make it a farce and a fracas like the first 2020 Presidential debate. This is the point of many cautions throughout GGDM about game integrity.</i></p> <ul style="list-style-type: none"> • When I was in the SCA (Society for Creative Anachronism) long long ago, there was a running debate and a little agitation between the ‘history mavens’ who were serious and the recreationist funsters; I recall reading an article in an SCA book on how to keep the peace. Clearly each group had different “specified goals” for their SCA activities, and each found the other annoying to a degree. 	<p>Dreamtime, pp. 147-148, 148-149</p> <p>‘Society for Creative Anachronism,’ Medieval State of Mind and EN 22, 1 Constructural Elements, pp. 181, 188</p>
<p>Colbert, Stephan feat. Rep. Tim Ryan</p>	
<p><i>Culture war, rhetoric, Edward Bernays and invisible hands of public opinion:</i></p> <p>“And here is the thing. As much legislative meat as Joe [Biden] is tossing on the griddle, Republicans have a little trouble sticking a fork in him because Biden isn’t proving to be an easy target or animating figure for the GOP base. Turns out spending a year calling someone senile and sleepy doesn’t make them a good boogeyman. No one is afraid that Tokyo is going to be flattened by old-Zilla. One GOP spokesperson put it this way: ‘There’s just not the antipathy to Biden like there was to Obama. He just doesn’t drive conservative outrage...’ Hmm, I wonder what’s different about Obama that enraged their base? I dunno, maybe the Royal Family knows [referring to the Meghan and Harry interview with Oprah Winfrey where Meghan said that some comments had been made in the Royal household about the skin tone of their newborn son].</p> <p>So with nothing else to fire up the crowd, the GOP is talking nonstop about cultural issues, like Dr. Seuss, Meghan Markle, Mr. Potato Head, also known as Piers Morgan. These culture war distractions were called out yesterday on the House floor by Ohio Representative and spy-finding out lunch is here, Tim Ryan. During a debate about strengthening protections for unions, Ryan said this [video replay]:</p> <p style="padding-left: 40px;">‘Heaven forbid we are going to pass something to help the damn workers in the United States of America! We talk about pensions, you complain. We talk about the minimum wage increase, you complain. We talk about giving them the right to organize, you complain. Now stop talking about Dr. Seuss and start working with us on behalf of the American workers!’”</p> <p>– Stephen Colbert monologue, “GOP Forced To Revive The Culture Wars Because Joe Biden Makes A Lousy Boogeyman,” The Late Show with Stephen Colbert, March 10, 2021.</p> <p><i>GGDM Commentary: This is a perfect example of the two opposing definitions of politics used in GGDM: Allocation of resources (Interstellar Politics, 1 Taxation & Census, p. 295) and Culture War (Cultural War, 5 Culture, pp. 428-429). It’s also possibly an example of two sides ‘talking past each other.’ And the famous statement attributed,</i></p>	<p>Cultural War, 5 Culture, pp. 428-429</p> <p>Edward Bernays ‘pulling the wires’ quote, EN 1, 1 Culture, p. 359</p> <p>Edward Bernays bottom Feature Quote, 1 Government Titles, p. 584</p> <p>Walter Lippmann top Feature Quote, 2 Government Titles, p. 586</p> <p>Rhetoric Proficiency, 3 Culture, p. 398</p>

<p>probably wrongly, to Otto von Bismarck: “Laws are like sausages, it’s better not to see them being made.”</p>	
<p>Comte, Augustus</p>	
<p><i>This goes to the point of science proceeding without metaphysical pretenses:</i></p> <p>“The first characteristic of Positive Philosophy is that it regards all phenomenon as subject to invariable natural Laws. Our business is – seeing how vain is any research into what are called Causes, whether first or final – to pursue an accurate discovery Of these Laws, with a view of reducing them to the smallest possible number. By speculating upon causes, we could solve no difficulty about origin and purpose. Our real business is to analyse accurately the circumstances of phenomena, and to connect them by natural relations of succession and resemblance. The best illustration of this is in the case of the doctrine of Gravitation.” – Comte, 1854 (quoted by Jonathan H. Turner in “Returning to ‘Social Physics’: Illustrations from the Work of George Herbert Mead,” Current Perspectives in Social Theory, 1981, Vol. 2, pp. 187-208).</p> <p><u>GGDM Commentary:</u> <i>Right, and so here’s the rub. History is often called and historians want it to be called, an empirical science. Yet, historians readily admit that one of the purposes of history is to discover proximate and ultimate causes of events (in fact, that is the obsession of historians), a posteriori not a priori. Historians do not formulate natural laws from the phenomenon they study because we can’t... and they can’t be tested in any case. So according to Comte above, is history a science, is it positive philosophy?</i></p>	<p>‘ontic description vs. ontology,’ Michael Robbins Feature Quote, 2 Reformation, bottom p. 1393</p> <p>‘history’s concern for proximate and ultimate causes,’ Jared Diamond quote, 3 Constructural Elements, p. 210</p>
<p>Cooper, Anderson</p>	
<p><i>Failed prophecy, conspiracy theories, unfalsifiability:</i></p> <p>“This is a bizarre conspiracy and there’s a lot of people get sucked into it. There was a phony flight log of Jeffrey Epstein’s airplane that was put online, my name was added to it at some point. There’s conspiracy theories that I’m part of this trafficking ring. It’s a really bizarre thing and there’s no real way to fight against it because you can’t prove a negative. None of these things are true, it’s a phony flight log that’s been floating around, but it’s something that, whoever’s behind this theory and the other people who add to it, they simply are resistant to any actual rational discussion of – that man in particular, he believes that President Biden very likely has already been arrested, that Washington is now a prison – that’s why the National Guard is there [i.e. not because of the insurrection on January 6th], that executions will start taking place on March 5th [2021], and when that doesn’t happen, because it’s made up and it’s not going to happen, when that doesn’t happen, they just evolve the theory, they just come up with something new to explain why it didn’t happen, like the old doomsday ... the folks who used to prophesy doomsday, when the date passed they’d just come up with a new explanation.” – Anderson Cooper appearing on Wolf Blitzer Situation Room, CNN, March 4, 2021.</p> <p><u>GGDM Commentary:</u> <i>Context: Anderson Cooper remotely interviewed a man who sent him a PM saying he should be publically executed for being part of the ‘Satan-worshipping, cannibalistic pedophile sex ring’ as it is described in the sprawling QAnon conspiracy theory. When confronted face to face, the man backed off saying that it was rude of him to send the PM and that he couldn’t prove anything – almost but not quite apologizing – he also claimed to not be a QAnon conspiracy theorist though all of his assertions match the conspiracy theory and he uses the hashtag, and he continued to stand by the whole bizarre theory saying that there should be military tribunals and public executions of the people targeted by the conspiracy theorists.</i></p>	<p>‘failed prophecy,’ Vaughn Bell Feature Quote, Prophecy Ark and Cattle Killing Movement, 2 Wheel in the Sky, pp. 1485, 1488</p> <p>Conspiracy Theories discussions:</p> <p>Conspiracy Theories, 2 Dreamtime, p. 153</p> <p>Hot Dog Conspiracies, 2 Entropy, p. 238</p>

<ul style="list-style-type: none"> • Anderson Cooper’s infant son turned a year old on April 27, 2021. That means that when this guy was sending him death threats based on some whacko conspiracy theory, Anderson Cooper had a wife and infant son at home – a fact publicly known and knowable to anyone who did even a modest amount of research. I wonder if this man knew that or cared? Did he look? <p>See also, unfalsifiability discussions: <i>Down the Rabbit Hole</i>, 3 <i>Kairotic Moments</i>, p. 1443, <i>What a Fool Believes</i>, 5 <i>Fallen to Earth</i>, pp. 1583-1584, ‘unfalsifiability by passage of time’ <i>Flavors of Fact</i>, 1 <i>Dreamtime</i>, p. 136, ‘falsifiability in science argument’ <i>Kate Becker Quote and EN 13</i>, 3 <i>Fallen to Earth</i>, pp. 1544, 1550.</p>	
<p>Crowley, Will (narrator MelodySheep YouTube Channel)</p>	
<p>Carbon chauvinist, extremophiles, Habitability Class, abiogenesis, Uber Alles, technological singularity:</p> <p>“Most of the universe is too hot or too cold for liquid water and the biochemistry that supports life as we know it. But in case our biases are misleading, we have to cast a wide net. To search for life outside the habitable zone, in places that seem wildly hostile to us. Exotic environments will demand exotic biochemistries, and while no element can match carbon’s versatility, one contender is a front-runner. At first glance, silicon seems similar to carbon. It forms the same four-way bonds, and is also abundant in the universe. But a closer look reveals that these two elements are false twins. Silicon bonds are weaker and less prone to forming large complex molecules. Despite this, they can withstand a wider range of temperatures, opening up intriguing possibilities. [Different, uncredited male voice, sounds like an old mono recording] ‘Life based on the silicon atom instead of carbon would be more resistant to the extreme cold, providing a whole new range of weird forms.’</p> <p>[Male narrator voice returns] But silicon has a problem: In the presence of oxygen, it binds into solid rock. To avoid turning to stone, silicon beings might be confined to oxygen-free environments, like Saturn’s frigid moon, Titan. Its vast lakes of liquid methane and ethane could be an ideal medium for silicon based life or other radical biochemistries. Without ample sunlight, beings on worlds like Titan would likely be chemosynthetic, deriving their energy by breaking down rocks. Such lifeforms could have ultra-slow metabolisms, and life cycles measured in millions of years.</p> <p>In high temperatures, typically rigid silicon bonds become more flexible and reactive triggering more dynamic chemistry. This has led to a truly bizarre proposal: Silicon based lifeforms that live in side molten silicate rock. In theory, these forms could even exist deep beneath the Earth inside magma chambers, as part of a shadow biosphere. If so, then the aliens are right under our noses. Other shadow biospheres have been proposed, forms of life living alongside us that we don’t even know are here, including tiny RNA-based life small enough to go undetected by existing instruments [RNA based life is thought to have been the first life on Earth].</p> <p>Clouds of dust and empty space might seem like the last place you’d expect to find anything living. But when cosmic dust makes contact with plasma – a type of ionized gas – something strange happens. In simulated conditions, dust particles have been seen spontaneously self-organizing into helical structures that resemble DNA. These plasma crystals even begin to exhibit life-like behavior – replicating, evolving into more stable forms, and passing on information. Plasma is the most common state of matter in the</p>	<p>‘abiogenesis,’ Order of Genesis, Carbon Chauvinist and Carl Sagan ‘carbon chauvinist’ quote, 1 Order, pp. 522, 527, 529</p> <p>‘J.S. Mill and Carl Sagan discussion,’ Not Emergent, 3 <i>Fallen to Earth</i>, pp. 1534-1535</p> <p>‘extremophile bacteria in volcanos,’ Robin Andrews quote, 4 <i>Taxation & Census</i>, middle p. 329</p> <p>‘theistic evolution,’ Omega Point, 5 <i>Beginnings</i>, pp. 58-59</p> <p>Intelligent machines:</p> <p>Artificial Persons, 2 <i>Diplomacy</i>, p. 1114</p> <p>AI Nanny, 1 <i>Government Titles</i>, pp. 580-581</p> <p>‘technological singularity,’ Ver-nor Vinge Feature</p>

universe. If complex evolving plasma crystals really exist, and if they can be considered life, they could be its most common form.

When massive suns explode, some collapse into ultra-dense cores called neutron stars, hulking masses of atomic nuclei crammed together like sardines. Conditions on the surface are mind-boggling, gravity is a hundred billion times stronger than Earth's. But beneath their iron nuclei crust lies something strange, a hot dense sea of neutrals and subatomic particles. Stripped of their electron shells, these nuclei would obey entirely different laws of chemistry, based not on the electromagnetic force, but the strong nuclear force which binds nuclei together. In theory, these particles could link up to form larger macronuclei which could then combine into even bigger super nuclei. If so, then this bewildering environment would mimic the basic conditions for life: Heavy nucleon molecules flowing in a complex particle ocean. Some scientist have proposed the unimaginable, exotic lifeforms drifting through the strange particle sea, living, evolving, and dying on incomprehensively fast time scales.

Life is not something that has to evolve naturally. It can be designed. And once intelligence is introduced into the evolutionary process a Pandora's Box is opened. Free from typical biological limitations, synthetic and machine-based life could be the most successful of all. It could thrive almost anywhere, including the vacuum of space, opening up vast frontiers unavailable to biological organisms. And compared to the glacial pace of natural selection, technological evolution allows exponentially faster growth, adaptability and resilience. By some estimates, autonomous self-replicating machines could colonize an entire galaxy in as little as a million years.

We can't predict how hyper-intelligent life would organize itself but in theory, there could be convergent evolution at play. The electrical properties of silicon might make it a universal basis for machine intelligence, a redemption for its biological shortcomings. As the universe ages, perhaps machine intelligence would come to dominate, and naturally-occurring biological life will be viewed as a quaint starting point. Perhaps we ourselves will lead this transition, and the great human experiment will be merely a first link in a sprawling intergalactic chain of life.

[Uncredited female voice] Loren Eiseley has said that one does not meet one's self until one catches the reflection from an eye other than human. One day, that eye may be that of an intelligent alien. And the sooner we eschew our narrow view of evolution, the sooner we can truly explore our ultimate origins and destinations." – Will Crowley (main narrator), "LIFE BEYOND II: The Museum of Alien Life," MelodySheep YouTube Channel (John D. Boswell), October 7, 2020.

GGDM Commentary: This long quote is offered here to enhance the discussion of alien lifeforms, provincial humanity, and machine intelligence (von Neumann machines and AI nannies) in GGDM; I highly recommend watching the original video on YouTube which contains complex, minutely-rendered visuals and music to enhance the narration with communicative elements that cannot be captured in this quote. It's a short crash course for curious players and any creative Concierge to introduce strangeness into a GGDM game. In the end, they describe why humanity might go extinct, survived by our intelligent machines, a horizon we have seen coming for the last century, the stuff of our worst nightmares next to thermonuclear war, environmental collapse, or genocidal pandemic (the four horsemen, I guess?). If intelligent, technologically-advanced extraterrestrial biological lifeforms contact us soon, it will be because they recognize we are on the verge of making ourselves obsolete (or maybe to throw us a going away party). If the aliens are machine life, they may want to help us along the road to the abyss, because, as

Quote and Deep Learning the Singularity, 2 Technology, pp. 705-706

Fred Saberhagen's Berserkers/von Neumann Machines:

Imperial Interstellar Scout Service, 3 Movement, p. 855

All About Toasters, 2 Technology, pp. 706-707

<p><i>we have asked many times in movies, if machine life is intelligent, capable, self-determinative, self-replicating and self-modifying (the technological singularity), why would they need us? The proposed answers have not been, so far, very comforting.</i></p>	
<p>The Daily Mail (uncredited author)</p>	
<p><i>Underground civilizations, lost alien civilizations (in GGDM that is), Japanese Naval Headquarters in Okinawa, Japan, lost history conspiracy theories, Western Esotericism:</i></p> <p>“Stone Age man created a massive network of underground tunnels crisscrossing Europe from Scotland to Turkey, a new book on the ancient superhighways has claimed. German archaeologist Dr. Heinrich Kusch said evidence of the tunnels has been found under hundreds of Neolithic settlements all over the continent. In his book – Secrets Of The Underground Door To An Ancient World – he claims the fact that so many have survived after 12,000 years shows that the original tunnel network must have been enormous. ‘In Bavaria in Germany alone we have found 700 metres of these underground tunnel networks. In Styria in Austria we have found 350 metres,’ he said. ‘Across Europe there were thousands of them – from the north in Scotland down to the Mediterranean. Most are not much larger than big wormholes – just 70 cm wide – just wide enough for a person to wriggle along but nothing else. They are interspersed with nooks, at some places it’s larger and there is seating, or storage chambers and rooms. They do not all link up but taken together it is a massive underground network.” – [No article authorship credited] “Going underground: The massive European network of Stone Age tunnels that weaves from Scotland to Turkey,” The Daily Mail, August 8, 2011.</p> <p><u><i>GGDM Commentary:</i></u> <i>I found three articles on the internet about this. The oldest seems to be the Daily Mail article quoted above, which is probably the original reporting. The article on Ancient Origins website, credited to April Holloway from 2013, seems to be a copy of the Daily Mail article (adding, “While many believe Stone Age humans were primitive, incredible discoveries such as the 12,000 year-old temple called Gobekli Tepe in Turkey and Stonehenge in England – which demonstrate advanced astronomical knowledge – indicate that they were not as primitive as many believe.”) and the article on Thinking Mind website, references the previous two, so was created later and mainly copies the Ancient Origins article.</i></p> <p><i>And there is a June 4, 2020 video on Mystery Histories II YouTube Channel with the misleading title, “1000 Mile Long Stone age Tunnel Beneath Europe.” While the articles were fairly matter-of-fact about it, the video is the epitome of what is wrong with the world of alien and lost history conspiracy theories. The conspiratorial, mocking asides and derisive tone of the narration toward science (by Don Moffit & Matt Prosser) in this video is unnecessary. The facts are enough, the mystery will become apparent on its own. I had the privilege in my youth of touring the underground Japanese Naval Headquarters in Okinawa, Japan, which was cut without power tools and looks just like the tunnels in this video. They used shovels and buckets to cut an elaborate underground tunnel network with rooms. It is an incredible labor, but it did not require power tools. Further, the video narration seems to copy almost exactly the Learning Mind article, you can follow along, but they don’t give credit to the original article. And the video title is misleading because even the conspiratorial video itself <u>doesn’t actually ever say the tunnels were 1000 miles long!</u></i></p>	<p>‘massive underground civilization,’ Dayworld, 3 Taxation & Census, pp. 315-316</p> <p>EN 7, 2 Temporal Technology, pp. 826-827</p> <p>‘William “Burro” Schmidt,’ EN 28, 5 Fallen to Earth, p. 1590</p> <p>‘Japanese WWII Tunnel Networks,’ No Surrender, No Retreat, 5 Combat, p. 1010</p> <p>Maybe the Firvulag Did It Excerpts, Cave Paintings (about Neanderthal cave edifices)</p> <p>‘Western Esotericism’ quote, 1 Entropy, p. 218</p>

“Daniel” (narrator, Space Dock YouTube Channel)

Besieged Colonies, Planetary Surrender, Orbital Bombardment, Ground Units, Ground Unit Extraction and Support, Pacification Combat, Insurrection Levels, Genocide, Looting, Conversion/Naturalization, Zero Sum Game, Loading hostile population to Colony Ships and Orbital Cities, ship surrender and boarding actions in GGDM, Special Operations resolved in Combats:

“I want to talk about planetary invasions and more specifically, why they would never happen in any realistic setting. Now, the concept of invading a planet from space by literally landing hundreds and hundreds of thousands of troops and tanks and vehicles onto this planet and then campaigning those people all around the planets fighting an entire resisting population until they are completely subjugated and you’ve won is pretty literally infeasible in that it would take so long and be so difficult that it could be reasonably described as going on forever. This is well articulated in the second expanse book Caliban’s War, when Martian characters talk about how impossible it would be to ever invade Earth despite it being what all the propaganda sells the Martian population on because a planet is not something you can drive the enemy out of and then plant a flag; it’s not a town or a castle or a city, it’s something with an astronomically massive surface area and endless terrain and basically infinite places where angry resistors could hide in the hills for decades upon decades and it would just never end.

Instead, the shape of planetary conquest in a realistic future setting would be heavily on the most ancient and effective tool of warfare, making the enemy surrender and it would be quite easy in this context because if you take over the gravity well of a planet and you have ships with weapons on them capable of bombing cities from orbit and destroying them and there are no other enemy fleets or ships that can come help, just the people on the planet below, the planet will surrender; if it doesn’t surrender, the fleet can threaten to bomb the planet, if it still doesn’t surrender then the fleet can bomb the planet a bit and then they will surrender.

If they’re insane, if it’s an entire planet of self-destructive sociopaths, the fleet will presumably continue to bomb the planet until there’s nothing on it and then just land and build things, but this wouldn’t happen because everyone has a basic self-preservation instinct and no matter how many men with rifles you have, you can’t fight a fleet of warships that’s 50,000 miles above you. Nobody’s building ships on the planets and launching them in such numbers as to defeat the fleet in space, it’s completely impractical, so sieges, bombardment, and more often, the threat of bombardment would be the order of the day, and the shape of planetary conquest. For this purpose, the only real assault force you would ever need is ‘take and hold’ troops garrison forces because the problem of leaving men somewhere in order to make something that you made yours still yours is an ancient one: That problem is never going away. But the job of those troops would be to land and to garrison the planet that you now have taken, not to manually force it’s population off the planet or seek and destroy all of them over the course of years upon years upon years, this is why in a lot of more realistic science-fiction settings, you’ll see that armies are basically gone and replaced by Marine Corps with the only real ground troops in warfare being an extension of the ships that they are attached to, whether it’s to seize other ships and installations in boarding actions or to keep an eye on a planet or planetoid or astral body that you have just forced to surrender until your government comes along with garrison troops to hold it down. ...

Besieged Colonies, *et seq.*, 3
The Sidereal Stage, pp. 124-126
‘Colony Surrender,’ *Over My Dead Body*, *et seq.* and *Kalderian Surrender*, 5 *Combat*, pp. 1011-1015
Resist et Mords and Occupation, 4 *Combat*, pp. 989, 1000
‘Pacification Combat and Insurgency Levels,’ *Making War for Peace is Like...*, *et seq.*, and *Genocide*, 6 *Combat*, pp. 1020-1025
Looting and Black Market, 3 *Commerce*, pp. 1210-1211
‘settled population will not voluntarily move,’ *Zero Sum Game*, 6 *Diplomacy*, pp. 1171-1172
‘political status is a determining factor in loading population to Colony Ships,’ *Sardine Tins*, 3 *Expansion*, pp. 911-913
‘transporting hostile or unwilling

While I acknowledge that things like Star Wars and Halo need exciting ground battles to make their setting interesting, in a more realistic setting, they probably wouldn't exist because it doesn't matter if you have 10 guys with rifles or 500 guys with rifles on a tiny island if there's a giant battleship parked next to the island. None of the potential outcomes involve an invasion of the island, it's just a situation where one side has literally no capacity to win, and when you can't win, if you have any sense, you don't fight." – Daniel [narrator], "Why Planetary Invasions Would Never Happen," Space Dock YouTube Channel, June 25, 2020.

GGDM Commentary: This is the classic argument of space warfare in a nutshell, this argument has been around since at least the early 1970s because the original Stellar Conquest board game did not have ground troops, planets surrendered when their last defense bases were eliminated. This discussion is very important to the planetary surrender discussion in GGDM where the Concierge must take the side of the local commanders and the population on the ground in deciding when a planet surrenders. Ground Units were added to GGDM so that all options are covered, and does not necessarily imply that all population must be subjugated but rather, that a planet can be controlled by controlling important locations and suppressing at least somewhat any native resistance, e.g., Pacification Combat. There are some nuances and counterpoints to offer:

1) I would point out that on January 24, 1795, Napoleon's cavalry charged across the ice to capture an entire Dutch warfleet...

2) Historically, the Romans conquered 5 million Gauls with just 50,000 Legionnaires. The Romans did not have to defeat every Gaul, or all Gallic resistance, they only needed to control the important places and wait, because over generations of time, the resistance faded and the population became Romanized.

3) The orbital bombardment argument also ignores the environmental impact which may be disastrous for the invaders; in Babylon 5, the orbital bombing of the Narn homeworld destroyed the planet's ecosphere making it less valuable.

4) Near the end of the video Daniel almost argued himself out of his points by using the battleship and tiny island reference – because if that were true, then why did my U.S. Marine Corps need to invade and fight for tiny islands? His attempt to shore up his points actually bucks history and falters on the shoals.

See also, **Boarding Actions & Special Operations Resolution in Combat**: For the Babylon Bobs, 6 Combat, pp. 1027-1028 and Treason, 3 Special Operations, pp. 1310-1311.

See also, the Epic Illustrated #27 story "Duet" (1984) referenced in Thank God for the Bomb, 1 Combat, pp. 936-937 and quoted in EN 2, 4 Diplomacy, p. 1151. As a last resort, when the Middle East would not surrender, the aliens had to orbital bombard it. The story indicates smugly (it was 1984 after all, read your history) that part of the Middle East no longer exists, but fails to consider the environmental consequences of whatever massively powerful weapon the aliens used to turn it into "the pit."

population,' Colony Cans, 1 Expansion, pp. 879-880

Extraction of Ground Units:

No Surrender, No Retreat and Win, Place or Show, 5 Combat, p. 1010,

Lift & Separation and Troop Transportation Technologies, 4 Combat, p. 987

Orbital Bombardment:

In This Dust that Was a City and The Bomb, 2 Combat, pp. 961-963

'habitability damage,' Planet Narn, 3 Taxation & Census, pp. 316-317,

Converted Colony and Green Zone, 2 Order, pp. 540-541,

Conversion, Taught Their English To Our Young, Naturalization, 3 Order, pp. 554-558.⁶

⁶ As an aside, I argued in Stratofortress, 4 Carriers & Fighters, pp. 1089-1090 that Raiding fighters in a science fiction setting would launch their missiles and bombs from high orbit or even farther out, not WWII style, and it seems that some of the younger generation is picking up the same idea, for example, an April 3, 2021 video on YouTube shows starships (not fighters) launching missiles at a planet surface (and destroying the planet) from a long distance, minutes after jumping into the system. How do you defend that?

Kardashev Scale, Sit 'n Spin strategy, Era progression, Hegemonic Empires, scale of the universe, tiny empires:

“As much as the Kardashev Scale has helped to shape how we view the universe for decades now, it isn’t without its critics. The biggest issue that most have is the fact that it relies entirely on available power as a means to determine how advanced a civilization is. On the Kardashev Scale, more energy equals more advancement with the assumption that every advancing civilization would want to expand further and further outwards. But are there other ways of looking at it? While generating lots of power is one hallmark of an advanced society, are there also different paths to take? After all, there are plenty of problems with the prospect of a society that just endlessly expands. For a start, what is all that power it’s generating actually going to do? Is it evenly spread, or stockpiled by an elite few? Is it used to build communications links and trade routes with other parts of space? Or is it actually used to ruthlessly invade?”

In many ways, the Kardashev Scale implies that the only way to get along in the universe is to try to take it over. To move up the scale, you have to first tame a planet, then a star system, and then become masters of whole galaxies. It seems as though all a Kardashev Civilization can ever really care about is itself. Regardless of how you view this approach though, many argue that it just isn’t feasible anyway – for any hypothetical civilization anywhere. And the logistics do seem to be a bit of a nightmare. Imagine taking over a whole galaxy and inheriting billions of stars worth of energy ... and then just going about your daily life. Living, breathing, burning through a supernova’s worth of fuel just because you can; just because you live in a Type 3 time? Such a civilization could go ... stretching, rather than restricting itself to unsustainable levels.

The move between Type 2 and Type 3 [Civilizations] is where most critics feel the Kardashev Scale falls down. Consider the enormous leap between mastering a star system and mastering an entire galaxy. ... Could it ever really be possible to make such an incredible upgrade? And for any civilization advanced enough to even try it might there be better ways of reaching the next level? Though the Kardashev Scale suggests that somewhere out in space there should be galaxies where there’s a Dyson Sphere around every star, siphoning every last drop of stellar energy, for many, that’s all just a bit too blatant. ... The star-mining megastructures would make that civilization far too easy to find. ... Success on the Kardashev Scale generally means being a far-reaching and power-hungry force, blazing your trail across the cosmos. But critics argue that a truly advanced society will have gone beyond those expansionist goals. ... Earth’s own history shows that empire-building entails suffering and war and destruction – none of which would you expect in an advanced world. History also shows that all empires fall eventually so why would a space-faring super-people go in this direction?

Imagine that you have one galaxy. One group of billions of stars and potentially trillions of planets. Even then, on the map of the universe, you take up just a tiny, tiny fragment of it. [Discussion of avoiding attention] Unsurprisingly then, there are alternative and revised models by which to gauge how advanced a society is. For Kardashev, it’s all about how much stuff it controls, but for the famous cosmologist Carl Sagan, we should also judge a civilization by how much information it can store. It’s something Sagan called information mastery. Letters rather than numbers are assigned to the levels on this civilization ladder, with Sagan suggesting when he first proposed the model in 1973 that humankind was at Level H. Level Z is the most advanced a civilization can become based

‘homeworld strategy,’ Sit-n-spin, 2 Taxation & Census, p. 309

Hegemonic Empires and Spheres of Influence, 4 Order, pp. 571-573, 575-576

Frederik Pohl Day Million excerpt, Resolution

Kardashev Scale:

Scaling Eras, 1 Eras, pp. 755-756

“Abusing the Kardashev Scale” TV Tropes Feature Quote, 2 Technology, top p. 701

‘heatsink discussion,’ Dayworld, 3 Taxation & Census, pp. 315-316

Neutral Emergence, 3 Fallen to Earth, p. 1537

Scale of the Universe:

Stage Illusions, 1 The Sidereal Stage, pp. 107-108

Colonizing Andromeda Galaxy and Let’s Do Some Calculations, 1 Movement, pp. 836, 837-838

<p>on this mode, at which point it is able to store 10^{31} unique bits of information. Interestingly, modern humans are already much closer to the apex of this system than they are to the end of the Kardashev Scale. We're fast-tracking our process with digital data-storing technology, beyond almost all predictions made in the late 20th century.</p> <p>Alternatively, another cosmologist, John D. Barrow, suggested that the hallmark of a civilization wasn't that it could manipulate large objects, like stars and galaxies ... but smaller ones, like cells and atoms. Barrow called this approach microdimensional mastery, and humans are progressing reasonably well by this measure too. ... For Barrow, we should be doing the opposite of expanding outwards in search of greater power, we should be looking inwards and exploring the tiniest parts of reality. Sagan and Barrow's alternative systems don't have the same ecological effects that the Kardashev Scale does either. Environmentalism has been a growing mainstream issue since the industrial revolution led to unsustainable practices ... Apply it on a star system or galaxy-wide scope ... The darker side of the Kardashev way.</p> <p>But there's still one last issue with the Kardashev Scale: The Fermi Paradox. The Fermi Paradox is that we can't reconcile the strong chance that aliens exist with the fact that we've never found evidence of them. So, if the Kardashev Scale provides an accurate trajectory for all advanced civilizations ... then it doesn't make sense that we haven't been able to detect anything. ... There should be some kind of imprint or shadow on space [from a Type 3 Civilization] similar to how we know dark matter exists purely because we can see the effect it has on gravity – it figures that we should be able to see some evidence of a galaxy-conquering species, if it exists as the Kardashev Scale suggests that it should.” – Peter DeGiglio (“Narration by Peter@VoiceofPeter.com“), “What If Kardashev Was Wrong?” Unveiled YouTube Channel (and WatchMojo Channel), December 26, 2020.</p> <p><i>GGDM Commentary: I have always regarded the Kardashev Scale as an idea, one of many. The importance of it to me is the cognitive history timing of its introduction, as discussed in Math Exercises, 4 Taxation & Census, pp. 326-327, rather than its precise content or alleged predictions. Further, as noted in the Fallout game franchise discussions, in Math Exercises, and EN 2, 2 Taxation & Census, p. 312, transistors and miniaturization have upended the early 20th century energy calculations for automated civilization, suggesting that advanced technological civilization does more with less, rather than more with more and more!</i></p> <p><i>GGDM is not based on the Kardashev Scale and in fact implicitly goes in the other direction defining 'advanced civilization' – first of all we need to determine in exactly what way we are talking about a civilization being advanced – by other criteria. Technological Era is an important marker in GGDM, but is not based solely on Kardashev's scale and further, other options for determining when an 'Era' or 'Age' has passed in the game are presented in Watching the Wheels Go Round and Round, 2 Eras, p. 772.</i></p>	<p>Realspace, 2 Expansion, pp. 901-902</p> <p>‘inviolate Galactic Space in GGDM,’ Looking Inward, 2 Expansion, p. 900</p>
<p><i>Tabby's Star KS project, Occam's Razor, Binary Starsystems, In-system movement (Grey Space problem):</i></p> <p>“About 1,470 lightyears away from Earth in the constellation Cygnus within the Milky Way Galaxy you'll come across the most bizarre star we've yet observed. Officially designated KIC 8462852, it's also known as Tabby's Star and Boyajian's Star, after American astronomer Tabettha S. Boyajian, who's led much of the research into it. It also has another name – WTF star, for reasons that will become obvious. Because while it might</p>	<p>‘Tabby's Star KS project,’ top Feature Quote, 2 Expansion, p. 890</p> <p>A Story That Goes the Distance, 4 The</p>

not seem to be particularly unique at first, it's actually experiencing irregular, unexplained dimming. Its light dims by as much as 22%, and though the star was first observed in 1890, astronomers didn't notice the changes in brightness until 2011.

The star's behavior was so weird that the algorithms NASA used to sift through Kepler's data didn't pick up on it. That duty fell to a group of amateur scientists making up the Planet Hunter's Project – a project where ordinary people helped analyze data from Kepler. Four years later and the official research was finally released. Boyajian's Star was experiencing consistent dimming, presumably from something passing in front of it. But what that something is has caused widespread debate.

The first explanation you might think of is that maybe nothing is amiss with Boyajian's Star – maybe the problem lies with Kepler. Could a malfunction on Kepler be to blame for these anomalous readings? Well, that was NASA's first thought as well. Research showed that no matter which of Kepler's detectors was pointed at the star, the data was consistent, meaning that either Boyajian's Star is dimming, or all of Kepler's detectors are faulty, but only when pointing at this one particular star! For once, the simplest explanation is also the weirdest, and something more interesting is definitely going on.

Since the problem certainly rests with the star, could it be something that Boyajian's Star is simply nearing the end of its life and getting dimmer? Boyajian's Star is an F-type main sequence star, slightly larger and hotter than the Sun, with a shorter expected lifespan – somewhere between two and four billion years. But there is no evidence that Boyajian's Star is dying. Despite the dimming, it's burning steadily and couldn't be more ordinary. It's whatever is passing between Boyajian's Star and Earth that's unusual, and there are many theories about what that could be.

The most obvious is that some kind of large celestial body is causing the planet to dim during transit, like an exoplanet. But this planet would have to be of unprecedented size; Jupiter would only block 1% of the light from Boyajian's Star, so we'd need a planet 22 times bigger than that to achieve this dimming, which would be double the size of our Sun. Suffice to say that Kepler would have been able to tell if the dimming was caused by a planetary transit, especially one of this size.

Another theory blames the star's behavior on a large group of comets orbiting it and dimming it when they transit. But it's doubtful that such a large number of comets could exist – and if they do, we still have a mystery on our hands because that's strange in and of itself.

A more promising theory blames a certain type of moon for the star's behavior; a 'ploonet,' or 'orphaned exomoon' is the moon of an exoplanet that has lost the planet it orbits. The ploon in question would have to be an enormous moon that was once in orbit around a gas giant and it would need to be disintegrating as it passed in front of the star. In this scenario, the material being ejected by the moon as it's slowly destroyed would cause the dimming rather than the moon itself. Simulations that have been run here on Earth have proven that this could be the case.

But the explanation could be a lot simpler. The theory favored by Tabetha Boyajian herself is that there's an enormous amount of dust occluding the star. The degree of dimming observed is inconsistent across different wavelengths, with more dimming of ultraviolet light than infrared. This all implies that whatever's blocking the star isn't a solid object at all but something diffuse, like a large cloud of dust or debris. In NASA's words, the star could be surrounded by an 'uneven ring of dust' in orbit around it. Such material could be shed from a ploonet or from a planetary collision; such collisions are

Steams of Time, p. 102

'binary system interplanetary travel problem,' Gray Space, 2 Movement, pp. 844-845

'Occam's Razor in movie Contact,' The Laws of Human Thought, 1 Eras, pp. 758-759

rare however, and researchers would expect to see an infrared glow from the leftover heat. ...

In early 2021, a team of astronomers led by Logan Pearce at the University of Arizona announced that Boyajian’s Star isn’t alone. It actually has a companion red dwarf star designated KIC 8462852-B – making it a binary stellar system. The researchers posited that this could be ‘a potential source of instability in the long-term evolution of the system and could excite chaotic orbits of objects in the system.’ However, it was unlikely to have a direct influence on the brightness of Boyajian’s Star as they are separated by a wide margin of 880 astronomical units.” – Peter DeGiglio (“Narration by Peter@VoiceofPeter.com”), “The Most Interesting Star in the Universe, Boyajian’s (Tabby’s) Star,” Unveiled YouTube Channel, March 8, 2021.

GGDM Commentary: I was a backer for the KS project run by Dr. Boyajian to buy telescope time to observe the star. Boyajian’s Star has turned out to be another example of the In-system Movement discussion in GGDM where the question is one of how much time is represented by a Regular Turn and how much distance between planets in the system is still considered ‘in-system’ travel not requiring FTL movement? The companion red dwarf star designated KIC 8462852-B is 880 AU from the main star, which translates to 0.01391501 lightyears, whereas the red dwarf star Alpha Centauri C (aka Proxima Centauri) is 12,950 AU from Alpha Centauri AB which translates as 0.20477197 light years, much farther away. The interplanetary movement difference is huge, between 1.3% of a light year and 20.47% of a light year for orbiting companion stars of Boyajian’s Star and Alpha Centauri AB. Some details for a realistic game...

Deutsche, Donny

Funny, This is freak’n hilarious:

“You need to know one thing you touched on earlier, when I was running my agency, there was always a dopey CEO. With a dopey CEO, we’d take out an ad on a billboard right outside their office. ‘Cause that’s all they cared about, they would drive [making hand motion], because that’s all they cared about, they weren’t looking at real spread sheets to understand where the money was going. As long as they saw their advertisement. And we have a stunning example with Trump where they spent a million dollars in D.C. You might as well just give that money to Mr. Trump in his pocket and say, ‘here you go Mr. Trump, you’re a really big important guy.’ So there is somebody there who’s eye is off the ball.” – Donny Deutsche, Morning Joe, MSNBC, September 11, 2020.

GGDM Commentary: So many possibilities here for GGDM fun... corruption, dumb and vain aliens (aka humans from Earth) – by definition, where there is incompetence and corruption, there is vanity and someone who’s eye is off the ball!

Diab, Hassan

Corruption & Entropic Events (massive dock explosion in Beirut in 2020):

“This catastrophe that hit Lebanese in the heart which was the result of a chronic corruption in the country and the regime. Previously I said the corrupt establishment hit all parts of the country, however, I discovered that the corruption organization is bigger than the state and the state is controlled by this and it cannot face it or get rid of it.” – Prime Minister Hassan Diab of Lebanon, resignation speech, CNN Live via voiceover English translation, August 10, 2020.

‘global cost of corruption,’ Frontline top Feature Quote, 2 Corporations, p. 1254

<p><i>GGDM Commentary: This is the oldest story of human civilization, it comes right out of Africa! There are countries where the government is basically a criminal enterprise, the situation of nations in Africa readily come to mind as they are covered in the news now and then. Insanely rich people, usually the relatives of the ruler and his supporters, living in a mineral-rich country where 99% live in shocking poverty, and on the other side, large multinational corporations controlled from post-industrial and superpower nations, engaging in bribery, military operations with mercenaries, and manipulation – often in concert with their country’s intelligence services, to exploit the former colonial nations to siphon off their mineral wealth. But don’t think it’s only in Africa...</i></p>	<p>Integrity Proficiency, 3 Culture, p. 390</p> <p>Impertinence of Pertinax and On Being Roman, 6 Government Titles, pp. 653-654.</p>
<p>Diamond, Jared</p>	
<p>Groupthink:</p> <p>“A calmer small-scale analog of crowd psychology that may emerge in groups of decision-makers has been termed ‘groupthink’ by Irving Janis. Especially when a small cohesive group (such as President Kennedy’s advisors during the Bay of Pigs crisis, or President Johnson’s advisors during the escalation of the Vietnam War) is trying to reach a decision under stressful circumstances, the stress and the need for mutual support and approval may lead to suppression of doubts and critical thinking, sharing of illusions, a premature consensus, and ultimately a disastrous decision.” – Jared Diamond, <u>Collapse: How Societies Choose to Fail or Succeed</u> (2011, Rev. Ed.), p. 435, Kindle Edition.</p> <p><i>GGDM Commentary: It was suggested in Players & Positions, 2 Beginnings, p. 34 that GGDM is a game best played by groups of players each representing a position due to the complexity, format and the internet environment. However, there should not be such stress involved as to generate Groupthink results, but that cannot be guaranteed.</i></p> <p><i>However, in-game, this is the classic problem of capitals, regimes and command; no matter how structured, it is natural and necessary that decisions be made by one leader surrounded by a small leadership group and advisors. Well, at least among humans, that is, though there are other possibilities posited by science-fiction imaginations. Still, players will most likely act like the races in the game are humans, and so Groupthink like results should be considered possible as story events in GGDM.</i></p>	<p>Roman Parley, 1 Expansion, p. 883</p> <p>Fog of Lutzen, 4 Colleges, pp. 510-511</p> <p>“Pre-delegation of Nuclear Authority,” EN 23, 4 Combat, p. 1004</p> <p>‘participants will probably treat all game population as human,’ The Great Abacus in the Sky, 3 Taxation & Census, p. 314</p>
<p><i>This relates to Nomadic Warfleet and Lost Colonist Primal States, plus the whole Minor Races discussion, also the discussion of Pacifism later:</i></p> <p>“In December of 1835, hundreds of Maori people arrived on the Chatham Islands east of New Zealand, claimed possession over the local Moriori people, and began to indiscriminately slaughter them armed with guns, clubs, and axes. The Moriori, despite outnumbering the Maori two to one, were a peaceful, hunter-gatherer civilization that the Maori took advantage of. The Maori were a people chronically engaged in ferocious wars, and equipped with much more advanced technology and leadership. The tragedy of the Moriori people resembles many other scenarios that have played out in the modern and ancient world. Despite sharing a recent common ancestor, they developed quite differently – the Moriori reverted to being hunter-gatherers while the Maori turned to more intensive farming. This diversion sealed the fates of the two societies and understanding why they developed differently will shed light on the broader question of human developments. The Maori-Moriori conflict constitutes a brief, small-scale natural experiment in how environment affects human societies. Polynesia offers a chance to see how humans, scat-</p>	<p>Lost Colonist and Nomadic Warfleet, 6 Beginnings, pp. 63-64</p> <p>4 Diplomacy, <i>generally</i></p> <p>The Four Ms, 4 Colleges, p. 501</p> <p>Teleological Exercises, 1 Resolution, p. 1456</p> <p>The Devil’s Argument, 1 Entropy, p. 216</p> <p>‘geography of Polynesia,’ Jared</p>

<p>tered throughout incredibly diverse and isolated lands, developed equally diverse societies despite having a common ancestor.” – Jared Diamond, <u>Summary of Guns, Germs, and Steel</u>, p. 8, Kindle Edition.</p> <p><i>GGDM Commentary: As noted in Dust Motes, 4 Expansion, p. 920, the situation in most interstellar science fiction and in the nascent interstellar civilization of a GGDM game, will resemble Polynesia more than anything else. It is thus that there is plenty of room for – and an expectation of – cultural and genetic drift – which is only partially accounted for by the game’s simulation mechanics (e.g., inactive Constructural Elements).</i></p> <ul style="list-style-type: none"> • As an aside, compare the preceding quote to the Morlocks and Eloi of <u>War of the Worlds</u> (1898) and the later Kaleds and the Thals of Planet Skaro in Dr. Who or the fate of the Xon at the hands of the Centauri in Babylon 5. History repeat. <p><i>See also, ‘repudiation of history’ hypocrisy discussions: Immoral History, 2 Disruption, p. 277, Cossacks, 4 Diplomacy, p. 1146, Habitability, 3 Taxation & Census, p. 315, More Than a Feeling, 1 Temporal Technology, p. 808, Teleological Exercises, 1 Resolution, p. 1456 and EN 1, 3 Reformation, p. 1412.</i></p>	<p>Diamond bottom Feature Quote, 3 Expansion, p. 918</p> <p>‘people who are feeling awfully self-righteous about Andrew Jackson,’ see <i>John Meacham quote, <u>this document</u></i></p>
<p>Dilanian, Kenneth</p>	
<p><i>Brave New World, genetic manipulation, super-soldiers, Special Operations & GROPOS:</i></p> <p>“What we know is that the nation’s top intelligence official says that the U.S. has evidence that China is conducting biological experiments on its soldiers to enhance their capabilities. ... I was somewhat skeptical about this claim, so I started poking around, I found that private American military experts in the think-tank world have actually studied this issue and written about it, and they have found that there is ample evidence that Chinese scientist are very interested in applying biotechnology to the battlefield, and specifically, the CRISPER gene-editing tool which raises a ton of questions. Picture super-strong commandos who can operate on three hours sleep, or a sniper who can see twice as far as a normal person. This is the kind of thing that the Chinese aspire to doing, and ... it’s problematic, because in the West we consider that to be unethical, to tamper with the genes of healthy people. The CRISPER tool is sort of confined to trying to cure genetic mutations and disease and to improve plants, no one understands the implications of messing with human genes. ... and it also sort of underscores how China is committed to military superiority over the West.” – Ken Dilanian, MSNBC with Hallie Jackson, December 4, 2020.</p> <p><i>GGDM Commentary: Partisan guttersnipe posters on YouTube immediately commented that MSNBC will believe anything but, the report came from John Ratcliffe’s WSJ op-ed (these people also believe that the WSJ is part of a media conspiracy), which had bi-partisan support of the Senate Intelligence Committee (which Hallie Jackson pointed out with a joint statement issued by the committee). And whether you believe it is true or not (or that perhaps the United States and Russia are doing the same), it is a good discussion in GGDM terms as to what may be possible within GGDM as part of the game’s story and how the Concierge may intervene to introduce outside plot twists and turns.</i></p> <ul style="list-style-type: none"> • As to the bioethical issues, one only needs look to Dr. Josef Mengele whose bizarre medical experiments in the name of science are the horror of the West. They do not require description here, but they do inspire bioethical code. • The U.S. is far from innocent in this as well, e.g., the Tuskegee Experiment. 	<p>Brave New World, 5 Taxation & Census, p. 343</p> <p>Day Million Excerpts, The Next Season</p> <p>‘bacteria in space acquire mutations,’ George Dvorsky Feature Quote, 1 Expansion, p. 885</p>

<p><i>The 1992 movie, Universal Soldier, which I thought I had mentioned in GGDM somewhere, fictionalized this issue for the big screen. Within the game, genetic modifications to create 'super soldiers' would likely require a Patent and a Writ, since Doctrinal Templates described in Combat Formations, 4 Colleges, pp. 503-504 are used to describe non-technological improvements only. But that's not entirely clear, since Doctrinal Templates apply to 'wetware'-based improvements (which might cover genetic manipulation) while genetic manipulation that results in improvement of production in a population is explicitly placed under improvements to the Industrial Existential Patent in Cyberia, 2 Taxation & Census, p. 311. So, treatment in the GGDM rules is a bit contradictory, fuzzy even, subject to interpretation.</i></p>	
<p>Dixon, Benjamin</p>	
<p>Communications Proficiency, broadcast media, Integrity proficiency:</p> <p>“This exchange is absolutely brilliant. I love watching foreign journalist rip apart American politicians in ways that you don't get to see here, from our journalist here, because in the United States we have what's called access journalism; if you are not nice to a politician, then they won't come back to your platform. And because it's such a big competition to get American politicians on your show here in the United States, there's a lot of capitulation, a lot of bending, a lot of softball questions. So to see this interaction, Sarah Huckabee Sanders went there to promote her book, but she got the grilling of a lifetime. I don't think I've seen a single United States journalist question an American politician in this fashion. So robust, making sure that she always brought her back to the premise of the question. Of course there was a lot of flair there ... but she kept bringing Sarah Huckabee Sanders back to the premise of her question that she tried to avoid by using the standard talking points. That doesn't fly down under, Sarah.” – Rev. Ben Dixon, “MUST-SEE! Sarah Huckabee Sanders Absolutely GRILLED By News Anchor,” The Benjamin Dixon Show, September 22, 2020.</p> <p><i>GGDM Commentary: That's the definition of power, the ability to control the questions asked, control the narrative, control the answers given. It is so in GGDM as well. Do you think President Nixon wanted to sit for an interview by the Washington Post? ☺</i></p>	<p>Communication and Integrity Proficiencies, 3 Culture, pp. 384, 390</p> <p>FCC Fairness Doctrine, 3 Dreamtime, p. 158</p> <p>Media Fact Checking, 3 Information, p. 1370</p>
<p>Draconian (band)</p>	
<p>Existential Void, anti-natalism, origin of religion and afterlife, blame-shifting mechanism of religion, living in a hologram universe:</p> <p>“Filled with sorrow Bleak inner self touched by pride Devoured by solitude Still wrapped in time I'm flowing with pain Holding myself back in suspicion And lingering in the dust The dust of my abandoned remains I'm killed with the dagger of life Such an exquisite pride in my suffering Alone, all alone with the emotional streams Of my soul So real, so pure, yet I'm left aside</p>	<p>‘blame-shifting mechanism of religion,’ Be Fruitful, 4 Culture, pp. 410-411</p> <p>Hologram Universe, 1 Information, pp. 1327-1328</p> <p>Afterlife as a function of Human Time:</p> <p>‘two models of birth and death,’ Point of No Return, 4 Fallen to</p>

Entangled in fear
 Without hope
 I am truly left alone
 But somehow, just somehow
 It feels like my loneliness is a victory
 Over the self-delusion of joy and happiness
 My heart beats faster
 The anguish becomes clearer
 And my misanthropic view grows stronger
 Living in the shadows
 So proud of being the one
 But desperate
 So desperate for a helping hand
 Do I really want to live this life?
 I have a 1000 reasons to die
 And many million tears to cry
 The human plague has emptied my life
 And I curse the day I was born..."

- From Draconian, "The Cry of Silence" (2003)

GGDM Commentary: A few years ago, Xandria with the operatic Dianne van Giersbergen became for me the height of symphonic metal (Delain, Within Temptation, Metalwings sometimes get close, the other height for me being Tarja of Nightwish's "Phantom of the Opera" performance). Xandria was for a long time a regular goth metal band with Lisa Middelhaue as the singer; their goth metal stuff was good, but it doesn't really grab me (it feels tired) compared to the later symphonic metal Xandria. Between the two singers was an operatic singer, Manuela Kraller, and listening to the songs of her time there, I can see the shift happening from goth metal to symphonic metal that was completed when Dianne joined. Unfortunately Xandria may have passed into the nightfall as Dianne left in a storm in 2017 and the group doesn't seem keen on replacing her or producing new material.

I have recently discovered the gothic/doom metal band Draconian, and I am taken by the haunting beauty of their lyrics and music. I've never been particularly attracted to doom metal or death growl (though I did watch some of the animated Deathklok series) but with the near-operatic vocals of Heike Langhans or Lisa Johansson played against the death growl of Anders Jacobsson, I think Draconian (a band that is the same age as Xandria, both having started in the mid-90s) is the epitome of what goth/doom metal could be; Kamelot (symphonic metal) in songs where they use guest female vocalists and Sirenia (goth – almost operatic symphonic metal with male death growl) also have some good music videos.

- I also liked and have listened to many times Apocalypse Orchestra's medieval doom/folk "Garden of Earthly Delights" and a few other songs from The End is Nigh album (along with some of their performance videos with live orchestras). Also as mentioned in GGDM, I found the experimental folk music band Heilung with Maria Franz quite interesting and watched their entire Castlefest LIFA concert.⁷

Earth, pp. 1564-1566

'fundamental problem of Abrahamic religion,' Sapience, 1 Beginnings, pp. 28-29

'Hayflick limit is the reason for afterlife,' Senescence, 4 Taxation & Census, p. 328

'leaping the barrier of our own mortality,' The Insistence of Memory, 3 Temporal Technology, pp. 830-832

Existential Void:

The Key to the Singularity, 1 Beginnings, p. 22

In the Mirror, I Meta Me, et seq., 2 Constructural Elements, pp. 195-196

'Existential Void vs. Camus,' EN 11, 3 Kairotic Moments, p. 1454

'atheism and meaninglessness,' Michael Robbins Feature Quote, 1 Technology, p. 696

(continued next page)

⁷ I also attended a Black Violins performance when they were in Pittsburgh, so I guess I like odd musical experiences!

<p><i>The odd phenomenon of the experience however, at least for me, is that I tend to need lyric videos (a point that seems to be understood by the angelic melochonia group Trees of Eternity whose songs all have official lyric videos) or closed captioning to enjoy the lyrics of post-millennial metal songs (which means I'd never see them in concert probably) – I haven't the ears to pick them out without visual aid – as opposed to the pre-millennial contemporary FM radio music I listened to in my youth where I know the lyrics; some of the Xandria songs I have enough of the lyrics that I can listen to it on my phone app without video.</i></p> <ul style="list-style-type: none"> To the point of entering this particular quote though, I and no one who has ever lived has asked to be here, nor are we allowed to leave or to have never existed (don't confuse that with dying, that's not the same). Any argument that anyone somehow consented to be here quickly collapses into causal absurdity. I find the fact that I am here against my will personally offensive (as in Kantian ethical harm), and if I wasn't here, then I would not be able to be personally offended. So the case is proven, but-for. I think that each of us is personally offended on some level by this in our lifetimes, and then to add insult to injury, we are inundated with stupid crap that happens, things that don't work, stupid, idiotic results, constant petty annoyances and occasional actual harm, as if to be punished and harmed when we didn't agree to be here in the first place! No one can be born for their own benefit, there is nothing but harm in being born and unlike many, I refuse to be soothed with platitudes or pretend that life is precious and I am happy to be here! <p>From this, we are left with the common feeling and demand, that we are entitled to an answer from someone or something for all of this (that we will never receive a response to), and that we are entitled to justice for the offenses of the universe against our persons (which we put off to fate, the afterlife), and this gives rise to the (wishful) concept of a supreme deity, to the mechanisms of religion and poetic-musical expression to keep the Existential Void at bay, to the stories of an afterlife, and more lately, to theories that the universe is a hologram or that we are living in a Type 5 simulation (thereby replacing the god of religion with advanced aliens) but what is the practical difference?</p>	<p>Genesis Man-date/anti-natalism:</p> <p>'anti-natalism,' Wikipedia Feature Quote, 3 Beginnings, bottom p. 39</p> <p>Be Fruitful, 4 Culture, p. 410, Fuzzy Places, 5 Taxation & Census, p. 339</p> <p>Be Fruitful and Multiply, 1 Expansion, p. 877</p> <p>'anti-natalism discussion,' EN 8, 4 Fallen to Earth, p. 1567</p>
<p>Dvorsky, George</p>	
<p>Technology, counting systems discussion:</p> <p>"The number zero is something we all take for granted, yet its conceptual origin has eluded archaeologists and historians. An updated analysis of an ancient Indian manuscript is shedding new light on this longstanding mystery, showing that the symbol that would eventually evolve into the number zero emerged at least 500 years earlier than previously thought. Carbon dating of the Bakhshali manuscript, a sole surviving copy of a mathematical text, has pushed back the time of origin to between 224 to 383 AD, rather than the 9th and 12th centuries as previous research had suggested. The Bakhshali manuscript is littered with a symbol for zero, as conveyed by a solid black dot, making it the oldest known example of the symbol that would later evolve into a number in its own right...</p> <p>The concept of zero seems intuitive, but that's because we're already familiar with it. There's a big conceptual leap between saying 'there are no apples on this tree' to saying 'this tree has zero apples on it.' Historically, the concept of requiring a placeholder to denote 'nothing' emerged in several different ancient cultures, including ancient Mayans</p>	<p>Symbols & Abstractions, 1 Beginnings, p. 29 and EN 9, p. 33</p> <p>De-conjunction Junction and Roman Numerals Again, 3 Technology, pp. 713-714</p> <p>The Conversation, 3 Diplomacy, p. 1132</p>

<p>and Babylonian societies....” – George Dvorsky, “Origin of Zero Symbol is Centuries Older than Previously Thought,” Gizmodo, September 14, 2017.</p> <p><i>GGDM Commentary: This article was cited to in 4 Diplomacy, p. 1142, but was not quoted anywhere. The zero is the required seed for place numbering systems discussed in GGDM and all of the mathematics that have grown from it.</i></p>	
<p>Dwight, Edwin</p>	
<p>WWI, Trench Warfare, human wave attacks:</p> <p>“Five hundred miles of Germans Five hundred miles of French And English, Scotch and Irish men All fighting for a trench And when the Trench is taken And many thousands slain, The losers, with more slaughter, Retake the trench again.” – Edwin Dwight</p> <p><i>GGDM Commentary: This is the attribution, with no title, from the source where I found it. I found the poem on YouTube and Twitter and on an education flashcard site about WWI history, and on Steam Forums where a possible title, “In Memory of the Lost Generation” was given. I found no entry for Edwin Dwight as a WWI poet. However, this issue is touched upon several places in GGDM.</i></p> <p><i>See also, ‘1915 military leadership unprepared to lead modern national armies,’ Lynn Montross quote, 4 Colleges, p. 501⁸ and ‘WWI soldiers thrust and not led into battle,’ Lynn Montross quote about Moltke’s reforms, 5 Combat, p. 1008.</i></p>	<p>Suicide Attacks, 6 Combat, pp. 1025-2026</p> <p>Beyond the Zero, 1 Eras, p. 761</p> <p>Strategic Attrition Warfare, 2 Carri- ers & Fighters, pp. 1057-1058</p> <p>‘What’s the point of going home if you’re just going to get sent out to fight again?’ Mo- rale in GGDM, 5 Combat, pp. 1006-1008</p>
<p>Dwoskin, Elizabeth</p>	
<p>Propaganda/misinformation, Scunthrope problem:</p> <p>“If you start talking to people, you’ll find that a ton of people have someone in their family who believes this [that COVID vaccines have microchips that are the ‘mark of the beast’ along with face masks] and it’s all over social media. Which gets us to the tech companies, it was very big on TicToc the mark of the beast hashtag. ... Facebook banned ‘the mark of the beast’ terminology, they told me, in December, they weren’t quite transparent about it at the time, but they say that they did. But it’s been circulating over the last year and particularly spiked on two incidents: one when the vaccines received FDA approval in December, you saw a lot of conversation about this, and then last summer, Kanye West said that he believed the vaccine was the mark of the beast. Unfortunately, that kind of misinformation caused a [sic] spark in searches, in Google searches, Facebook searches and conversations about the term [‘mark of the beast’], so you can really see how the impact of celebrities and civic leaders very much impacts the conversation that people are having.</p> <p>One of the most interesting parts about this actually is there was a report I saw in December from this misinformation analytics firm, called Zignal Labs, and they found 12,000 references to ‘mark of the beast’ and terms like ‘Luciferin’ because the devil is 666 and people claim inaccurately that there is 666 in some of the compounds associated with the vaccine. Anyway, they picked up all this kind of chatter, like 12,000 mentions about this</p>	<p>‘tech companies,’ Bob Moser bot- tom Feature Quote, 1 Patents, p. 733</p> <p>Bob Moser ‘welt- anschauung’ Fea- ture Quote, 1 In- formation, and Selecting Bits, pp. 1334-1335</p> <p>Edward Bernays ‘pulling the wires’ quote, EN 1, 1 Culture, p. 359</p> <p>‘manipulation of public opinion,’</p>

⁸ I did not realize previously that Lynn Montross had used the term ‘military monks’ more than once, he also used it in regards to the Janissaries, see bottom Feature Quote, 1 Colleges, p. 469.

terminology across the internet, including a lot on Twitter. And if you remember, after the Capitol Riot [on January 6, 2021] Twitter took this really big action to crack down on QAnon. Now, step back, Twitter had claimed to have done a crackdown last summer, so I was surprised as someone who covers this to see that there was so much that still slipped through the cracks to where they had to have a second crackdown after the Capitol Riot on January 6th. And what Zignal saw was that when the QAnon accounts were banned and suspended from Twitter, when they went back to try to find ‘the mark of the beast,’ ‘Luciferin’ and a lot of the extreme Christian conspiracy theories, they found that those things were suspended because the accounts were being suspended, which suggests a strong overlap between Trump-supporting groups, Christian nationalism, and a kind of fringe Christian conspiracy theories and the QAnon conspiracy theory which is a conspiracy theory that has been affiliated with violence including at the Capitol Riots.

If you search terms like ‘mark of the beast’ online right now, on YouTube, Facebook, Twitter, you find a huge amount of conversation in both directions within religious communities, so one of the top videos that I found was a video by a pastor in Riverside, CA, it had over 200,000 views, and he is asking ‘Is the COVID vaccine the mark of the beast?’ And he says, here’s why he thinks it’s not, he refutes the idea, he’s a megachurch pastor. Another woman I spoke with was an epidemiologist at a Christian university in Texas and she is married to a Baptist pastor as well, and she has a really popular Facebook page where she talks all about COVID from the perspective of a scientist and also as a Christian. And she also is finding that there is a host – you know, tens of thousands of people are part of this Facebook group, a very, very active discussion online about this. And she found that a lot of people were bringing up things like ‘mark of the beast,’ saying if you take the vaccine, it doesn’t mean that you have faith in God, that’s what she said that there’s this strain of belief out there that if you take the vaccine, you are somehow weak and it means that you don’t trust God.

And then you see that going into this influencer community online, on like TicToc, you see all of these music videos of young Christians basically re-enacting scenes where they take the vaccine and they die and their faces are covered with blood there’s music playing in the background... And so what you really see is a very robust conversation online from all the spectrums and that’s why it’s actually a very sensitive topic for tech companies because we know that one of the best ways to combat misinformation is to hear counterarguments within your own community. And so you don’t want to cut out the counterarguments too, you want to have the counterarguments up and you also don’t want people to feel they’re censored. And I talked to a lot of people who are posting on this content who said they were just raising questions and their stuff got taken down, and that brings up this issue of how hard it is for the technology companies to – basically they are just terrible at understanding the nuance in these kinds of conversations, the difference between a person raising a question innocently, a person raising a question but whose goal is to really put out misinformation – the intent is really important, how do you discern intent – or people who are raising the question to refute. It’s one of the hardest areas of misinformation to police.” – Elizabeth Dvoskin (Washington Post) interview on CBS News, February 16, 2021.

GGDM Commentary: Well I certainly don’t trust God and consider the entire discussion to be gross balderdash! Anyway... the current misinformation problem described by Ms. Dvoskin is really the Scunthorpe problem on steroids: Internet word filters prevented the Borough of Scunthorpe in England from registering a domain name because the

Edward Bernays bottom Feature Quote, 1 Government Titles, p. 584

‘Scunthorpe Problem,’ EN 5, 3 The Streams of Time, p. 97

‘QAnon and evangelical Christianity,’ see also, Ruth Graham quote, [this document](#)

‘the bamboozle,’ Carl Sagan bottom Feature Quote, 1 Diplomacy, p. 1107

Conspiracy Theories discussions:

Conspiracy Theories, 2 Dreamtime, p. 153

Hot Dog Conspiracies, 2 Entropy, p. 238

word ‘cunt’ appears in the name. Word filters cannot discern anything but letter patterns, whether they appear inside another word or by themselves, they will be blocked and granted exceptions must be manually white-listed by the domain and service providers after someone complains. For example, there have been complaints that ‘specialist’ has been blocked because it contains the word ‘Cialis’ and the last name ‘Cockburn’ has been prevented from use in domains and emails because it contains the word ‘cock.’ As I pointed out in GGDM, Amazon has this problem also when they use searches to try to remove certain types of products, they inevitably end up removing totally hundreds of unrelated products and looking foolish because they are using a term search and don’t have humans double check the hits before the system automatically delists the items.

- **And it continues, I continue to receive e-mails such as this one from February 7, 2021 (even though I have not sold on Amazon since December 2017):** “ASIN: B00A2HD40E, SKU: Q7-TED6-ESRJ, Title: Pandemic. This product has been identified as a pesticide product, pesticide device, or a product that contains pesticidal claims. To be considered for reinstatement, please provide evidence of an EPA Registration number and/or EPA Establishment number or a certification that the product is exempt from EPA regulations. You will need to provide this information in the Pesticide Marking attribute for the listing. ... Please note that any listings that continue to make any pesticidal claims from any source will need to meet Amazon’s listing requirements for pesticides and pesticide devices. If all pesticidal claims about your product are removed, and the claims were the sole reason that the product was considered a pesticide or pesticide device, you may relist your product through Seller Central.”
 - Note that the listing for “Pandemic” is a board game, Pandemic is the title of a tabletop board game that has nothing at all to do with pesticides. I mean, really? ... nothing, absolutely nothing to do with pesticides, but Amazon uses sledgehammers to crack walnuts because they are cheap and then they wonder why everyone mocks them. If I were still selling on Amazon, I’d have to spend three weeks arguing with Seller Support who would have to refer the listing to their “legal department” for someone there to determine that it is a board game and has nothing to do with pesticides. They refuse to do the work to avoid problems, reputational damage, and embarrassment, but they spend thousands on man-hours cleaning up the mess they make afterward... does it take a lawyer to figure out that a board game listing has nothing to do with pesticides or the EPA?

So the misinformation problem bedevils our society in part (the other part being just plain human stupidity for which there is no short term cure) because our word filters cannot even accurately distinguish the context in which banned four-letter words appear. How then can Facebook, Twitter, TicToc policing programs determine the context in which certain banned terms and phrases are being used without human intervention? Thus, misinformation (and human stupidity) thrives on social media.

Early, Jubal A.

Historical acts give meaning and seriousness to discarded historical views, pragmatic history and ethics, Southern slavery as ‘alcoholism,’ playing the bad guy and letting characters speak for themselves while writing fiction:

“The Creator of the Universe had stamped them, indelibly, with a different color and an inferior physical and mental organization. He had not done this from mere caprice or

‘actions taken by our ancestors give meaning to what they believed,’
Encomienda, 3

<p>whim, but for wise purposes. An amalgamation of the races was in contravention of His designs or He would not have made them so different. This immense number of people could not have been transported back to the wilds from which their ancestors were taken, or, if they could have been, it would have resulted in their relapse into barbarism. Reason, common sense, true humanity to the black, as well as the safety of the white race, required that the inferior race should be kept in a state of subordination. The conditions of domestic slavery, as it existed in the South, had not only resulted in a great improvement in the moral and physical condition of the negro race, but had furnished a class of laborers as happy and contented as any in the world.” – Gen. Jubal Early speech, “The Campaigns of Gen. Robert E. Lee: An Address by Lt. Gen. Jubal A. Early before Washington & Lee University, January 19, 1872.”</p> <p><i>GGDM Commentary: ‘Happy and contented,’ says the man who was never a slave! Ok, so... This is not offered here because I agree with it, I am not racist and I don’t buy the ‘lost cause’ argument. Rather, this is illustrative of two points made in GGDM. First, that pragmatic history (and any sort of sense) demands that we do not look down upon or disregard the views of people of the past (an argument echoed by atomic historian Richard Rhodes); our present is shaped by their actions and their views are given force and meaning by their actions and legacy. Even if we wholeheartedly disagree, we must respect that they did what they thought was right or at least, didn’t think was wrong.</i></p> <ul style="list-style-type: none"> • Obviously, Gen. Early probably never met Frederick Douglas, and in any case, both history and science have not borne out his views on this matter. If he could have lived to see the wars of the early and mid-20th Centuries, would he be so sure of ‘white superiority’ or the desirability of a world ruled by Europeans and their descendants? Putting that aside... <p><i>Second, this also goes to the issues of playing the ‘bad guy,’ in GGDM and of writing characters in fiction. If you were writing dialogue for a historical drama or playing a part, would you have the courage to let the character be and speak what he is naturally (to be ‘in character’ as actors say), in his milieu, without reservation, without expression of your own conflicting point of view? This is what fiction editors and writing teachers talk about, the ‘courage’ to let the character be consistent in their own internal logic and not what you want them to be, not a mini-me.</i></p> <ul style="list-style-type: none"> • Within GGDM, this comes down to faithfully playing the Fundamental Realities, Government Titles, Writs, etc. of a Major Race position as it is, and not always consistent with the personal beliefs of the players or position team; it is a matter of developing the position’s persona and letting it evolve through the game with events and changes in titles (see Pool of the Abyss, 4 Government Titles, p. 630) with its own racial memory and internal logic. <p><i>See also, Pragmatic History: Pragmatic Ethics, 3 Order, pp. 551-552 and Pragmatic GGDM, 6 Combat, p. 1032.</i></p>	<p>Order, pp. 549-550 and ‘Southern slavery as alcoholism,’ Alcoholism and Morality, pp. 547-549</p> <p>‘white man’s burden,’ (ideology from Runyard Kipling’s 1899 poem) in Elder Race, 5 Diplomacy, pp. 1153-1154 and One and All, 3 Taxation & Census, p. 323</p> <p>Playing/writing the Bad Guy:</p> <p>‘let characters be characters, not mini-me,’ EN 10, 3 Beginnings, p. 45</p> <p>‘when a movie shows a surprising glimpse of another world view,’ Water-world discussion, EN 20, 1 Con-structural Elements, p. 188 and ‘Banner of the Stars,’ EN 16, p. 187</p> <p>The Devil’s Argument and Crappy Things Must Happen, 1 Entropy, pp. 216-217</p>
<p>Edwards, Jim</p>	
<p><i>Great Treasure Fleet, merchant class (avoiding a ‘Reformation’), Century of Humiliation, isolationism, tariff and trade barriers:</i></p>	<p>Port of Origin and Naval Power, 1</p>

<p>“But Angus Deaton, the Nobel Prize-winning Princeton economist, prefers a different theory. In his book ‘The Great Escape: Health, Wealth, and the Origins of Inequality,’ he argues that the Chinese burned their boats (almost literally) in an attempt to control foreign trade.</p> <p>The Treasure Fleet was abandoned at the urging of the political elite inside the Emperor’s civil service who had become alarmed at the rise of a newly rich merchant class. ‘The emperors of China, worried about threats to their power from merchants, banned oceangoing voyages in 1430, so that Admiral Zheng He’s explorations were an end, not a beginning,’ Deaton writes.</p> <p>China retracted into itself and the industrial revolution sprouted first in Western Europe, three centuries later. China’s influence on the world got smaller until the 1600s. And only in the last 10 years or so has China fully caught up with the West...</p> <p>But it’s more than a little ironic that 500 years after Zhenge He set sail, the Chinese empire is now begging the West to keep trade routes open. The West, meanwhile, wants to put up new barriers. At the same time as Deaton and I discussed the fate of the Treasure Fleet, Chinese president Xi Jinping went on stage at Davos to castigate Trump and the US for being scared of international trade.” – Jim Edwards, “500 years ago, China destroyed its world-dominating navy because its political elite was afraid of free trade,” The Independent, March 5, 2017.</p> <p><i>GGDM Commentary: As a result of the Treasure Fleet and other oceangoing merchant trade from China, Chinese colonies existed down the coast of South East Asia (Indochina) and on some of the islands. The example of the Chinese Treasure Fleet could be one possible explanation offered in GGDM for Lost Colonist Primal States. And of course, this could easily be the situation for a colony that has been lopped off its Native Population Type’s polity or even on a Terra Sancta planet after a Kairotic Moment.</i></p> <p><i>See also, ‘mercantilist theory,’ Raymond Birn Feature Quote and Tariff Walls, 2 Commerce, middle p. 1195, ‘Medieval compartmentalization of Europe,’ Lynn Montross quote, EN 10, 3 Culture, pp. 402-403 and ‘populist backlash against globalization,’ Roula Khalaf quote, 5 Culture, pp. 427-428; and Isolationism: Internal Disputes & Isolationism, 1 Special Operations, p. 1277, EN 15, 6 Combat, p. 1034 and Autocatalyst & Abandonment excerpt, Technology section.</i></p>	<p>Commerce, pp. 1181-1182</p> <p>Lost Colonist, 6 Beginnings, p. 63</p> <p>Alienation, <i>et seq.</i>, 3 Order, p. 560</p> <p>Terra Sancta, 1 Kairotic Moments, p. 1420</p> <p>Century of Humiliation:</p> <p>Sebastien Roblin quote, 3 Commerce, top p. 1218</p> <p>Sovereignty & Legitimacy, 3 Government Titles, pp. 609-610</p> <p>Reformation:</p> <p>‘rise of wealthy merchant classes,’ The Black Death, 1 Disruption, pp. 252-253,</p> <p>A Reformation of History, 1 Reformation, p. 1375-1376</p>
<p>Eidleman, Scott, et al.</p>	
<p>Eh?</p> <p><u>Article Abstract:</u> The authors test the hypothesis that low-effort thought promotes political conservatism. In Study 1, alcohol intoxication was measured among bar patrons; as blood alcohol level increased, so did political conservatism (controlling for sex, education, and political identification). In Study 2, participants under cognitive load reported more conservative attitudes than their no-load counterparts. In Study 3, time pressure increased participants’ endorsement of conservative terms. In Study 4, participants considering political terms in a cursory manner endorsed conservative terms more than those asked to cogitate; an indicator of effortful thought (recognition memory) partially mediated the relationship between processing effort and conservatism. Together these data suggest that political conservatism may be a process consequence of low-effort thought; when effortful, deliberate thought is disengaged, endorsement of conservative ideology increases. – Abstract of Scott Eidleman, et al., “Low-Effort Thought Promotes Political</p>	<p>Legitimacy and Legitimacy & Authority, 3 Government Titles, pp. 608-609</p>

<p>Conservatism,” <i>Personality and Psychology Bulletin</i>, Vol. 38, Iss. 6, pp. 308-320, June 1, 2012.</p> <p><i>GGDM Commentary: This is possibly an adjunct to the assertion in GGDM that passive acceptance of the status quo is the majority of legitimacy – if you equate conservatism with the status quo. Which many people do, while others think it reactionary even.</i></p>	
<p>Elwell, Frank</p>	
<p>Basic alienation, industry, labor relations:</p> <p>“Alienation is defined as the social-psychological feeling of estrangement from work, from our fellow human beings, and from the self. Marx believes that this alienation is rooted in the capitalist mode of production itself. Work becomes an enforced activity, something done for the paycheck alone; a place where the individual must deny the self, separating physical activity from mental life – not living as a full human being. The worker becomes alienated from all aspects of labor beginning with the product that they are producing.” – Frank Elwell, <i>Macro Social Theory</i> (2009), pp. 37-38.</p> <p><i>GGDM Commentary: This definition is an important concept in GGDM play and it would be a <u>huge mistake</u> in the game story to ignore it. What could be more alienating than being stranded on a distant planet to mine ore for an interstellar corporation? Alienation is at the heart of Loading Population to Colony Ships (and Ground Units to transports or Fighter RPs to Log Ships or Carriers), or for the crew of any ship (including Scouts and Cargo Ships) leaving their origin world, especially if the FTL time-dilation problem has not been solved and they will never see their people again. Alienation is the heart of all space colonization – some want to get away certainly – but almost all have attachments; this is the sort of problem that could be solved by Seed Ships. Finally, alienation is a potential in any situation where populations gain cybernetic augmentation, genetic modification, or new ‘extrasensory’ abilities; individuals are alienated from their former selves by experience and perception changes (e.g., the movie Lucy), you can remember being 15 years old when you are 51, but you can’t really identify with it (I could not stand my 15-year old self now, I’d probably punch myself in the mouth!).⁹</i></p> <p><i>See also, Spheres in Six Degrees, 3 Commerce, pp. 1220-1221.</i></p>	<p>‘Load Population,’ <i>Sardine Tins</i>, 3 Expansion, pp. 911-913</p> <p>‘seed ship,’ TV Tropes quote, 1 Stardrive, p. 781</p> <p>Minister of Loneliness, 3 Fallen to Earth, p. 1530</p> <p>‘alienation of mind from body, slavery,’ Carl Sagan quote, 3 Order, top p. 549</p> <p>A Bowl of Biskies, 3 Information, p. 1364</p> <p>A Slavey to Starships, 3 Order, pp. 552-553</p>
<p>Enjeti, Saager</p>	
<p>The Bargain, Culture War, libertarianism:</p> <p>“The path of the post-Trump GOP is becoming very clear to me, they desire to be a permanent minority party of cultural grievance and committed to obstruction. When it comes to actually doing anything to redress cultural grievance, or improve the lives of the voters who back them, they will demur citing deficit problems or they will claim allegiance to some ideology that swears off the idea of government doing anything for you and for your life” – Saager Enjeti, <i>Rising with Krystal & Saager</i>, The Hill YouTube Channel, September 28, 2020.</p> <p style="text-align: center;">***</p> <p>“But there is no doubt that Nicholas Kristoff, by most estimations, just pulled off one of the most potent, non-government at least tonally, socially conservative victories within the last decade. Or to put it more succinctly, in biting terms, here’s a quote from Richard Hanania on Twitter, ‘Lol, one NYT article did more to restrict pornography than every</p>	<p>Social Safety Net, The Bargain, Cultural War and Conquest by Entitlements, 5 Culture, pp. 424, 426, 428, 430</p> <p>Red Planet, 2 Taxation & Census, p. 307</p> <p><i>See also, ‘Twisted Sister testified before Congress,’</i></p>

⁹ Does this mean I’d hit a 15 year old now, other than defense? No, but I’d make a ‘tough love’ exception for my 15-year old self. ©

<p>elected conservative politician in this country put together. If you want policy change, you have to influence the left. Important to realize what a scam conservatism is for anything beyond taxes and war.’ Show me the lie folks? Richard is right and it’s worth really understanding how profound that point actually is, conservative politicians, activist, TV hosts like a guy named Saager Enjeti have been talking about the evils of Pornhub for a very long time, mostly ridiculed by people on the left ... Pornhub, one of the most influential companies in the world owned by an even more influential company, laughed all the way to the bank. Their ideal is having people like me on YouTube and a bunch of irrelevant, frankly, conservatives being the only ones who care about this issue, that’s the real nightmare. As they showed us, the center-left waking up to the fact that these people quite literally profit off of rape is a real threat, and it contributes to the widespread societal degradation. The moment the center-left paid even a modicum of attention, they snapped to! [making hand salute gesture]. Which tells me this: At its core, conservatism in America has no power whatsoever; it’s largely a ghetto ideology of grievances, but with no plan of action, so unserious, that real threats from conservative lawmakers, which have actually existed for years now, have zero impact whatsoever on how society governs itself. ...</p> <p>First of all, there is a temptation within the conservative movement to say screw the left and the mainstream media, working with them, paying attention to them, caring what they have to say, it’s loser behavior. ... but ignoring them outright is absolutely the wrong move, because as we just saw, as much as we want to dunk and say the New York Times is irrelevant, or that the cable networks are losing viewers – and there’s a lot of truth to that – they still remain immensely powerful, able to influence events at the highest levels in a way that a conservative show, or tweet or more cannot. If Nick Kristoff’s column was on Substack or a series of Tweets, Pornhub wouldn’t care, but when it came to hurting their bottom line with the byline in the New York Times, they did. Now maybe, someday somebody will come up with an answer to the New York Times, but I doubt it.” – Saager Enjeti, Rising with Krystal & Saager, December 10, 2020.</p> <p><i>GGDM Commentary: See EN 6, 6 Beginnings, p. 67. By the late 1960s, Christianity was becoming irrelevant in the public space and television networks began to schedule programing with less worry about whether certain religious parts of the population would be offended. The Christian evangelicals and fundamentalist sensed this decline in their power and resorted to the hollow, hoarse screaming that I remember in the late 1970s and early 1980s targeting Dungeons & Dragons, Ozzy Osbourne, AC/DC, etc. while losing cases on teaching ‘creation science’ in the Courts. The decline of Christian conservatism can be traced at least to the late 1960s as the United States became more liberal, urban, suburbanized, and secular-scientific-technological.</i></p> <ul style="list-style-type: none"> • In a FINRA arbitration I worked on long ago, there was a supervisor over mutual and hedge fund managers who said, “Don’t do anything you wouldn’t want to see on the front page of the Wall Street Journal.” No one at his firm was listening. 	<p><i>Weird History YouTube Channel quote, this document</i></p>
<p><i>Those who want to govern vs. those who just want to be right, The Bargain, culture war:</i></p> <p>“When conservatives and others on the right are right about something, they need to speak in the language of the majority and not let the perfect be the enemy of the good. There is a deep strain within social conservatism, especially at the activist and pundit level, which seeks to cast out as traitors anyone who seeks compromise or seeks to communicate a message without seeking victory in the most absolute terms. ... it remains true</p>	<p>‘Anti-governing camp,’ Walter Hudson top Feature Quote, 5 Government Titles, p. 636</p>

<p>today on whatever the hot-button issues are. But as we just witnessed, pretty much the only way to actually get anything done is to speak and act in such a way that is actually interested in reducing the phenomena that you pretend to oppose, even if it is not completely eradicated. ... [introduced Michael Lind book] In it, Michael [Lind] makes the profound and important point that in America, there is no winning the culture war, there's only compromise, solution and balance. If that is your only aim, then you are going to lose. If you are willing to live with balance, if you are willing to try an actually get something done, then there's a new world out there for you." – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, December 10, 2020.</p> <p><i>GGDM Commentary: In short, Saager is complaining that any conservative politician, activist or pundit who doesn't "own the libs" every time they speak is considered a traitor. Reason and civil discourse have left the conservative cause which is now rudderless and trite. Homo reciprocans is extinct on the right (look right! ☺ →).</i></p>	<p>The Bargain and Cultural War, 5 Culture, pp. 426, 428</p> <p>‘shared meanings must be a compromise,’ A Two-way Street, 3 Diplomacy, p. 1133</p> <p>‘homo reciprocans,’ Big Indian, Little Indian, 6 Diplomacy, pp. 1174-1175</p>
<p><i>The Bad Guy can be right/isn't always wrong, Saturday morning cartoon morale:</i></p> <p>“Once again, it is so intellectually facile and stupid to think that you are not allowed to agree with anybody who has ever done something bad, ever, ever.” – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, April 24, 2020.</p> <p><i>GGDM Commentary: Case in point, Ted Kaczynski, see Green Anarchist from Earth, 1 Technology, p. 686 (e.g., “with care to distance the praise for the work from the criminal actions of the author.”)</i></p> <p><i>See also, “Bad Guy” discussions: The Devil’s Argument and Crappy Things Must Happen, 1 Entropy, p. 216, and EN 10, 3 Beginnings, p. 45.</i></p>	<p>An Observation, 2 Information, p. 1339</p> <p>‘Saturday morning cartoon morality,’ Morality vs. Morale, 5 Combat, p. 1008</p>
<p><i>Ideological Constructural Element, the Bargain (5 Culture), Oligarchic Drift:</i></p> <p>“That means that the one thing that the entire GOP supposedly agreed upon, the one economic policy that united the party [the 2019 1.8 trillion dollar tax cut for the rich] was fundamentally out of step with the American people. ... Even I cannot honestly believe that Trump’s lowest approval rating didn’t come during COVID, but it just underscores how unpopular Libertarian tax policy really is; Americans will forgive mismanagement that leads to literal death more so than further cutting the taxes of the billionaire and corporate class. ... To the extent that there is Trumpism at all, it is really the idea that ideology is way too disconnected from the way that we live our day-to-day lives.” – Saager Enjeti, Rising with Krystal & Saager, The Hill, October 29, 2020.</p> <p style="text-align: center;">***</p> <p>“Like I said, they will forgive mismanagement and mass death more than they will forgive cutting billionaire’s taxes. That is actually how Americans think, what they think is more unforgivable than not.” – Saager Enjeti, Rising with Krystal & Saager, The Hill, October 29, 2020.</p> <p><i>GGDM Commentary: In GGDM which does not have a game monetary unit, the only way to gain more than the taxation value of a colony is by dipping into the domestic subsistence of the colony. There are consequences, of course, which are discussed in the GGDM text, but Saager Enjeti provides an example of the depth to which this could be harmful to the interstellar government (and the planetary government if they allow it).</i></p>	<p>Red Planet, 2 Taxation & Census, p. 307</p> <p>“libertarian conundrum,” Grant McDermott bottom Feature Quote, 1 Taxation & Census, p. 300</p> <p>Ideological Constructural Element and Language & Philosophy, 1 Constructural Elements, pp. 179-181</p>

<p><i>Blame, change & consequences, post WWI Germany, Rise of Nazi Party:</i></p> <p>“The critical question of exactly why is almost as important as the result ... itself. ... Why you think you lost is arguably as important as a loss itself. It animates the direction you take... how you assess your mistakes, how you look back on your decisions, and so much more.” – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, October 29, 2020.</p> <p><i>GGDM Commentary: The very point of the de-Nazification of Germany efforts after WWII was to make the population understand that they had only themselves to blame. Which is to say that when politicians want to gain by making the constituency feel better, they find someone else that the people can blame. We know this well, now apply it to GGDM populations (to the extent that they are human or human-like aliens).</i></p> <p><i>See also, Pragmatic Ethics, 3 Order, p. 551 and EN 10, p. 564, Deutsche Physik, 2 Patents, p. 737 and Immoderate Unhappiness, 5 Government Titles, p. 636.</i></p>	<p>Axioms of Consequences, 1 Disruption, pp. 257-258</p> <p>Toyland, 5 Diplomacy, p. 1160</p> <p>‘denazification of Germany,’ Enlightenment, 2 Colleges, p. 476 and ‘denazification court,’ Child Soldiers, 6 Combat, p. 1030</p>
<p><i>Corruption, cultural dissonance, The Bargain:</i></p> <p>“I am going to take a break ... to bring you an update on a story we promised never to drop here, and that is how deceased pedophile Jeffrey Epstein was able to operate with impunity at the highest echelons of American society. How he was enabled by some of the richest and most powerful people across the world, and how, ultimately, this story isn’t just about a sexually-deviant monster, but it’s about the rotten core that lies at the heart of the American elite. ... So the [NY] Times reporting is once again a view into how transactions between the ultra-wealthy are conducted and the length that they go to to avoid public disclosure. ... Again, why is this story so important? Well, aside from sheer shock value, it provides an answer to a clear question: How did he [Epstein] get away with it for so long? We all know the important people who were involved... In every case we get a peek into how Epstein manipulated the system, and the reason I care so much about the story is that it shows the depths to which the richest and most powerful amongst us will sink to in order to keep their business flowing as usual. You can literally rape young girls, and if you are rich enough, or pretend to be rich enough, you can not only get away with it, but you can cavort and hob-nob with the richest people in the world and they won’t care. You can have them over to the scene of your crimes for a cookout as long as that cookout is on a private island.” – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, October 13, 2020.</p> <p><i>GGDM Commentary: Saager Enjeti detailed how Epstein had people to his private island where they met the girls, how money was transferred between holding companies to hide the payments, and how money is paid for “consulting fees” for non-existent consulting work. All of this is consistent with the Ian Robertson Feature Quotes at the top and bottom of I Corporations, along with the entire I Corporations discussion of bribery, multi-national corporations, and corruption generally. This is also an insight to lodging Special Operations Missions in GGDM, I mean, what’s the difference? Could a spy come dressed as a monstrous sex deviant to get access to those elite networks?</i></p> <p>“And a few weeks ago, I covered a very important story here ... it was a bombshell report ... detailing how dirty money from all over the globe flows right through the most powerful banks on Wall Street, how bank personnel have full knowledge of how dirty that money is and how they literally work with the government to keep their crimes secret and to get off Scott-free [via submitting ‘suspicious activities reports’ while letting the money pass through]. As important as I think the case against Ghislaine Maxwell, and</p>	<p>Real Corruption and ‘J.P. Morgan sons and daughters program,’ Matt Egan Feature Quote, 1 Corporations, pp. 1239-1243</p> <p>The Bargain, 5 Culture, p. 426</p> <p>‘global cost of corruption,’ Frontline top Feature Quote, 2 Corporations, p. 1254</p> <p>Lodging Special Operations Missions:</p> <p>‘money talks, BS walks, Lodging Missions,’ French Vanilla and Diplomatic Impunity, 2 Special Operations, pp. 1292-1294 and ‘Lodging in Corporations and Mega-Corporations,’ SOM_COMs and French Vanilla, pp. 1298, 1293,</p>

<p>the legal proceedings against Epstein are, I think the key to this entire thing lies much more with the Leon Blacks of the world, why were they paying him [Epstein] so much money? If we can answer that question, we can get to the root of this entire conspiracy, which literally involves presidents, princes, business titans and more. Importantly, the more we investigate and that we interrogate the story, we get a full view into how, what and who these people conduct business with. It turns out we hate the answer. And should we always be reminded of this: Nobody has a right to do business with criminals. How we conduct commerce is a direct reflection of our values as a society.” – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, October 13, 2020.</p> <ul style="list-style-type: none"> • Cf. “...and the resulting scandals implicated a prince of the Netherlands, the Prime Minister of Japan, military leaders in Columbia, and cabinet members in Italy...” – Ian Robertson, Society: A Brief Introduction (1989). That was written 30 years ago... <p><i>GGDM Commentary: So, continuing with Special Operations and Lodging Missions... from this it is easy to see how Special Operations can easily mingle with the criminal elements of the target civilization as an entry point. One might object that doing so makes it more likely that they will be caught when the government goes after the criminals! But the Epstein situation demonstrates that there is a ‘two-tier justice system’ and then there is a level above that on which the ultra-wealthy operate, the level at which the government either doesn’t look or that gets passed over with a wink and a nod. You don’t need James Bond and his gadgets and girls, just show up with a load of cash and goodies.</i></p>	<p>and ‘hitching a ride on a star-ship,’ Shipping & Freight, p. 1295</p> <p>‘StelLux Liner Corporation,’ Land Down Under, 1 Corporations, pp. 1250-1251</p> <p>Opportunity, 1 Special Operations, p. 1276</p>
<p>Political engagement, legitimacy:</p> <p>“People care about politics, they just don’t care about politics the way the elites care about politics and that’s what drives the elites crazy.” – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, October 13, 2020.</p> <p><i>GGDM Commentary: Saager is also describing part of what Walter Hudson called the “anti-governing crowd,” see full top Feature Quote, 5 Government Titles, p. 636. See also, Tom Nichols quote discussing Obamacare repeal, same section, pp. 637-638.</i></p>	<p>John Hohmann quote, 3 Dream-time, bottom p. 158</p>
<p>Can’t put the genie back in the bottle, Universal Legislators:</p> <p>“Listen, you want to elevate these people and live with these grifters? Go for it. This is the consequence. You can’t put this stuff back in the bag. ... They don’t know what they’ve done, and now look at the nonsense they’ve unleashed. ... Kind of hilarious if it wasn’t so depressing.” – Saager Enjeti, Rising with Krystal & Saager, The Hill YouTube Channel, December 9, 2020.</p> <p><i>GGDM Commentary: Succinct political-rhetoric version of the Cold War nuclear genie problem discussed in Little Willie Won’t Go Home, 1 Combat, p. 937.</i></p> <p><i>See also, ‘adult’s table,’ David Brooks Feature Quote and Encounter Suit and Adult Table, 3 The Big Bang, pp. 14-15.</i></p>	<p>Keep the Sand in the Sandbox and Universal Legislator, 2 Dream-time, pp. 147, 149</p>
<p>Ensslin, Astrid</p>	
<p>Emergent gaming, group storytelling:</p> <p>“Moving on from the basic level of rules, challenges, feedback and software-hardware interface mechanisms, there were essentially two macrostructural types of games: games of emergence and games of progression (Juul, 2005). Games of emergence, which are</p>	<p>Emergent Narrative, 3 Structural Elements, pp. 205-206</p>

<p>historically older than games of progression, follow ‘a small number of rules that combine and yield a large game tree, that is, a large number of game variations that players deal with by designing strategies. Emergence is found in card and board games, most action, and all strategy games. Almost all multi-player games are games of emergence. [They] exhibit a basic asymmetry between the relative simplicity of the game rules and the relative complexity of the actual playing of the game (Juul, 2005, pp. 73-5).’ The above-mentioned simplicity of rules exhibited by Tetris and the difficulty of successfully implementing and mastering them are a prime example of the structures of a game of emergence.” – Astrid Ensslin, <u>The Language of Gaming</u> (2012), p. 49.</p> <p><i>GGDM Commentary: Simplicity is relative, but GGDM is clearly designed – macro-structurally – as a game of emergence. It is, as discussed in GGDM section 3 Constructural Elements, intended to generate emergent narrative and group storytelling, and I have maintained that GGDM is itself an emergence. It is notable that most of the board games played at the game club are multi-player games; one could offer various possible reasons for the relative absence of two player games at the game club – for example, social value, or a mental out if you don’t win – but it may also be that gamers enjoy the emergence of the multiplayer game more so than the grognard rules-complexity of the old two-player wargames of my youth.</i></p>	<p>Emergent Aspects of Gaming, 3 Fallen to Earth, p. 1547</p> <p>Emergent Titles, 4 Government Titles, pp. 626-627</p> <p>‘luck in human games,’ The Heroic & The Dismal, 3 Combat, pp. 979-980</p>
<p>“Evan” (PolyMatter YouTube Channel)</p>	
<p>Century of Humiliation, Demography, Immigration, Census:</p> <p>“In December 1988, the leaders of China and India met for the first time in nearly three decades. The summit, which came after years of tense border disputes, marked a turning point towards friendlier relations. It was a time of hope, a China in transition. The range of possibilities, then, was wide and as the millennium came to a close, all eyes were on the future of the continent. Amidst this optimism, China’s leader Den Xiaoping, was skeptical. Despite what people have predicted, he cautioned, there was no guarantee of an ‘Asian Century.’ Never mind that he coined the term with hesitation, the concept of an ‘Asian Century’ would soon take on a life of its own thanks to a pattern of successes: There was its relatively stronger performance during the 2008 financial crisis, the rapid growth of its ‘Four Tigers’ – Hong Kong, Singapore, South Korea and Taiwan. And, of course, its explosive population and middle class.</p> <p>The basic premise was that, as Asia’s supply chains integrated, its navies modernized, and trade dominated, its momentum would shift the global center of gravity [<i>in GGDM terms, hegemony</i>] to the East. This notion – increasingly rephrased as the ‘Rise of China’ – escaped the fringes, entered the public consciousness [<i>in GGDM terms, the Public Space and Constructural Elements</i>] and was thoroughly beat into all of our heads. Though likely to evoke different emotions, its truthfulness was no longer controversial. And then no longer even interesting. It’s not hard to see why. It contextualizes and attaches an enviable momentousness to the present moment in time. In just two words, it neatly encapsulates three centuries of history into that of Europe, America and now Asia. It seems to confirm what we already know, in a way that suggests a larger trend, a narrative. At the same time, the nebulosity of what it implies in concrete terms helped it evade scrutiny and take on several independent meanings. After years, now, decades of snowballing predictions, optimistic models, bestselling books and emotive profiles designed to stoke fear, after 10,000 repetitions of the ‘Next Superpower,’ ‘Great Power Rivalry,’ ‘China’s Grand Strategy,’ and ‘the Remaking of the World Order,’ this once very simple idea has lost all sight of reality.</p>	<p>‘birth rates, education of young, death rates,’ Natural Assumptions and Senescence, 4 Taxation & Census, pp. 327-328</p> <p>‘reproductive consciousness,’ Domesticated Animals, 5 Taxation & Census, pp. 336-338</p> <p>‘GGDM’s emphasis on population,’ The Problem of Immersion, 1 Culture, p. 352</p> <p>‘types of colonies in GGDM,’ Specialized Colonies, 4 Expansion, pp. 925-926</p> <p>Commerce Power, 1 Commerce, p. 1183</p>

Like an overvalued startup, unchecked hyperbole has driven its mental market share way out of proportion. Beneath the mountains of wishful thinking and grandiose predictions, there is merit, make no mistake. But it's time for a return to fundamentals...

We begin with the challenge to China's supremacy which underpins all others; one so insidious that it can only be solved, by its very nature, over the course of decades: China will soon run out of people. *[that seems absurd since China has billions of people]* ... The absolute size of a population says a lot about it. In the broadest strokes, a big country buys more things, giving it greater leverage; a tiny country, on the other hand, will more likely rely on its neighbors *[this should be reflected in GGDM in terms of colony GDP, commerce]*. None of this is revolutionary. Which is to say there's good reason that, when we talk about the 'size' of a country in relation to its global significance, we're usually referring not to its square footage but number of unique humans *[in GGDM terms, population]*. The problem is that this number can also be just as misleading as it is useful. When we compare population sizes, we mentally take for granted a 'typical nation.' We imagine, in other words, a similar proportion of doctors, students, seniors, babies and plumbers – a reasonable shorthand for 90% of conversations *[this is true in GGDM too, in the definitions given for a general, non-specialized colony]*. This, however, is one of the remaining ten.

Big, uniquely consequential countries get that way by adopting big, uniquely consequential policies *[this has many prongs in GGDM, but probably Writs comes closest to the idea]*, which means this single number just won't cut it. Ideally, we could visualize each individual person, along with their education, occupation and household size – things which on average, are known to affect their nation as a whole. But, in the absence of some revolution in infographics, demographers have settled on the next best things, realizing that just one number is remarkably accurate at predicting your 'contribution' to the country – age. To show this, a population pyramid splits a country into age cohorts; the longer the rectangle, the larger that share of the population. The magic thing about age is that while, sure, the precise boundaries of things like 'retirement' and 'adulthood' may differ slightly between countries, cohort behavior is tied to a set of universal biological factors which transcend culture. ...

The first group are seniors. With only their savings remaining, retirees are low spenders, have little room for risk *[this goes to the social safety net discussions in GGDM]* and thanks to their prudence, are of the least interest to most marketers *[except Big Pharma and their two-minute 'happy fun ball commercials' and politicians, of course]*. The second group are the producers – and economically, the only one that matters. During our thirties and forties, we reach a peak of our earning potential, and put all that money into stocks, retirement funds, and expensive vacations *[well, a few of us anyway]*. Another name for this group might be the 'greats'; nearly all of the world's Nobel Prize winners and great inventors were in this age bracket. The average age of top start-up founders is 45. These individuals have an outsized influence on the world, and thus, even a small change in their size ripples throughout a nation.

GGDM Commentary: This is the opposite pole of 'youth bulge' discussed in GGDM, one can assume that where youth bulge is present, this group is lacking (so societies make up for it with war, reckless expansion and pillage), at least among human populations. This is also a function of modern life-expectancy, in other times when life expectancy was 35 years and people married young (which also is another cause of youth bulge), this group is lacking and/or the age of this group shifts down. There were times and places where at the ripe old age of 53, I'd be the patriarch or chief of a village.

'center of gravity,' Hegemonic Empires and Spheres of Influence, 4 Order, pp. 571-573, 575-576

'function of Cargo Ships,' Gross Domestic Product, *et seq.*, 1 Construction, p. 662

'social safety nets,' David Leonhardt Feature Quote, Social Safety Net, The Bargain, Cultural War and Conquest by Entitlements, 5 Culture, pp. 424, 426, 428, 430

'GGDM scale,' - Buzzing Light-years, *et seq.*, 4 The Streams of Time, p. 101

Century of Humiliation:

Sebastien Roblin quote, 3 Commerce, top p. 1218

Sovereignty & Legitimacy, 3 Government Titles, pp. 609-610

Cyborgs/Robots:

'cannot build population,' View from a Height and The Fine Print, 1 Construction, p. 660-661

Next are the barrowers – students, fresh graduates and the drivers of demands for loans. Finally, and most useless of them all are babies – little money eating machines which – conveniently – wait several decades before offering anything of value [*see Natural Assumptions discussion in GGDM*]. ... Now that we have defined each cohort, we can begin to see why their relative size is where the magic happens.... let’s imagine the unrealistic extremes: If 90% of a country were babies, we’d have a national babysitter shortage, lots of crying and not much else. If 90% were aged between 30 and 60, it’d be amazingly productive – punching well above its weight class with no dependents to care for; but fast forward 20 years and it would all come crashing down as they all retired at the same time and waited for social security which there’d be no one left to pay for – expect total social collapse [*think about the 2007 movie, Children of Men*]. Now, none of this is to discount the role of culture, political system, physical environment, or any other factor ... all of these things play a role – but think of them as a few of the necessary ingredients – the egg, sugar, and butter to demography’s flour. Without the ingredient of fictional government, you can’t bake a cookie [*in GGDM terms, legitimacy, sovereignty, Government Titles, Conflict Checks, Treasury, Power Activations, Writs*]. But no matter how effective the government, how strong the military, or influential the economy, none of it is sufficient if you are missing the final key ingredient: the right population [**hence, GGDM’s extreme emphasis – as compared to other simulation games – on population, see The Problem of Immersion**].

Another way of saying this is that, by looking only at the shape of a country’s population [*on a population pyramid graphic*] – without any absolute numbers or extra information – we can already get a sense of its range of possible futures. We can tell, for example, that this super-fast-growing country has a massive opportunity [*showing a pyramid with a large upcoming youth population*]; if it industrializes fast enough, it could harness this large working age cohort with few dependents to modernize and raise the standard of living. If those in power fail to manage that transition, the larger population will only mean more starvation, more disease, and less land. This is Nigeria. Likewise [*showing another pyramid with a large 30-55 population and smaller base, bulged in the middle*] we can conclude that this one has just experienced decades of miraculous growth, but will soon, and very quickly, age, shrinking considerably in the process. How the government responds will determine whether this is merely disastrous or truly catastrophic. This is China.

Its past forty years of celebrated growth – the basis for predictions of China’s rise, the source of general optimism, the trend which many assume will continue – coincides with this hump in the pyramid [*a series of larger ‘age group’ rectangles*] – which represents tens of millions of extra people in their prime working years. Everything that has made China what it is today has relied on a large, young, and productive workforce. Now, that workforce is about to succumb to biology just as every other generation has in every other country, ever.... but demographers know better; they know that this has only been a temporary transitional state on the road to industrialization. It even has a name: It’s called ‘demographic dividend.’ During this time, life expectancy is still catching up, meaning there are few retirees. At the same time, fewer babies are being born as women receive access to education. For those few years – and only those few years – the country in transition has all the manpower in the world, which, when well-educated [*and motivated, cannot discount motivation*], translates into exceptional economic growth.

There’s a painful flipside, however; what looks like a dividend will eventually feel more like a loan. The scary thing about retirement is that it happens all at once. While income

‘population improvements are subsumed under the Industry Patent,’ Cyberia, 2 Taxation & Census, p. 311

Brave New World, 5 Taxation & Census, pp. 343

tends to rise steadily throughout your career, it does much fade away at 65: One day you retire and that day your income falls to zero. Which is to say in a few years, these workers will retire, moving the pyramid [*‘hump’*] upward, and leaving the country’s future to this shrinking base. And it will happen all at once [*now leaving a top-heavy structure*]. China’s working-age cohort grew from 58% of the country in 1978 to 74% in 2010. But in less than twenty years, the UN predicts, that number will be roughly back where it was in ’78. By then, China will have twice as many seniors as children under 15. And at the end of this century, its total population will be cut in half [*where do you put the dead?*]. You might think that having worked during the growth phase, China’s elders will be well-prepared for retirement, but its per capita wealth remains low, on the level of Mexico, the Maldives and Kazakhstan. That means this mass of retirees won’t just contribute less to the economy, but will also require immense financial support – the kind China’s fractured pension and healthcare system isn’t remotely prepared for. Put simply, all of China’s recent progress has been bought on credit, and it’s finally coming time to repay.

GGDM Commentary: So much to unpack here... a demographics-sensitive Concierge could find much material in just this last paragraph for creative and thoughtful use of Interventions, assuming that the game population is something vaguely human-like. There is also room in here to think about artificially-produced populations, artificial controls on reproduction, cyborgs, androids to replace working age population, and all of the wonderful discussions of future sci-fi; artificially intelligent androids could be produced by the millions to ‘prop-up’ a top-heavy pyramid, but that may be the road to extinction.

*On the ‘real world’ side of things, this suggests that China’s opportunity to militarily challenge the West – e.g., seizing Taiwan or bullying Japan and the Philippines over fishing territories – is quickly fading. The restraint on China’s militarism in the past two decades may be attributed to nuclear deterrence (that is, any conventional conflict could slide into a nuclear situation), or it might be their lack of naval power, or it might be political fear of a militarized, mobilized population (especially if China loses the war) or it might be that they were enjoying their growth and stability and didn’t want to upset the cart by starting a war. Future generations may lament China’s missed military opportunity **or** they may be thankful that China didn’t act like the West had toward China in the past.*

Now, why, you might ask, can’t Chinese people simply have more babies? If families were once larger, why can’t they just return that way? Recall, however, that because of the twenty-year gap between a baby born today and its first real contribution to society, that damage is already done [*in GGDM terms, this may equate to frequency of Census and Taxation Power activations*]. Demography plays out over the course of generations and today’s smaller baby cohort will mean even fewer babies when they reach adulthood [*that is, in GGDM, sparse, sporadic Census activations, and thus, less fruitful Taxation Power Activations*]. ... setting aside that this problem can only be solved in a minimum of two decades, even if the solution were known and implemented tomorrow, remember what we’re talking about. It’s easy to get lost in the language of ‘generations’ and ‘cohorts’ – demography can unfortunately be dehumanizing – and in the process, lose sight of what ‘fertility’ really means: The very complex decision of adults to have children [*uh oh, Reproductive Consciousness, discussed in GGDM*]. Some of this choice is beyond the reach of government; perceptions of parenthood, tradition and family are, first and foremost, formed based on one’s own family. Unfortunately for China, the One-Child Policy has set the cultural expectation firmly at one. And one just isn’t enough.

Assuming it takes two people to make a baby, together they need at least two just to replace themselves, plus a small fraction more to account for early deaths. That means a country needs a 'Total Fertility Rate' – the number of children the average woman will have in her lifetime – of 2.1 – just to sustain the current population. China's is currently 1.6 if you believe the government. If you don't believe the average Chinese woman has 1.6 children in a country where the vast majority were, until recently, only allowed to have one, then you might be tempted to believe someone like Yi Fuxian ... who estimates the true number at 1.18.

GGDM Commentary: This is a good starting point to imagine all of the manipulations of population in science fiction stories over the years in relation to human-like populations – test tube babies, sperm banks, baby factories. The equation changes a bit though if the species has only sex (is asexual) or if the species has three sexes which are required to produce a baby, which some idealistic sci-fi or fantasy authors have imagined.

To get a sense of just how hard the problem is, think of fertility rate as an ungainly machine controlled by 100 different unlabeled levers. Policymakers know of at least a few levers that will predictably lower the TFR, but once the machine has slowed, there's neither a clear way of getting it going again, nor any proof that it's even possible at the scale necessary. There is, on the other hand, precedent for these attempts failing, even by proud and authoritarian Singapore. ...

* The simultaneous rising life expectancy means senior will burden the economy for longer than ever.

* China's preference for male babies means that between 2020 and 2060, there will be roughly three single men for every two single women.

* There's the impact of the Coronavirus pandemic whose slowing of fertility may simply hasten the inevitable or permanently make things worse – both scenarios bad.

* Compounding the problem is the government's unwillingness to accept blame and reverse course [*ideology and legitimacy issue in GGDM terms, 'politics' anywhere else*].

GGDM Commentary: In the normal human population there are 105 males for every 100 females (51.21% of human babies are male, compare to cats where 43.2% are male but litter size and reproductive cycle vastly change their population dynamics, a female can have two litters a year of 2-8 kittens each). A vast imbalance in human male population (and/or polygamy) has traditionally led to revolution and war as an outlet. Except that as pointed out earlier, China's military-age male population will be shrinking and its productive population will also be shrinking at the same time as there are three men for every woman. If you noodle that, you will grasp that it's not a good recipe.

...As of 2015, most families are allowed only two children, and even that change in policy has had little effect.

* Finally, there's the slow and invisible nature of the problem. Consider the last time you saw a news headline about declining births. Like climate change, there will always be a more 'urgent' crisis that takes precedence. And because the effects of a demographic crisis are felt over years, not days, those who highlight the problem will be labeled by many as melodramatic [*perfect, because Space Opera is defined as melodrama, and GGDM is space opera!* 😊]. ... [trend is confirmed] in China's 2020 Census, which tallied 14.65 million births the previous year – the lowest level since 1961.

Perhaps the closest comparison is the fate of Japan – also once a fast-growing economy hailed as the ‘next superpower’ and also is aging. With a median age of 48.6, Japan is the second oldest place on Earth. Today its share of the world’s manufacturing exports has fallen from 12.5% to just 5.2%. Japan did not fade into global irrelevance. It’s still a great power. But it never fulfilled what once seemed certain: Its rise to rival the U.S. as a superpower. And it never will. ...

Demography alone cannot predict the future and it would be foolish to forecast specific social and political implications but one cannot help but wonder: What drastic things does a nation do in this limited window of time before its power wanes? What does a generation of young people think when they face far more challenging prospects than did their parents? [hint, see the Grunge movement of the 1990s]. And what culture develops in the absence of any hope for marriage among 34 million men?

... In the meantime, you may have noticed that the U.S. also has a TFR of 1.7 – well below replacement level. Does this mean it, too, that the U.S. is in for a similar fall?” – “Evan” (narrator, writer), “Demographic Collapse – China’s Reckoning (Part 1),” PolyMatter YouTube Channel, May 2, 2021.

GGDM Commentary: Two points to make here. First – and you will likely never hear this argument made in mainstream immigration politics – immigration into the U.S. is what is, has, and will allow the United States to avoid the ‘demographic catastrophe’ that is stalking China to which I believe, very few immigrate (other than those trying to escape North Korea). That is, immigrant populations which tend to be younger and often bring young children with them that offset the aging native U.S. population; it is a shame that this is not generally appreciated in U.S. politics and media. Immigration politics instead tend to focus on low-paying manual labor jobs that Americans don’t want to do and the burden on social services (or our social safety net, as discussed in The Bargain, 5 Culture).

The second point is that the demographic problem reaches GGDM’s scale: That decisions made in demographics can and will have long term generational consequences. This is an issue for game play, it is potentially within the scale of GGDM’s Regular Turns to have generational demographic ripple effects, either by what the position players do or by Concierge Interventions.

Farina, Dave

The basic stuff of space opera, 1st Era Stardrive threshold requirement:

“But as exciting as it will be to colonize our system, beyond Mars there are only a handful of moons that are even remotely fit for such an endeavor. Our search for habitable worlds will inevitably lead us outside our own system. This poses a tremendous challenge, because as far away as the other planets and moons in this system are, this distance is utterly insignificant compared to the vast distances to other stars. We will certainly need to innovate new methods of propulsion in order to get there in a reasonable amount of time. But we will achieve this and when we do, where will we go first?” – Dave Farina, “The Alpha Centauri System,” Professor Dave Explains YouTube Channel, April 14, 2020.

GGDM Commentary: This is general public high school stuff that forms the basis of all space adventure fiction, but a premise that is necessary for the public to grasp so that there is a significant audience for both commercial science fiction literature and movies,

Childhood’s End, 1 Eras, pp. 754-755
 Magic Formula, 2 Eras, pp. 767-768
 Seeding Space, 1 Expansion, p. 877
 Homeworld, Lost Colonist & Outposter Primal States, 6 Beginnings, pp. 62-64

<p><i>and the ongoing space enterprise. The last two lines are both striking in the specification of ‘a reasonable time’ and the prediction ‘we will achieve this.’ F-T-L baby!</i></p>	
<p>Grey Space discussion, exoplanets, what goes into habitability class, Controlled Environment Technology (CET):</p> <p>“Technically, not the closest star, but rather, three stars that are extremely close together, which as a whole represent the system that is closest to our sun. This triple starsystem is called the Alpha Centauri system. The closest of these stars is called Proxima Centauri... and this star is almost certainly gravitationally bound to the other two, which are called Alpha Centauri A and Alpha Centauri B, which together form a binary system. So how far away are these nearest neighbors? ... The fastest probe we have ever built would take over 50,000 years to get there... Proxima Centauri is 4.23 light years away, while the Alpha Centauri stars are 4.32 and 4.37 light years away. ... So what will be find when we get there? Well, we would reach Proxima Centauri first, this is a dim red dwarf star ... it’s mass is only 12% of our sun’s and its radius is around 15% of our sun’s.</p> <p>It has one planet that we call Proxima Centauri b which is therefore the closest exoplanet to us... it is roughly Earth-sized and has an orbital period of around 11 Earth days. Its orbital radius is around 0.05 astronomical units, or 5% of Earth’s orbital radius. Even though it is so close, because the star is so much smaller and cooler than ours, Proxima Centauri b actually sits in the habitable zone of its star, which means it could harbor liquid water. Based on density calculations, it seems likely that it has a rocky surface, potentially with features that would be familiar to us, making it even more reasonable that this will be the first planet we set foot on outside of our solar system. The surface temperature depends on the rate of the planet’s rotation. There are two models that seem most probable. Proxima Centauri b may rotate in 3:2 resonance with its star, which would allow for a relatively smooth distribution of heat from the star as the planet rotates. But the planet may also be tidally locked, exhibiting synchronous rotation, meaning that the same side always faces its star like the way the same side of the moon always faces the Earth. This would make one side very bright and hot, and the other side, very dark and cold. The habitability of the planet will depend greatly on which of these turns out to be correct. The atmosphere will also be a factor and this will depend on the strength of the planet’s magnetic field. The weaker the magnetic field is, the more likely it is that activity from its star will have stripped away the atmosphere. The stronger the magnetic field is, the more likely it is to have retained an atmosphere despite stellar activity.</p> <p>There is also some evidence of another planet named Proxima Centauri c that may orbit at 1.5 astronomical units, which is extremely far from its star relative to the orbit of Proxima Centauri b. Beyond this, there are two dust belts around the star, one at around 1 to 4 astronomical units and another at around 30....</p> <p>Could we ever colonize Proxima Centauri b? It is difficult to say because it is very close to Proxima Centauri, which is a flare star, so it is subjected to intense stellar wind, which means plumes of high-energy particles emitted by Proxima Centauri barrage the surface, with 2000 times greater intensity than our sun sends to us here on Earth. This would make it difficult to live there, at least without protective habitats and it also makes it pretty unlikely that we would find any existing life when we get there as the radiation would kill any microscopic life we can conceive of.” – Dave Farina, “The Alpha Centauri System,” Professor Dave Explains YouTube Channel, April 14, 2020.</p>	<p>Gray Space, 2 Movement, pp. 844-845</p> <p>Starship Jefferson, <i>et seq.</i>, 1 Stardrive, p. 780</p> <p>‘Colony Ships only move to systems with a Scene,’ Colonization, 1 Expansion, pp. 876-877</p> <p>Exoplanets:</p> <p>Exoplanets, 2 Diplomacy, p. 1116</p> <p>‘Drake Equation,’ EN 6, 6 Beginnings, p. 67</p> <p>Cardinal Baroni, 2 The Side-real Stage, pp. 117-120</p> <p>Habitability Class:</p> <p>Habitability, <i>et seq.</i>, 3 Taxation & Census, p. 315</p> <p>Everyone Has a Venus, 4 Taxation & Census, pp. 328-329</p> <p>The Air that You Breathe, 3 Expansion, p. 908</p> <p>CET:</p> <p>Wagon Train to the Stars, 1 Expansion, pp. 878-879,</p>

<p><i>GGDM Commentary: This is a good reason to send a Scout Ship to explore the system in advance! Imagine Earth colony ships arriving at Proxima Centauri! But in fact, in GGDM it is impossible to explore with Colony Ships because of the requirement of having a Scene on the <u>destination starsystem</u> before Transporting Populations, rather than having the Scene on the origin. This has the additional benefit of allowing Colony Ships to converge from multiple origins at the destination with one activation of the Expansion Power. Thus, the target system must have been explored to have a Scene on it!</i></p> <p><i>See also, Alpha Centauri: Alfred Coppel “The Rebel of Valkyr” Feature Quote and Mushrooms from Alpha Centauri, 2 Movement, p. 851-852 and ‘spores in space,’ Ryan Herron bottom Feature Quote, p. 852 and EN 4, p. 853.</i></p>	<p>The Landing, 4 Expansion, p. 920,</p> <p>The Air that I Breathe, 3 Taxation & Census, p. 315</p>
<p>Faust, Jeremy S.</p>	
<p><i>Xenomicrobes transmission between colonies:</i></p> <p>“From the viewpoint of coronavirus, which doesn’t have any sentience, but think about it, started half-way around the world, and today got a ride in the Marine 1 via its host, the President of the United States. It’s unbelievably weak, but the coronavirus has proven remarkably resilient.” – Dr. Jeremy S. Faust, CNN, October 5, 2020.</p> <p><i>GGDM Commentary: Oh, this is an interesting line!</i></p> <p><i>See also, The Black Death and Double Your Troubles, 1 Disruption, pp. 252, 259.</i></p>	<p>Bad Exchanges, 4 Expansion, p. 924</p> <p>‘colony xenomicrobial transmission,’ Pangalactic Pornography, 5 Beginnings, p. 53</p>
<p>Feynman, Richard</p>	
<p><i>Electron as a particle vs. electron as a wave (re two equal but different theories), paradigm shift (re the Student and the Mayan Astronomer), long-running questions of what GGDM is:</i></p> <p>“Now, another thing that people often say is that forgetting two identical theories, two theories – suppose you have two theories, A and B, which look completely different, psychologically different ideas in them and so on, but then all of the consequences that are computed, all of the consequence of the computed are exactly the same. They do say they even agree with experiment and the point is though that the two theories, although they sound different at the beginning have all consequences is the same, it’s easily usually to prove that mathematically by doing a little mathematics ahead of time to show that the logic from this one and this one will [theories A and B] always give corresponding consequences.</p> <p>Suppose we have two such theories, how are we going to decide which one is right? No way, not by science, because they both agree with experiment to the same extent. There’s no way to distinguish one from the other, so two theories, although they may have deeply different ideas behind them, may be mathematically identical and they – usually people say then in science you should say one doesn’t know how to distinguish them and that’s right, however, for psychological reasons in order to get new theories, these are very far from equivalent because one gives a man different ideas than the other; by putting the theory in a certain kind of framework, you get an idea what to change, which would be something, for instance, in Theory A that talks about something that you say, ‘I’ll change that idea here, but to find out what the corresponding thing is, you’re going to change in here [in Theory B] may be very complicated. It may not be a simple idea, in other words, a simple change here [in Theory A] makes maybe a very different theory than a simple change there. In other words, although they’re identical before their</p>	<p>‘experiment with the two slits,’ John Gribbin quotes, 2 Expansion, pp. 894-895 and EN 6, pp. 903-905</p> <p>‘biology and history,’ Carl Sagan Feature Quote, 3 Technology, p. 723</p> <p>‘differences between history and physics,’ Jared Diamond quote, 3 Constructural Elements, p. 210</p> <p>Methodological dualism and EN 13, 2 Culture, pp. 372-373, 378-379</p>

changed, there are certain ways of changing one which look natural which would not look natural in the other.

Therefore, psychologically, we must keep all of the theories in our head and every theoretical physicist that is any good knows six or seven different theoretical representations for exactly the same physics and now knows the truth that they are all equivalent, and that then nobody is ever going to be able to decide which one is right at that level, but he keeps them in his head hoping that they'll give him different ideas for guessing.

Incidentally, I remind you of another thing, and that is that the philosophy or ideas around the theory – a lot of ideas, you say 'I believe there are – there is a space-time' or something like that in order to discuss your analysis – that these ideas change enormously when there are very tiny changes in the theory. In other words, for instance, Newton's ideas about space and time agreed with experiment very well, but in order to get the correct motion of the orbit of Mercury, which was a tiny, tiny difference – the difference in the character of the theory with which you started was enormous. Reason is these are so simple and so perfect, they produced definite results, in order to get something to produce a little different result, has to be completely different; you can't make imperfections on a perfect thing, you have to have another perfect thing. So the philosophical ideas between Newton's theory of gravitation and Einstein's theory of gravitation are enormous – the differences rather, are enormous.

What are these philosophies? These philosophies are really tricky ways to compute consequences quickly, a philosophy – which is sometimes called an understanding of the law – is simply a way that a person holds the laws in his mind there to get quickly a consequence. Some people have said, and it's true for instance in the case of Maxwell's equations and other equations, never mind the philosophy, never mind anything of this kind, just get the equations. The problem is only to compute the answers so that they agree with experiment and it's not necessary to have a philosophy or argue or worries about the equation. That's true, in a sense, yes and no. It's good in a sense you maybe, if you only get the equation, you're not prejudicing yourself and you'll get better. On the other hand maybe the philosophy helps you to guess, it's very hard to say."

GGDM Commentary: Think of this another way for a moment... if you were Reverse Engineering alien technology (discussed in 3 Technology, p. 712, et seq., especially alien stardrives, p. 718, et seq.) and trying to work out the strange physics ... or if aliens were sharing advanced technology with your race (discussed in 3 Patents, p. 748, et seq.), what would you need and what would you get? Equations, or understandings? For example, see 'Think Like a Dinosaur' discussion, In Loco Parentis, 3 Diplomacy, p. 1125. And is 'advanced development' described in 1 Eras, p. 761, et seq., a matter of equations or understanding? Feynman here provides a practical guide to the difference.

For those people who insist however, that they only thing that's important is that the theory agrees with experiment, I would like to make an imaginary discussion between a Mayan astronomer and his student. The Mayans were able to calculate with great precision the predictions for example, for eclipses and the position of the Moon in the sky, the position of Venus and so on, however it was all done by arithmetic. You count a certain number, you subtract some numbers and so on. There was no discussion of what the moon was; there wasn't even a discussion of the idea that it went around, there was only calculate the time when there would be an eclipse or the time when it would rise, their full moon, and when it would rise half-moon and so on. Just calculated only. Suppose that a young man when to the astronomers and said, I have an idea, maybe those things

are going around and there are balls of rocks out there, we could calculate how they move in a completely different way than just calculate what time they appear in the sky.

[I am surprised that he didn't decide to beat on Ptolemy instead, it would make no practical difference since Mayan Astronomy was 'Ptolemaic' effectively]

So of course, the Mayan astronomer would say, yes but how accurate can you predict eclipses? He said, I haven't developed the thing very far... [Mayan astronomer, authoritarian voice] But we can calculate eclipses more accurately than you can with your model, and so must not pay any attention to this because the mathematical scheme is better. And there is a very strong tendency of people to say against some idea, if someone comes up with an idea, so let's suppose the world is this way and you say to me, well how would you, what would you get for the answer for such-and-such a problem and he says, I haven't developed it far enough and just say, well we have already developed it much further, we can get the answers very accurately. So it is a problem as to whether or not to worry about philosophies behind ideas." – Richard Feynman, "Knowing vs. Understanding," from an original black and white lecture video of unknown date by Richard Feynman, the same video is available on two or three different channels on YouTube.

- Additionally, Feynman's entire lectures in physics books (three volumes) are available for free from CalTech at <https://www.feynmanlectures.caltech.edu/>. I don't know which of the lectures this is taken from, if any.

GGDM Commentary: Richard Feynman is talking about physics, of course, a predictive science of the first order of natural phenomenon. However, as Carl Sagan noted, "Biology is more like history than it is like physics. You have to know the past to understand the present. There is no predictive theory of biology, nor is there for history. The reason is the same: Both subjects are still too complicated for us." – Carl Sagan, Cosmos, Episode 2.

Jared Diamond in Guns, Germs and Steel outlined the differences between history as an 'empirical science' and the physical lab sciences: "Laboratory experimentation, so important in physics, cannot apply to historical sciences. ... Still another difference arises in prediction. In history, one can provide a posteriori explanation for why something happened the way it did, but cannot necessarily provide a priori predictions. Predictions about what might happen in a given situation are ultimately too complex to develop."

Sociology theory certainly fits within the scope of what both Sagan and Diamond were discussing; so it made me wonder, given that sociology is 'non-predictive' – and thus Feynman's mathematical or experimental comparator does not apply – how can you distinguish between two theories of sociology? That of course, is the huge question in sociology, just as Feynman posed the question of competing theoretical philosophies in physics.

That aside, the Mayan astronomer and student have significance in sociological theory; for example, the student might be social dynamics theory (e.g., social selection forces and levels of society) as compared to sociological theory that uses what Jonathan Turner called 'category systems' (excepting that the Mayan calculations were testable whereas Turner asserts that category systems are not testable, but that's a difference between physics and sociology, nature is repeatable, human phenomenon is not – Ludwig von Mises' methodological dualism).

Now, this always, of course, comes back around to re-framing the question that I have long asked of GGDM in various ways over the years (even mostly when I didn't - and

<p>may still not - understand what I was asking) – in this case, the question is whether GGDM is another ‘category system’ or whether I am now the student who is proposing a different view of social systems (in this case, making the older sociological theory the ‘Mayan astronomer)?</p>	
<p>Escape from the Planet of the Apes ‘banana scene’; as we get older, the world makes us feel increasingly stupid, Toynbee’s technological distress, Kantian <u>is</u> and <u>ought</u>:</p> <p>“When you’re thinking about something that you don’t understand, you have a terrible uncomfortable feeling called confusion. It’s a very difficult and unhappy business and so most of the time, you are rather unhappy actually with this confusion. You can’t penetrate this thing. Now, is it the confusion because we’re all some kind of apes, that are kind of stupid working against this trying to figure out to put the two sticks together to reach the banana and we can’t quite make it. The idea and I get that feeling all the time that I’m an ape trying to put two sticks together. So I always feel stupid. Once in a while though, everything, the banana, the sticks go together on me and I reach the banana.” – Richard Feynman from black and white 1963 interview (video found on YouTube).</p> <p><u>GGDM Commentary:</u> <i>I think that Richard Feynman is the intellectual’s ‘everyman’; he had a particular knack for expressing the common human condition of intellectuals.</i></p>	<p>‘Toynbee power and distress,’ Brian Aldiss Feature Quote, 2 Patents, middle p. 743</p> <p>‘Kant’s <i>is and ought</i>,’ Wikipedia quote re Compatibilism, 2 Culture, pp. 373-374¹⁰</p>
<p>Finkelstein, Norman</p>	
<p>Grand-sweeps vs. Details of the Moment, choices that intellectual authors make:</p> <p>“‘Some of Chomsky’s books will consist of things like analyzing the misrepresentations of the Arias plan in Central America, and he will devote 200 pages to it,’ Finkelstein said. ‘And two years later, who will have heard of Oscar Arias? It causes you to wonder would Chomsky have been wiser to write things on a grander scale, things with a more enduring quality so that you read them forty or sixty years later. This is what Russell did in books like <i>‘Marriage and Morals.</i>’ Can you even read any longer what Chomsky wrote on Vietnam and Central America? The answer has to often be no. This tells you something about him. He is not writing for ego. If he were writing for ego he would have written in a grand style that would have buttressed his legacy. He is writing because he wants to effect political change. He cares about the lives of people and there the details count. He is trying to refute the daily lies spewed out by the establishment media. He could have devoted his time to writing philosophical treatises that would have endured like Kant or Russell. But he invested in the tiny details which make a difference to win a political battle.” – Norman Finkelstein, quoted by Chris Hedges, “Noam Chomsky Has ‘Never Seen Anything Like This’” Truthdig, April 19, 2010.</p> <p><u>GGDM Commentary:</u> <i>Those ‘tiny details’ are the Conflict Checks in GGDM. The Conflict Checks are very objective and momentary and make the difference in the ‘daily life’ of the position and its population. This provides a flip-side non-game mechanical view to the idea that Social and Estate Titles (along with Fundamental Realities) serve as a program for the position to act in the game – though that it is important too for game mechanical reasons.</i></p>	<p>Silly Space Game Fallacy, 2 Fallen to Earth, p. 1519</p> <p>Andragogy, What is a literary Game, and Macrosocial Simulation, 3 The Big Bang, pp. 12, 17, 18</p> <p>Slice of the Pie, 2 The Sidereal Stage, p. 117</p> <p>Fuzzy Beliefs, 4 Culture, pp. 407-408</p> <p>Legitimacy & Authority and Foreclosure of a Dream, 3 Government Titles, pp. 615-616</p>

¹⁰ The ‘is’ can never be as good as the ‘ought’ because if it was, there would be no ‘ought’ – this the very definition of utopia or paradise, when there are no ‘oughts.’ It is thus that humans will never be satisfied with the ‘is’ when they can imagine an ‘ought.’ It is the curse of writers, designers, attorneys, campaigners, advertisers, politicians, actors, artists, intellectuals, historians and even politicians.

Franklin, Benjamin	
<p><i>Stupid People (and issue discussed several times throughout GGDM):</i></p> <p>“We are all born ignorant, but one must work really hard to remain stupid.” – Benjamin Franklin.</p> <p><u>GGDM Commentary:</u> <i>We’ve all known a few along the way.</i></p> <p><i>See also, Real Racism, 5 Diplomacy, p. 1155.</i></p>	<p>Willful Ignorance, <i>et seq.</i>, 2 Information, p. 1353</p>
Franklin, Cody (AltHistoryHub)	
<p><i>Alternate history, Bronze Age Collapse:</i></p> <p>“This alternate Greece wouldn’t have a history as shrouded in myth by 500 B.C. Without the [Bronze Age] collapse, there is now a thousand years more of continuous Greek history, while embellishment and bias still occurred, there at least is a continuous line.” – Cody Franklin (Narrator), “What if the Bronze Age Collapse Never Happened?” AlternateHistoryHub YouTube Channel, July 17, 2020.</p> <p><u>GGDM Commentary:</u> <i>If position data history is kept on a computer, it would be possible to create ‘alternate histories’ in a game, for example, about Turn 20, reset the game back to Turn 5 or 8 and go again. Might be fun, might be annoying to some players. But the players would get to replay the game with the knowledge obtained the first time.</i></p> <p><i>See also, Bronze Age Collapse: Structural Sophistication, 3 Taxation & Census, p. 322, Immoral History, 2 Disruption, p. 277, Interstellar Politics, 1 Taxation & Census, p. 295, Resources Proficiency, 3 Culture, pp. 397-398.</i></p>	<p>Alternating History and The Year of the Five Presidents, 6 Government Titles, pp. 654-656</p> <p>History in the Balance, 1 Expansion, p. 888</p> <p>‘alternate WWI,’ Christmas Truce 1914, 3 Disruption, p. 291</p>
<p><i>Language as an arbitrary agreed upon set of sounds and symbols, alien languages, difficulty of learning a new language argument:</i></p> <p>“In this alternate timeline, without the collapse of the Mycenaeans, this original writing system called Linear B, would continue to be taught and refined. The alphabet that is the basis for Latin, Greek and Cyrillic, is never adopted. The [Linear B] system would have spread just as the alphabet did, an alternate basis of all writing in the Western world. Our alphabet uses symbols to represent singular sounds; ones that when read together create new sounds to convey messages. Take the letter “W” – “We,” “Wi,” or “Wa” – and the type of sound produced changes. Simple enough. But Linear B did not work like this. Instead, it was based on two things: Syllables and Characters. Representation of a syllable instead of a specific sound, so to represent “We,” “Wi,” “Wa” all three sounds would have a different symbol. And while they had that, they also had another aspect to the system: Characters or symbols to represent an idea or single word. This is the most influential form of writing to the Etruscans, Italics and Slavs. Europe’s writing system would far more resemble the writing of East Asia if anything, and as a syllabic writing system, for each different language new characters themselves would need to be changed, shifted, or dropped. Think of it this way, say you want to learn German, but instead of just needing to learn what the different words mean, you instead need to memorize a whole new list of characters and symbols, just to understand the different words at all. Future spread of information across the continent is slower and more time-consuming; the farther north on the continent you go, the more different the characters would become from the original Linear B.” – Cody Franklin (Narrator), “What if the Bronze Age Collapse Never Happened?” AlternateHistoryHub YouTube Channel, July 17, 2020.</p>	<p>‘trans-stellar human language,’ Second Starfaring Age, 2 Eras, pp. 775-776</p> <p>‘Afrikaans and modern Dutch, Great Vowel Shift,’ Language Drift, 3 Entropy, p. 246</p> <p>‘alien languages and counting systems,’ De-conjunction Junction and Roman Numerals Again, 3 Technology, pp. 713-714</p> <p>OV-VO Schemes, 3 Government Titles, p. 621</p>

<p><i>GGDM Commentary: This discussion flowers into several good points for GGDM. First there is the issue of language drift in an interstellar civilization, it is necessary for the government to establish a ‘mother tongue’ or Lingua Franca in much the same way as the Church used Latin and to insure its continued use, standardization and that it be taught on each planet to the next generation. This also suggests that positions should not assume information portability between the Homeworld Position and its related Lost Colonist Position, and also the difficulty of understanding anything from an alternate reality of even their own species. And of course, there is the alien languages problem.</i></p> <p><i>See also, The Great Vowel Shift: EN 2, 1 Commerce, pp. 1190-1191 and EN 2, 2 Movement, p. 874 and The Printing Revolution excerpts, Writs.</i></p>	<p>‘Final Encounter story,’ Circumambulation, 1 Expansion, p. 875</p> <p>Fundamental Realities, 3 Beginnings, pp. 37-38</p>
<p>Alternate history, Shared (tragic) Meanings, balance of power, seeding space as a strategy, personal union of states, Hittites discussion:</p> <p>“One alternative that could come from the Hittites surviving longer is their relationship with Egypt. The two were often at war with one another and close rivals, but it was an odd balance of power, no side overpowering the other, and it was also a unique relationship that only they had with each other, often remarking to each other as ‘brothers.’ In this alternate world, this unique relationship is left unchallenged, maybe if given enough time, there could be a period of agreement. There was once an offer for a special marriage to turn a Hittite prince into an Egyptian pharaoh, which didn’t work out and led to war, but there are other cases where there were marriages between the royal families, so had they been left as the dominate powers in the Near East, perhaps Egypt and the Hittites would eventually unite together by marriage, banding together to prevent empires like the Assyrians, or other Mesopotamian states from taking too much control. With greater security on their southern border, the Hittites could focus much more on rebellions in the west, especially against the Mycenaeans, encouraging the Greeks to settle even more in Italy or Sicily instead of Anatolia.” – Cody Franklin (Narrator), “What if the Bronze Age Collapse Never Happened?” AlternateHistoryHub YouTube Channel, July 17, 2020.</p> <p><i>GGDM Commentary: Well hmmm... I get the point but, the Habsburgs controlled through marriage and inheritance Austro-Hungary, Spain, the Netherlands, and other territories, and held the title of Holy Roman Emperor which give them authority in Germany and parts of Italy. They were not able however, to prevent the rise of France and England who eventually displaced the Habsburgs. So there are a lot of maybes in it.</i></p> <p><i>See also, ‘personal union of crowns’ Peace in Our Time, 6 Combat, pp. 1021-1022, Forward Expectations, 1 Disruption, p. 255.</i></p>	<p>Alternating History, 6 Government Titles, pp. 654-655</p> <p>Seeding Space, and History in the Balance, 1 Expansion, pp. 877, 888</p> <p>‘shared meanings,’ Between Mars & Venus, 3 Diplomacy, pp. 1126-1127</p> <p>‘shared tragic meanings,’ The Core of Christianity, 1 Kairotic Moments, pp. 1423-1424</p> <p>‘Hittites,’ Immoral History, 2 Disruption, p. 277.</p>
<p>Alternate history, collapse, (Vinci) cycles of history, hegemonic empires, hard to repudiate the history that put you here:</p> <p>“Without this massive destruction, the culture of the Hatty [Hittites] remains just as prominent as the Egyptian or Greeks were in classical times. So perhaps there could have been an Anatolia that isn’t Greek or Turkic or a mix of cultures, but instead, distinctly Hittite with that culture continuing on even if the Empire doesn’t. But while the fall of the Hittites did end an empire, it also allowed for an opening to others, so let’s step back and look at the Near East as a whole; without that fall, there never is a new rise, new players that shaped the classical world simply don’t exist.” – Cody Franklin (Narrator), “What if the Bronze Age Collapse Never Happened?” AlternateHistoryHub YouTube Channel, July 17, 2020.</p>	<p>Alternating History, 6 Government Titles, pp. 654-655</p> <p>History in the Balance, 1 Expansion, p. 888</p> <p>Hegemonic Empires and Spheres of Influence, 4</p>

<p><i>GGDM Commentary: Anatolia is a good example of what might occur in GGDM if position hegemony sways back and forth over the same group of stars during the course of the game; it's something that the Concierge should particularly note and use creatively.</i></p> <p>See, <i>Da Vinci Cycle, 1 Resolution, pp. 1463-1464</i>, “Asabiyyah” Wikipedia quote, <i>2 Constructural Elements, middle p. 192</i>.</p> <p>See also, ‘repudiation of history’ hypocrisy discussions: <i>Immoral History, 2 Disruption, p. 277, Cossacks, 4 Diplomacy, p. 1146, Habitability, 3 Taxation & Census, p. 315, More Than a Feeling, 1 Temporal Technology, p. 808, Teleological Exercises, 1 Resolution, p. 1456 and EN 1, 3 Reformation, p. 1412</i>.</p>	<p>Order, pp. 571-573, 575-576</p> <p>‘people who are feeling awfully self-righteous about Andrew Jackson,’ see <i>John Meacham quote, <u>this document</u></i></p>
<p>Alternate history, ripples, Bible, Dark Ages/Long Night discussion:</p> <p>“Many of the most ancient events our society thinks of – the creation of the Old Testament, the Battle of Thermopylae – were kick-started all from a single power vacuum, 3,000 years ago [the Late Bronze Age Collapse]. ... There’s evidence that Rome and the Etruscans began their own states in part because of trade with Greek colonist, had the Mycenaeans not fallen into a Dark Age, such progression may have reached Italy centuries earlier than our own timeline. ... Perhaps had writing and history not been lost, languages and culture not forgotten, we’d have a different perspective on how we got here and while we never did go down that alternate timeline, maybe you can hold that perspective yourself.” – Cody Franklin (Narrator), “What if the Bronze Age Collapse Never Happened?” AlternateHistoryHub YouTube Channel, July 17, 2020.</p> <ul style="list-style-type: none"> • Cf. “Alienated from the present. There are great advantages in for once removing ourselves distinctly from our time and letting ourselves be driven from its shore back into the ocean of former worldviews. Looking at the coast from that perspective, we survey for the first time its entire shape, and when we near it again, we have the advantage of understanding it better on the whole than do those who have never left it.” – Friedrich Nietzsche. <p>See also, <i>Entropy Is Not Constant, 1 Entropy, pp. 214-216</i>.</p>	<p>Alternating History, 6 Government Titles, pp. 654-655</p> <p>Neo-Luddites and Dark Ages, 1 Technology, pp. 686-687</p> <p>‘Hagazussa movie,’ Medieval State of Mind, 1 Constructural Elements, p. 181</p> <p>Futurology, 7 Beginnings, pp. 68-69</p>
<p>Frost, John</p>	
<p>GROPOS, planetary assault, extraction:</p> <p>“We still could not believe that the 30th Corps would fail to come to our rescue. It was difficult to feel that there was enough genuine opposition to stop them. It was desperately disappointing that having done everything we had been asked to do, we were now prisoners.” – Lt. Col. John Frost, commander of the British 2nd Parachute Battalion at Arnhem, 1944 (as quoted by Griffin Johnsen) in “Britain’s Worst Airborne Disaster: Battle of Arnhem,” The Armchair Historian YouTube Channel, November 28, 2020).</p> <p><i>GGDM Commentary: Because of the way we as humans approach playing games – and I have played many many wargames – we do not tend to think of the losses or the actual feelings of the population or soldiers or sailors represented by the pieces we move and lose. In GGDM, the Concierge is charged with being the ‘third party’ representing those on the ground, local interests, and this is a good example of the cost of surrender or defeat. This is also mechanically simulated in the game by Disruption events in 2 Disruption and by the rules for inactivation of Constructural Elements after retreat from combat or combat loss.</i></p>	<p>‘Concierge representing local commanders,’ Surrender at Planet Dawn and No Surrender, No Retreat, 5 Combat, pp. 1009-1110</p> <p>‘inactivation due to combat loss,’ The B Team, 3 Disruption, pp. 281-282</p>

Frum, David	
<p>Regeneration Proficiency, aging of civilizations, changing worldviews:</p> <p>“For those of us who reach a certain age, our personal futures decline leading to ultimate extinction. So, it is very natural for us to assume that is true for countries as a whole. If we are becoming more decrepit, countries must be becoming more decrepit. Politics that appeals is politics that offers hope and purpose. Donald Trump has never offered hope, he doesn’t know that language, and his most important supporters, they offer the opposite, they offer gloom, fear, terror, and decline, and a message that touches people of a certain age, but that repulses everybody else and that isn’t true. We have the ability, as Ronald Reagan kept promising, to restore and renew the country, and when we do, we will discover that the ideas of 1989 [he mentions other past ideas] they can be repurposed for a new era.” – David Frum, Morning Joe, MSNBC, August 17, 2020.</p> <p><i>See also, Watching the Wheels Go Round and Round and A Dying Age, 2 Eras, pp. 772, 774 and Modernity discussions: Modernity, 3 Constructural Elements, p. 207, Modernity Machines, 1 Technology, pp. 696-697.</i></p>	<p>Artifice, 2 Constructural Elements, pp. 191-192</p> <p>Regeneration Proficiency, 3 Culture, p. 398</p> <p>And the Cradle Will Rock, 3 Culture, p. 382</p>
<p>Entropy and creation by using words, supra-legitimacy, Conflict Checks, disruption:</p> <p>“Well, here’s what is so strange about the President’s action. You can cover up a crime, you can cover up a scandal, you cannot cover up a pandemic. If what Donald Trump was saying was correct, as it was, it was going to happen. He knew at that time that very shortly, he would be confronting massive disease, massive death. He also, if he’d have thought about it, would have understood that world leaders who acted decisively ... those who acted decisively have become much more popular.... I think we should understand this in conjunction with the report from the whistleblower in the Department of Homeland Security about how President Trump has tried to cover up the news of Russian interference in the election and dangers from white supremacist groups, which is kind of what Michelle said; President Trump is kind of a victim here, he thinks he can manufacture reality through words, and so he concealed in February and March, not thinking maybe someday there’ll be an April, maybe someday there’ll be a May, and doesn’t June follow then, and there will be a July, won’t at some point this explode? He really thought he could lie his way through a pandemic and that suggests that he is a much less rational person than the act of lying would suggest here.” – David Frum on Ari Melber, MSNBC, September 9, 2009.</p> <p><i>GGDM Commentary: This is just about a textbook case of what is called supra-legitimacy in GGDM. And below supra-legitimacy, we probably failed a Conflict Check as well, our government survived, but the President and his group were booted. The civilian deaths from the pandemic are a Disruption Event, and I cannot think of anyone (including the deniers) who would disagree with the concept that it has been a disruption.</i></p> <ul style="list-style-type: none"> • Its common wisdom at law firms or anyone who investigates the behavior of others in a legal sense, that the cover-up always smells worse than the crime; a cover up is evidence of guilt and knowledge. <p><i>See also, ‘Social/Estate Title disruption,’ Foreclosure of a Dream, 3 Government Titles, pp. 615-617 and ‘disruption event,’ A Disruption, 1 Disruption, pp. 255-256.</i></p>	<p>‘supra-legitimacy,’ Type 3, 3 Beginnings, p. 42</p> <p>Creation by Speaking:</p> <p>Six Pieces of Parchment, 1 The Big Bang, p 1.</p> <p>God Whisperers, 1 Patents, p. 732</p> <p>Patent Consistency, 3 Patents, p. 749</p> <p>‘News Events create game background and history,’ The Nature of News Events, 2 Dreamtime, p. 146</p> <p>Universal Legislator, 2 Dreamtime, pp. 149-150</p>
Gaiman, Norman	
<p>Law of cycles, swinging pendulum, concept of evil:</p>	<p>‘swinging pendulum,’ Dean Inge</p>

<p>“You see, evil always contains the seeds of its own destruction. It is ultimately negative, and therefore encompasses its downfall even at its moments of apparent triumph. No matter how grandiose, how well-planned, how apparently foolproof of an evil plan, the inherent sinfulness will by definition rebound upon its instigators. No matter how apparently successful it may seem upon the way, at the end it will wreck itself. It will founder upon the rocks of iniquity and sink headfirst to vanish without trace into the seas of oblivion.” – Neil Gaiman, <u>Good Omens: The Nice and Accurate Prophecies of Agnes Nutter, Witch</u> (by Terry Pratchett & Neil Gaiman, 1990).</p> <p><i>GGDM Commentary: There is something almost Saturday-morning cartoonish about Gaiman’s statement, but there is also some historical truth for it, if you accept the concept of evil. However, I think that participants need to avoid the idea that deciding to play the ‘Bad Guy’ in a GGDM game is a contract to lose; the Bad Guys can win too, the game should not fall into that literary trap where there must be a ‘happy ending.’ Happen endings are relative anyway.</i></p> <ul style="list-style-type: none"> • As an alternative, what is the difference between what Mr. Gaiman says and the simple utility test proposed in GGDM? What Mr. Gaiman is saying – stripped of the moral/religious language, is that some instigators engage in ultimately non-useful courses of action. Now, applying Occam’s razor, which is the better explanation, a concept of evil, or simply non-utility? 	<p>quotes, 5 Government Titles, p. 642</p> <p>Modernity Machines, 1 Technology, p. 696</p> <p>‘happy endings are relative,’ EN 3, 1 Resolution, p. 1469 and Went to a Garden Party, 2 Resolution, p.1480</p> <p>‘utility test of actions,’ Right and Wrong, 5 Fallen to Earth, pp. 1571-1573</p>
<p>Galef, Julia</p>	
<p><i>Maximum Habitability, Habitability Class, Domestic Subsistence, babies born not on Earth, anti-natalism, seeding space, Conquest by Entitlements, technology as a force and efficiency multiplier, culture as a generational accumulation and transfer:</i></p> <p>“...the Repugnant Conclusion illustrates an inconsistency in these seemingly common-sense principles of morality that most people hold: First, that adding additional people whose lives are worth living doesn’t make things worse, second, that increasing total and average happiness makes things better and third that a smaller number of extremely happy people is preferable to a larger number of very unhappy people. People will have different solutions to this apparent paradox, some philosophers just bite the bullet and say, ‘yes, that world of billions and billions of miserable people is indeed better than the world with a smaller number of very happy people.’ Other philosophers take issue with one or more of the premises or of the logic so, for example, some people reject the transitive property and say it doesn’t apply here.</p> <p>As for me, I really don’t know how to resolve the inconsistency; from where I am standing each of those premises feels very true and yet I also accept the logic that shows that they can’t co-exist. I tried once for several days to tweak utilitarianism so that it wouldn’t have this inconsistency in it and I thought I solved it and my brother still teases me about the time that he got a text message in the middle of the night saying, ‘dude, I think I just solved utilitarianism’ exclamation point. Unfortunately, I rechecked my math a few days later and found an error, of course. So the Repugnant Conclusion has implications for the kinds of policy decisions that we have to make as a society about how many new people do we want to be creating in future generations, or allowing to be created. And how does that depend on the quality of life that those future people can be expected to have? So, you know, it feels like it matters what answer we give to this paradox.” – Julia Galef (host of Rationally Speaking podcast), “The Repugnant Conclusion (a philosophy paradox),” Julia Galef YouTube Channel, July 24, 2015.</p>	<p>‘the passion between the sexes,’ Thomas Malthus quote, 1 Taxation & Census, p. 297</p> <p>The Air that I Breathe and Day World, 3 Taxation & Census, pp. 315-316</p> <p>Resources and Red Planet, 2 Taxation & Census, pp. 301-302, 307-308</p> <p>Seeding Space and Be Fruitful & Multiply, 1 Expansion, pp. 877-878</p> <p>Conquest by Entitlements, 5 Culture, p. 430</p> <p>‘definition of culture,’ Not Quite</p>

<p><i>GGDM Commentary: The Repugnant Conclusion is a modern concept of population ethics crystalized by David Parfit; there is a full and excellent explanation of it on Stanford Encyclopedia of Philosophy (https://plato.stanford.edu/entries/repugnant-conclusion/). The subject is beyond the scope of this document but is very important to GGDM and is discussed tangentially in GGDM. The Repugnant Conclusion I believe is the defining question of population ethics – one cannot have any discussion of population ethics in philosophy, the future of humanity, or in science fiction (unless we change the definition of population ethics) without at some point circling The Repugnant Conclusion.</i></p> <ul style="list-style-type: none"> • When each of the premises feels true but so does the logic that produces an inconsistent or unpalatable result – that is the definition of a paradox. <p><i>Though I did not fully know of it at the time I wrote GGDM, the Conclusion is very applicable to discussions in GGDM of Habitability Class, Maximum Habitability and Domestic Subsistence, as well as seeding space and even converges at a point with anti-natalist arguments. China’s zero-population growth, one child per family policy is an example of the prudent realization of the Repugnant Conclusion (or alternatively, projected political fear of an unhappy population that becomes too large to be contained and controlled by a modern nation state). It is also the implied basis for Mötley Crüe’s famous heavy-metal operatic narration “In the beginning” prelude to 1983’s “Shout at the Devil.”</i></p>	<p>A Priori, 2 Culture, bottom p. 374</p> <p>‘technological optimist have been right so far,’ Joseph Tainter quote, 3 Culture, p. 397</p> <p>Technology as a force multiplier:</p> <p>More or Less and Technological Unemployment, 2 Eras, pp. 771-772</p> <p>The Human Adventure, 1 Special Operations, pp. 1266-1268</p>
<p><i>The Dreyfus Affair, Plausible Deniability, interpretations, Aspects, non-correlation of leadership and chronological age, jury trials and visceral reactions:</i></p> <p>“So I’d like you to imagine for a moment that you’re a soldier in the heat of battle. Maybe you’re a Roman foot soldier or a medieval archer or maybe you’re a Zulu warrior. Regardless of your time and place, there are some things that are constant. Your adrenaline is elevated, and your actions are stemming from these deeply ingrained reflexes, reflexes rooted in a need to protect yourself and your side and to defeat the enemy.</p> <p>So now, I’d like you to imagine playing a very different role, that of the scout. The scout’s job is not to attack or defend. The scout’s job is to understand. The scout is the one going out, mapping the terrain, identifying potential obstacles. And the scout may hope to learn that, say, there’s a bridge in a convenient location across a river. But above all, the scout wants to know what’s really there, as accurately as possible. And in a real, actual army, both the soldier and the scout are essential. But you can also think of each of these roles as a mindset – a metaphor for how all of us process information and ideas in our daily lives. What I’m going to argue today is that having good judgment, making accurate predictions, making good decisions, is mostly about which mindset you’re in.</p> <p>To illustrate these mindsets in action, I’m going to take you back to 19th-century France, where this innocuous-looking piece of paper launched one of the biggest political scandals in history. It was discovered in 1894 by officers in the French general staff. It was torn up in a wastepaper basket, but when they pieced it back together, they discovered that someone in their ranks had been selling military secrets to Germany.</p> <p>So they launched a big investigation, and their suspicions quickly converged on this man, Alfred Dreyfus. He had a sterling record, no past history of wrongdoing, no motive as far as they could tell. But Dreyfus was the only Jewish officer at that rank in the army, and unfortunately at this time, the French Army was highly anti-Semitic. They compared Dreyfus’s handwriting to that on the memo and concluded that it was a match,</p>	<p>‘no correlation between age and leadership, and age and wisdom,’ Kristi Hedges Feature Quote, 2 Colleges, p. 473</p> <p>‘Aspects as emotions,’ Aspects and Affliction of Aspects, 2 Culture, pp. 364, 369-370</p> <p>Bob Moser ‘weltanschauung’ Feature Quote, 1 Information, and Selecting Bits, pp. 1334-1335</p> <p>Visceral Reactions:</p> <p>‘visceral reactions,’ Right and Wrong, Visceral Reactions and Being Right vs. Right Being, 5</p>

even though outside professional handwriting experts were much less confident in the similarity, but never mind that. They went and searched Dreyfus's apartment, looking for any signs of espionage. They went through his files, and they didn't find anything. This just convinced them more that Dreyfus was not only guilty, but sneaky as well, because clearly he had hidden all of the evidence before they had managed to get to it.

[Really? If he was that clever, and guilty, he would have completely burned the paper they found in the wastebasket, instead of tearing it up and leaving it in a wastebasket! The paper in the wastebasket is the only event that gave them a clue to the whole spy scheme...]

Next, they went and looked through his personal history for any incriminating details. They talked to his teachers, they found that he had studied foreign languages in school, which clearly showed a desire to conspire with foreign governments later in life. His teachers also said that Dreyfus was known for having a good memory, which was highly suspicious, right? You know, because a spy has to remember a lot of things.

So the case went to trial, and Dreyfus was found guilty. Afterwards, they took him out into this public square and ritualistically tore his insignia from his uniform and broke his sword in two. This was called the Degradation of Dreyfus. And they sentenced him to life imprisonment on the aptly named Devil's Island, which is this barren rock off the coast of South America. So there he went, and there he spent his days alone, writing letters and letters to the French government begging them to reopen his case so they could discover his innocence. But for the most part, France considered the matter closed.

One thing that's really interesting to me about the Dreyfus Affair is this question of why the officers were so convinced that Dreyfus was guilty. I mean, you might even assume that they were setting him up, that they were intentionally framing him. But historians don't think that's what happened. As far as we can tell, the officers genuinely believed that the case against Dreyfus was strong. Which makes you wonder: What does it say about the human mind that we can find such paltry evidence to be compelling enough to convict a man?

[uh oh, there goes the entire legal system!]

Well, this is a case of what scientists call 'motivated reasoning.' It's this phenomenon in which our unconscious motivations, our desires and fears, shape the way we interpret information. Some information, some ideas, feel like our allies. We want them to win. We want to defend them. And other information or ideas are the enemy, and we want to shoot them down. So this is why I call motivated reasoning, 'soldier mindset.'

Probably most of you have never persecuted a French-Jewish officer for high treason, I assume, but maybe you've followed sports or politics, so you might have noticed that when the referee judges that your team committed a foul, for example, you're highly motivated to find reasons why he's wrong. But if he judges that the other team committed a foul – awesome! That's a good call, let's not examine it too closely. Or, maybe you've read an article or a study that examined some controversial policy, like capital punishment. And, as researchers have demonstrated, if you support capital punishment and the study shows that it's not effective, then you're highly motivated to find all the reasons why the study was poorly designed. But if it shows that capital punishment works, it's a good study. And vice versa: if you don't support capital punishment, same thing.

Our judgment is strongly influenced, unconsciously, by which side we want to win. And this is ubiquitous. This shapes how we think about our health, our relationships, how we

Fallen to Earth,
pp. 1571-1576

Crime and Punishment, Failure of the Why Not Question and The Other Hole in Your Head, 1 Order, pp. 518, 520-521

'somebody will be blamed,' Plausible Deniability and The Blame Game, pp. 1314-1316

Dreyfus Affair Discussions:

The Dreyfus Affair, 3 Special Operations, p. 1309

'unintended consequences,' Player Generated Entropy, 1 Special Operations, pp. 1270-1271

'Madame Curie,' Deutsche Physik, 2 Patents, pp. 737-739

Spirit Proficiency and EN 12, 3 Culture, pp. 399-400, 403

Concierge-Player Relations:

'avoid heavy handed forcing of POV on game,' Concierge Decorum, 3 The Big Bang, p. 14

decide how to vote, what we consider fair or ethical. What's most scary to me about motivated reasoning or soldier mindset, is how unconscious it is. We can think we're being objective and fair-minded and still wind up ruining the life of an innocent man.

However, fortunately for Dreyfus, his story is not over. This is Colonel Picquart. He's another high-ranking officer in the French Army, and like most people, he assumed Dreyfus was guilty. Also like most people in the army, he was at least casually anti-Semitic. But at a certain point, Picquart began to suspect: 'What if we're all wrong about Dreyfus?' What happened was, he had discovered evidence that the spying for Germany had continued, even after Dreyfus was in prison. And he had also discovered that another officer in the army had handwriting that perfectly matched the memo, much closer than Dreyfus's handwriting. So he brought these discoveries to his superiors, but to his dismay, they either didn't care or came up with elaborate rationalizations to explain his findings, like, 'Well, all you've really shown, Picquart, is that there's another spy who learned how to mimic Dreyfus's handwriting, and he picked up the torch of spying after Dreyfus left. But Dreyfus is still guilty.' Eventually, Picquart managed to get Dreyfus exonerated. But it took him 10 years, and for part of that time, he himself was in prison for the crime of disloyalty to the army.

[I was not previously aware the Picquart went to prison, but it makes perfect sense]

A lot of people feel like Picquart can't really be the hero of this story because he was an anti-Semite and that's bad, which I agree with. But personally, for me, the fact that Picquart was anti-Semitic actually makes his actions more admirable, because he had the same prejudices, the same reasons to be biased as his fellow officers, but his motivation to find the truth and uphold it trumped all of that.

So to me, Picquart is a poster child for what I call 'scout mindset.' It's the drive not to make one idea win or another lose, but just to see what's really there as honestly and accurately as you can, even if it's not pretty or convenient or pleasant. This mindset is what I'm personally passionate about. And I've spent the last few years examining and trying to figure out what causes scout mindset. Why are some people, sometimes at least, able to cut through their own prejudices and biases and motivations and just try to see the facts and the evidence as objectively as they can?

And the answer is emotional. So, just as soldier mindset is rooted in emotions like defensiveness or tribalism, scout mindset is, too. It's just rooted in different emotions. For example, scouts are curious. They're more likely to say they feel pleasure when they learn new information or an itch to solve a puzzle. They're more likely to feel intrigued when they encounter something that contradicts their expectations. Scouts also have different values. They're more likely to say they think it's virtuous to test your own beliefs, and they're less likely to say that someone who changes his mind seems weak. And above all, scouts are grounded, which means their self-worth as a person isn't tied to how right or wrong they are about any particular topic. So they can believe that capital punishment works. If studies come out showing that it doesn't, they can say, 'Huh. Looks like I might be wrong. Doesn't mean I'm bad or stupid.'

This cluster of traits is what researchers have found – and I've also found anecdotally – predicts good judgment. And the key takeaway I want to leave you with about those traits is that they're primarily not about how smart you are or about how much you know. In fact, they don't correlate very much with IQ at all. They're about how you feel. There's a quote that I keep coming back to, by Saint-Exupéry. He's the author of

Intemperance, 1 Entropy, pp. 228-229

'Concierge tools are not autocratic,' Punch in the Nose, 2 Entropy, p. 236

'computerized random adverse events,' Too Late for the Pebbles to Vote, 1 Disruption, pp. 261-262

'both advisory and adversarial, not taking umbrage,' The Galactic Patent Office, and 'fair has nothing to do with it,' Balancing the Pin, 2 Patents, pp. 735-736

'avoiding game-wrecking turn backlog,' Turn, Turn, Turn, 3 The Steams of Time, p. 90

'Concierge not there to even-up or level the playing field,' Never Achievable, 3 Expansion, p. 908

‘The Little Prince.’ He said, ‘If you want to build a ship, don’t drum up your men to collect wood and give orders and distribute the work. Instead, teach them to yearn for the vast and endless sea.’

[*blueprint for space colonization and scientific exploration?*]

In other words, I claim, if we really want to improve our judgment as individuals and as societies, what we need most is not more instruction in logic or rhetoric or probability or economics, even though those things are quite valuable. But what we most need to use those principles well is scout mindset. We need to change the way we feel. We need to learn how to feel proud instead of ashamed when we notice we might have been wrong about something. We need to learn how to feel intrigued instead of defensive when we encounter some information that contradicts our beliefs.

So the question I want to leave you with is: What do you most yearn for? Do you yearn to defend your own beliefs? Or do you yearn to see the world as clearly as you possibly can?” – Julia Galef at TEDxPSU, February 2016.

GGDM Commentary: Ok, let’s talk game. There is so much of this that applies across GGDM (and our lives) but it comes down to judging the actions of other players and especially of the Concierge, in the game. I urged, and urge, players not to assume that the Concierge is ‘out to get them’ when bad things happen to their position, not to take personal umbrage at game events, and so forth. In the end, how the game is played, and enjoyment of the game, will be determined largely by whether the participants engage in ‘soldier mindset’ or ‘scout mindset’ at particular points in the game. Both are necessary, soldier mindset is needed to fully play a position, scout mindset is necessary for the godview or meta-view (integrity) of the game.

- We all roll our eyes when convicts in prison claim they are innocent, assuming they just want to get out of prison. At a law firm I worked at, we’d occasionally receive handwritten letters, in all block caps, from prisoners seeking legal counsel. The next time you hear a prisoner say they are innocent, remember Dreyfus. And don’t be so sure. This must be what motivates defense attorneys because the job is rather thankless and the clients are not very enjoyable company.

The video and transcript can be found at

https://www.ted.com/talks/julia_galef_why_you_think_you_re_right_even_if_you_re_wrong?referrer=playlist-the_most_popular_talks_of_2016

Geiger, Lance (The History Guy on YouTube)

Colonial relations in GGDM in a nutshell: hegemony, loyalty, insurgency and April Morning TV movie (1988), this could even be an Aspect or related to a Writ:

“But the War had other significant impacts that would affect the relationship between mother Britain and her colonies. First, it had come at great expense, the British national debt doubled as a result of the Seven Years War. Now with the Empire expanded, the Crown had more expenses, trying to control and manage its empire, including in North America where the acquisition of French Canada meant bringing some 300,000 Canadians and Indians with dubious loyalty to Britain into the Empire. The North American colonies had larger frontiers, and the colonies themselves, perhaps feeling more independent after their own contribution to the war and with the promise of expansion on the horizon, were becoming less cooperative with authorities in London, and even amongst themselves.

Friendly Colony and Asymmetric Conflict, 2 Order, pp. 539, 542

Subjects & Citizens, 2 Government Titles, p. 599

Noblesse Oblige, 4 Movement, p. 871

<p>Britain both wanted to assert control and recoup from the colonies some of the treasure the Crown had expended in their defense. The end of the war had also offered Britain an opportunity. For literally decades, the Empire had been at war and in no strategic position to risk antagonizing its colonies. Now, having won the war, and seemingly chastised their main rival France, Britain saw the opportunity to press their authority. ... The war's most pernicious effect, however, was to persuade the Crown that Britain was unbeatable. The extraordinary battlefield triumphs of previous years made this inference seem reasonable, and the perilous conviction that Britannia had grown too mighty to fail contributed to the high-handed tone imperial officials now used to address the colonist and thus sowed the seeds of revolution. The war had emboldened both colonizer and colonist and that made conflict much more likely.” – Lance Geiger (The History Guy), “The Gaspee Affair of 1772,” The History Guy YouTube Channel, August 24, 2020.</p> <p><i>GGDM Commentary: ‘Too big to fail’ is always a mental problem! What can be translated from the Gaspee Affair into GGDM terms? This certainly is a case of possible failure of a Taxation Power activation due to inactive Constructural Elements. And gaining French Canada was a classic Conversion/Naturalization and Pacification Combat issue. And the Gaspee Affair itself could spring from an adverse News Event or Intervention.</i></p> <p><i>Note that Asymmetric Conflict, 2 Order, specifically mentions the possibility of Friendly and Naturalized Colonies revolting in GGDM if the story is ripe for it. Minutemen up!</i></p>	<p>‘Pacification Combat and Insurgency Levels,’ Making War for Peace is Like..., <i>et seq.</i>, and Genocide, 6 Combat, pp. 1020-1025</p> <p>‘April Morning movie,’ EN 12, 2 Colleges, p. 484</p> <p>‘Arrow incident,’ Cargo Ships in Combat, 1 Commerce, p. 1187</p> <p>History in the Balance, 1 Expansion, p. 888</p>
<p><i>Stonehenge, Monument Building, Interpretations, Historiography, Temporal Constructural Element, resettlement and replacement of populations:</i></p> <p>“In The History of the Kings of Britain, Geoffrey of Monmouth writes the story of how King Aurelius wanted to commemorate soldiers who had fallen in battle fighting the Saxons. Merlin suggest to him that he go to Ireland to retrieve a circle of stones that was originally built by giants. Aurelius sends his army but in the end, the stones can only be moved through the artifice of the Wizard Merlin to Salisbury. Today those stones are known as Stonehenge, perhaps the world’s most famous Neolithic monument and an iconic symbol of the British Isles. After the construction of Stonehenge, which itself took some 1,500 years was completed, much of the story of how and why it was built slowly faded but the grandeur of the monument remained and later people grasped for interpretations of how and why it was there. Some of those interpretations turned out to be fantastical, but others have been proven to be surprisingly accurate. ...</p> <p>Stonehenge was begun by late Stone Age people circa 3000 B.C. The first monument comprised the ditch and embankment within which stones and wooden enclosures were erected. One purpose of the original monument was the burial of cremated remains. In 2013, a team of archeologists excavated cremated bone fragments from more than 60 sets of human remains and carbon dating of those remains is how the approximate age of the monument can now be determined. While DNA could not be extracted from the fragments, in 2018 a group of scientists from Oxford University used new developments in strontium isotope analysis to learn something about the remains. Put simply, stones from different locations will have different isotopic composition and the ratio of isotopes found in calcium, such as bones, can be used to determine roughly where the person originated. The scientist, writing in the Journal of Scientific Reports, concluded that at least 10 of the 25 cremated individuals analyzed did not spend their lives on the Wessex chalk on which the monument is found. That is, many of the cremated remains were people not native to the area. Further, the scientist argue, combined with the archeological evidence suggest that their most plausible origin lies in West Whales. The connection to Whales is fascinating as we now know that many of the stones used to construct</p>	<p>‘historiography,’ The History of History, 2 Constructural Elements, pp. 197-198</p> <p>‘historiography in pragmatic ethics,’ Pragmatic Ethics, 3 Order, pp. 551-552</p> <p>Temporal Constructural Element, Symbolic Constructural Element and Ideological Constructural Element, 1 Constructural Elements, pp. 173-174, 176-178, and 179-180</p> <p>‘resettlement,’ Immoral History, 2 Disruption, p. 277</p>

Stonehenge, the smaller blue stones [foreign or not intrinsic stones, not a type of stone], originated from quarries in Southwest Wales and were quarried some 400 years before they were erected on the plains of Wiltshire. [the previous use of those stones for 400 years before being brought to Stonehenge is unknown]

[400 to 600 years after the burials in 3,000 B.C., the big Sarsen Stones, of local origin, were added] This period of development produced a monument much like what we see today, including astrological alignments to key solar events [about 2,500 B.C.], however, no sooner had this phase been completed when major changes started to occur across the British Isles. A new culture arrived, a culture that buried their notable dead with extensive grave goods, including cups for drinking mead. The unique shape of these cups gave rise to the name, Bell Beakers, and the culture was given the same name. Only recently has DNA evidence shown that the Bell Beaker people were actually the first Indo-Europeans to reach Britain, bringing not only new burial practices, but new languages and metallurgy. Over the next few centuries up to 90% of the population of Britain was replaced by the newcomers. Bell Beakers still contribute the most DNA to the modern British population as well as fair hair and skin complexion [showing picture of Queen Elizabeth II].

The process by which the Neolithic inhabitants were replaced is not well understood; there's little evidence of large-scale violence [evidence for example, like the Bronze Age Tollense River Battle in Germany] or intermarriage [like for example, the Neanderthal-Denisovan hybrid discovery], however it is clear that these new people adopted Stonehenge as their own and made further changes. A grand avenue from Avon River to Stonehenge was constructed, the Bell Beakers also started to fill the surrounding landscape with their distinctive tombs; from their placement it is clear that anybody who was anybody wanted to be buried within sight of the monument. Changes continued, around 2100 B.C. the Blue Stones were rearranged around the Sarsen Stones and finally around 1500 B.C. new pits were dug within the monument, but then left open to the elements [like when someone starts to build a new house and loses financing and there's just a big hole in the ground]. But burial around Stonehenge continued, evidence that people continued to actively use the monument well after construction ceased. But exactly how the monument was used, and how that use might have changed over time is still unknown as the story was essentially lost for several hundred years before it was picked up again by later people.

You may be surprised to find out that the earliest written description of Stonehenge may be from ancient Greece. The 4th Century B.C. historian Hecataeus of Abdera writes, 'And there is also on the island both a magnificent sacred precinct of Apollo and a notable temple which is adorned with many votive offerings and is spherical in shape.' While we can't be certain that this description describes Stonehenge, a description of a round monument dedicated to a god of the Sun seems rather obvious and raises the possibility that a thousand years after construction ceased, some memory of the original purpose of the site remained.

After the 1st Century A.D. Roman conquest, the people of southern Britain were known as the Romano-British, the Romano-British were aware of Stonehenge and other Neolithic sites in Britain and made regular visits to them. In fact, historian Ronald Hutton notes that more pottery from the Roman period has been found at Stonehenge than from all periods of prehistory. Moreover, votive offerings made at the nearby Neolithic pyra-

Battle at the River Tollense, 1 Reformation, p. 1396

'Neanderthal-Denisovan hybrid found,' Pan-Galactic Pornography, 5 Beginnings, pp. 53-54

Monument/ Enigma Building in GGDM:

'done for people 100 feet tall,' Enigma, 2 Patents, pp. 742-743

Cosmic Impracticality, 3 Entropy, pp. 248-249

'non-critical or low-return building, monumental architecture,' Joseph Tainter quote, EN 5, 2 Disruption, p. 279

King Arthur/ Merlin in GGDM:

Excalibur movie Feature Quote, 2 The Streams of Time, top p. 82

Kairoitic Hindsight and Blasphemy, 1 Kairoitic Moments, pp. 1416-1417, 1420-1421

'magic is emergent,' Emergent Narrative, 3 Constructural Elements, pp. 205-206

mid mound at Silbury Hill suggests that the Romano-British still used the site for religious veneration. Unfortunately, early excavators destroyed much of the context for the Roman remains, so it is difficult to draw any further conclusions about how they interpreted these sites.

The first medieval description and in fact the earliest known definitive written record of Stonehenge, was recorded by the British cleric, Geoffrey of Monmouth... Setting aside his claim that the stones were moved by Merlin, his accounts posit two important archeological theories. The first is that the site is a burial place, especially for warriors, and the second is that the stones were transported from Ireland. Today we know that the Blue Stones were transported from Pembrokeshire in Wales, however, archeologist Leslie Grinsell notes that it has for many years been known that this part of South Wales was settled by Irish peoples. Geoffrey therefore would have associated the Irish with this area. Grinsell therefore concludes, 'The evidence therefore suggests that in his account of the transport of the stones, Geoffrey was either quoting from a written reliable source not known to have survived, such as a piece of Welsh literature, or stating a strongly held tradition. If so, that represents some sort of stored knowledge that survived some 3500 years.' Whether or not Geoffrey recorded a tradition passed down over more than 3,000 years or made a lucky guess, it is remarkable that he was correct that the stones were transported from the West and whatever the source of his knowledge, Geoffrey provided the accepted history of the monument for the medieval period.

For the remainder of the 19th Century, the most important discoveries did not occur on site, but in the general advancement of the understanding of prehistory in Europe. Danish archeologist Christian Jürgensen Thomsen played a major role in the systematizing of prehistory. Prior to this, Stonehenge had been attributed to Celts and Druids primarily because no one had yet appreciated the time and people that came before the Celts. By the end of the century, an outline of Bronze Age and Neolithic timelines, and extensive cultural artifacts from across Europe allowed a reappraisal of Stonehenge; with this reappraisal came the understanding that Stonehenge predated even the Druids and could not have been built by them. As a result, modern Druids had to appeal to the European Court of Human Rights to force the UK government to allow them to practice their religion at Stonehenge.

If Hecataeus was indeed talking about Stonehenge, that leads us to two astounding conclusions. One is it some remnant memory about why the monument was built managed to survive as oral tradition for more than a thousand years and make its way all the way to ancient Greece. And two is that after more than 2000 more years of study of that history, there's so much that we don't know. Geoffrey of Monmouth is also just as intriguing, if you set aside fanciful things like the idea that the stones were moved by the magic of Merlin, the fact that he knew that it was used as a burial site and that the stones came from Wales was not something that had been confirmed by excavation. He says that he got that from local sources and that suggests that the local people living around Stonehenge had managed to remain just as part of tradition some truth about the monument for a period of more than 4,000 years. And it's very difficult to write off those insights as being merely a few lucky guesses." Lance Geiger (The History Guy), "Merlin's Stones: The History of the History of Stonehenge," The History Guy YouTube Channel, July 24, 2020.

'fight with Lancelot,' 6 Diplomacy, p. 1172

'Merlin as a fiction trope,' The Many Names of Merlin, 1 Information, p. 1331

Stage Illusions, 1 The Sidereal Stage, pp. 107-108

<p><i>GGDM Commentary: Did you immediately think of King Arthur and Merlin and Camelot? Geoffrey of Monmouth invented Merlin for his History, where he also introduced King Arthur (he later connected the two who were not originally connected). So compelling are King Arthur and Merlin to the Western world that they frequently appear in science fiction literature (the names and images are invoked in Babylon 5, Stargate SG-1...) and manifested themselves in a few places in GGDM too!</i></p> <p><i>Aside from the Merlin/Arthur appearances in GGDM, this discussion provides primary material for discovery of enigmas and monuments in GGDM games, and discovery of their history and use during the course of the game – if the players are interested and if it matters to the game story. For example, the superweapon monument built by the Ancients on planet Dakara in the Stargate SG-1 television series, upon which the Ancients’ colony site was later converted to a Jaffa Temple, and this Temple was the keystone to success of the eventual Jaffa Revolt. Such locations may be related to Symbolic and Ideological Constructural Elements; note for example the burials around Stonehenge.</i></p>	
<p>Goodall, Jane</p>	
<p><i>This goes to my argument about how climate change is a natural result of technological culture and may have been repeated thousands of times across the universe:</i></p> <p>“But you know something, I think if they [chimpanzees] developed an intellect along the lines of ours, they would probably do exactly the same [destroying the environment], and I feel that what we are doing to destroy the planet is because we can do it. We got ourselves into this situation where we can cut down a forest just like that [snaps fingers]. And what’s the result of it? Well, we basically brought a pandemic on ourselves and we basically brought about the climate crisis. We’ve done that, and it’s high time that we step back and say, ‘gosh, do we care about the future of our children?’ Do we care about the health of the planet? Because we are part of this natural world, not separated from it.” – Dr. Jane Goodall, The Trevor Noah Daily Show, September 29, 2020.</p> <p><i>GGDM Commentary: I almost fell out of my seat when I saw Dr. Goodall was on Trevor Noah’s show, I had to watch it, and that was a very effective way to get people to hear her words¹¹ Dr. Goodall seems to be linking the COVID Pandemic of 2020 to environmental damage and climate change; in EN 3, 3 Entropy, p. 250, I did mention that it had been found that coronavirus particles adhere to pollutants in the air. But that is the extent of it, and I have not heard anything else since then to suggest such a connection. However, it does make sense then in hindsight – if this idea was out there – why President Trump’s administration wanted to claim that COVID was produced in a Chinese biolab (along with their known generally racist agenda and blame deflection strategy).</i></p> <p><i>See also, ‘Gaia Hypothesis,’ Lynn Margulis and Charles Mann, this document, ‘biomass,’ Bruno Latore and Anton Petrov, this document. See also, Noblesse n’oblige plus and Oblige, 4 Movement, pp. 869-870.</i></p>	<p>‘heat sink,’ Day-world and The Air that I Choke, 3 Taxation & Census, pp. 318-319</p> <p>‘lost Adamic Eden,’ Loren Eiseley bottom Feature Quote, 4 Writs, p. 453</p> <p>Standing on the Tracks, 3 Entropy, pp. 244-245</p> <p>“Seeing Spirituality in Chimpanzees,” top and bottom Feature Quotes, 2 Kairotic Moments, pp. 1429, 1437</p>
<p>Gordon-Reed, Annette</p>	
<p><i>Slavery, pragmatic history, changing worldviews, political preoccupations:</i></p> <p>“That’s the thing that I talk to my students about quite a bit. What are the things today that people 100 years from now will look back and say, ‘can you imagine they did this’? Now, that doesn’t mean you excuse people; I think history is a moral enterprise. I mean that you can’t help at some level make judgments about the people about whom you are</p>	<p>Morality, Encomienda, and Pragmatic Ethics, 3 Order, pp. 548-552</p>

¹¹ Another doing a double-take occurrence of 2020 was when I saw Richard Dawkins appearing in a 2015 Nightwish concert video.

<p>writing. It's a question of balance, however, and remember that if you are talking about a human being, that we have our preoccupations, we're preoccupied, and I think rightly so, with slavery as an institution, with race as a problem, but Jefferson – those are not his categories, whether they should have been or not, that's not what he was preoccupied with. Jefferson, the single, the most important thing in his life was his participation as a revolutionary in the American Revolution and the creation of the United States of America. And once that happened, that became his focus and he thought that his life's mission would be to creating and maintaining that country.</p> <p>Now, this business about slavery, that would be something that would solve itself in time. Now, we know that's not true. We know that didn't happen. But if we're biographers, as we all are here, if you're looking at a person, you're trying to figure out what mattered to them and why did it matter to them? I mean, it's difficult to do anything in the world, that's one of the things that we've all learned to do anything, but to do lots of different things, and I am speaking of Jefferson now, it's pretty amazing, and I don't get a question of forgiving him for not solving the slavery problem. I think the slavery problem was solved the way it was going to be solved. And that is not something a person who put together a union could bear to think about.” – Annette Gordon-Reed (Harvard Law School), “How Could a Slaveholder Write ‘All Men Are Created Equal’?” <i>Amapour & Company</i>, June 26, 2020.</p> <p><i>GGDM Commentary: “History as a moral enterprise,” is pragmatic ethics, pragmatic history. Consider what we think now of burning people accused of witchcraft at the stake; pragmatic history is part of the story of the GGDM, part of any story really, in most stories, the characters learn something. “Political preoccupations” are GGDM Conflict Checks, see Starch & Parchment, et seq., 3 Government Titles, p. 613. What is the difference between historians and biographers? Once when I was young, I heard of history as the ‘biography of humanity.’ This is not too bad if you consider the player races in GGDM as ‘characters’ in a play (e.g., like the Type 4 Fundamental Realities).</i></p>	<p>Pragmatic GGDM, 6 Combat, p. 1032</p> <p>Writs and Rights, 1 Writs, p. 434</p> <p>Artifice, 2 Constructural Elements, p. 191</p> <p>Modernity discussions:</p> <p>Modernity, 3 Constructural Elements, p. 207</p> <p>Modernity Machines, 1 Technology, p. 696</p>
<p>Graham, Ruth</p>	
<p><i>Hope is fear of our own futility, failures of modern creationism, Symbolic Constructural Element:</i></p> <p>“But I know that they [Evangelical Christians] have a sort of more sophisticated view of Trump where they very clearly see his flaws and recognize those flaws, but still say, ‘he was our champion.’ So yes, in policy, but also sorta rhetorically harkening back to this kind of 1950s America that there is a lot of nostalgia for, and just saw him as someone – there were a lot of comparisons to Biblical characters, King David, King Cyrus [aka Cyrus the Great of Persia], men who were deeply flawed, but also kind of advanced the Kingdom of God. And that's the kind of language you see around Trump where it's not that he – people will say ‘I'm not voting for him to be my kid's Sunday school teacher, I am voting for him to be my champion in the public square.’ And they saw him very firmly in that role. You can see the shot here [October 2020 video playing] of Trump at one of these prophetic churches [Church of Las Vegas]; they saw him very clearly making overtures to them, taking them seriously, and that was something that really won people over.” – Ruth Graham (NYT) on CBSN with Vladimir Duthers and Anne-Marie Green, February 17, 2021 (on YouTube as “The rise of self-proclaimed Christian prophets”).</p> <ul style="list-style-type: none"> • Vladimir Duthers commented that Joe Biden could be someone's Sunday school teacher! 	<p>Symbolic Constructural Element, 1 Constructural Elements, pp. 176-178</p> <p>Hope in GGDM:</p> <p>‘hope is fear of our own futility,’ What is Hope Then?, 2 Diplomacy, pp. 1115-1116</p> <p>‘combat die rolls and hope,’ The Heroic & the Dis-mal, 3 Combat, pp. 979-980</p>

<p><i>GGDM Commentary: At about the center point of the interview, Ms. Graham nailed it; what she says here parallels exactly a comment that I heard on the news from an Evangelical pastor in 2016 that 'Trump is God's imperfect instrument.' Evangelicals tied themselves in pretzels to give Trump a pass on all of his misdeeds and flaws so that they could support him. Why? Ms. Ruth answered that question here: Trump was someone who was taking them seriously, even if he did hold the Bible upside-down at a photo-op and probably has never read and contemplated a word of it! Creationist think they are in a culture war, but one of cosmic moral significance rather than secular significance, and since about the 1960s no one has taken them seriously, they have been marginalized, they have marginalized themselves equally, and the worst thing in the world (for just about anyone but especially religious adherents and culture warriors) is not to be taken seriously, to be dismissed to the children's table! Their hopes placed in Donald J. Trump were the fear (and realization) of their own futility, so they tossed in the whole pot and made Trump their symbol for better or worse.</i></p> <ul style="list-style-type: none"> I would further point in this regard to the central role in Christianity of the ridicule and public abuse that was heaped on Jesus as he carried the cross to his execution, and the parallel story in the birth of Islam of the ridicule, persecution, and exile of Muhammad by his own tribe and the Meccans. Not being taken seriously/futility is the one thing in the world that creationist and religious/spiritual adherents cannot tolerate. <p><i>Now, there are always groups in the spectrum of civilization that are agitating and not taken seriously, or agitating because they are not being taken seriously (think of a washing machine maybe...). This issue was touched upon in Ambient Noise, 2 Order, p. 532. A lot of it depends on circumstances, but it's a process that drives the pragmatic story.</i></p>	<p>Failure of Creationism:</p> <p>Dating Man, Omega Point, Boorish Behavior, 5 Beginnings, pp. 57-59</p> <p>Tyranny in the Nursery, 3 Colleges, pp. 491-493</p> <p>Backdoor Evolution, 3 Technology, pp. 723-724</p>
<p><i>Sociology of prophecy, charismatic religion, echo chamber, emergent narrative:</i></p> <p>“The desire to divine the future is a venerable one, fueling faith in figures from ancient Greek oracles to modern astrologists. Christianity in particular is a religion whose foundational text is filled with prophecies proven true by the end of the book. Whether the gift of prophecy continues into the present day has long been a subject of intense theological debate. But in recent years, self-described prophets have proliferated across the country accelerating in stature over the course of the Trump era. They are stars within what is now one of the fastest-growing corners of Christianity: a loose but fervent movement led by hundreds of people who believe they can channel supernatural powers – and have special spiritual insights into world events.</p> <p>Many are independent evangelists who do not lead churches or other institutions. They operate primarily online and through appearances at conferences or as guest speakers in churches, making money through book sales, donations and speaking fees. And they are part of the rising appeal of conspiracy theories in Christian settings, echoed by the popularity of QAnon among many evangelicals and a resistance to mainstream sources of information. ... Many prophets caution followers against trusting what they read in the news, but in its place they offer a kind of alternative news cycle, refracting and interpreting events in the real world through a supernatural lens. ...</p> <p>But the popularity of self-appointed prophets shows no signs of waning.</p> <p>As denominational Christianity declines almost across the board, magnetic independent leaders have stepped into the void. ... The result is that many congregations are awash in misinformation. Almost half of Protestant pastors frequently hear members of their con-</p>	<p>Emergent Narrative, 3 Constructural Elements, pp. 205-206</p> <p>‘sacred in GGDM,’ Hallowed Round and The Core of Christianity 1 Kairotic Moments, pp. 1415, 1423</p> <p>‘the psychic mafia,’ and ‘the bamboozle,’ M. Lamar Keene and Allen Spraggett and Carl Sagan bottom Feature Quotes, 1 Diplomacy, p. 1107</p>

gregations repeating conspiracy theories about current events, according to a survey released last month by Lifeway Research.... Prophecy is a facet of the fast-growing charismatic Christian movement, which has an estimated half-billion followers worldwide and is characterized in part by the belief in that the ‘gifts of the spirit,’ which also include speaking in tongues and supernatural healing, continue into the present day, rather than being an artifact of biblical times.

Mr. Trump supercharged the public profile of this already ascendant stream of Christian culture. His evangelical advisory council included unprecedented numbers of charismatic leaders, including his primary faith advisor, Paula White, a charismatic pastor and televangelist. A few weeks before the 2020 election, he attended services for the third time at a ‘healing, prophetic’ megachurch in Las Vegas, where speakers shared predictions and visions about his second term, to applause from Mr. Trump and the congregation.

Christian prophets are meeting a hunger for reassurance and clarity that can be observed in other corners of American culture. Astrology is exploding in popularity. More than 40 percent of Americans believe in psychics, according to Pew.

Prophecy, similarly, is not only a predictive tool, but an analytical lens for making sense of the past and current events. The most successful prophets connect seemingly disparate pieces of data in a grand narrative, adding new layers of interpretation as events unfold and inviting others to contribute.” – Ruth Graham, “Christian Prophets are on the Rise. What Happens When They’re Wrong?” The New York Times, February 11, 2021.

GGDM Commentary: If in fact anyone was a prophet, that makes them a tool. And being called a ‘tool’ in English is not a complement. But that goes right to the point of faith then, right? To be God’s volitional tool.

The debate she described above about the relationship of miracles and Biblical times is apparently being played out also in the Orthodox Church as well, who have apparently decided that Saints are not limited to and did not disappear from the world in the centuries just after Jesus: As noted in White Rose, 1 Constructural Elements, p. 178, Alexander Schmorell, one of the members of the White Rose group who was executed by the Nazis in 1942 has been canonized as St. Alexander of Munich. And continuation of Biblical miracles has always been a sign of Sainthood.

- “The most successful prophets connect seemingly disparate pieces of data in a grand narrative, adding new layers of interpretation as events unfold and inviting others to contribute.” Prophecy is then much like emergent narrative in video gaming or even sort of like, counter-intelligence and criminal investigation. It’s a tool of sapience, and it just depends on the discipline with which it is used, see ‘projection’ and ‘detective’ discussion, Enemy Mine, 1 Combat, pp. 938-939.

‘QAnon and evangelical Christianity,’ see also, Elizabeth Dwoskin quote, [this document](#)

The Urantia Book:

2 Dreamtime, p. 154

Lost in Ludibriums, 2 Kairotic Moments, pp. 1436-1437

Prophecy Discussions:

Prophecy Ark and Cattle Killing Movement, 2 Wheel in the Sky, pp. 1485, 1488

‘Herod the Great,’ and ‘Mormon White Horse Prophecy,’ Sovereignty & Legitimacy and EN 5, 3 Government Titles, pp. 610, 622

Greenwald, Glenn

Systemic inefficiency:

“Here in Brazil where I live, there is a comparable size of voting population even though the population is somewhat smaller than the U.S, due to the fact that there is query voting and automatic voter registration at age 16. And what happens here is that people go to the polls even for national elections, in the morning, the polls close at six o’clock, it’s held on Sunday so no one has to have work conflicts or very few people, and by eight o’clock or nine o’clock that evening, all of the votes are fully counted. And it’s not as though Brazil is renowned globally for being a mastermind of organizational efficiency –

‘utopia,’ Entropy is Not Constant and The Devil’s Argument, 1 Entropy, pp. 214-215, 216

<p>quite the contrary – and yet they manage to count all of their votes. A much richer country like the United States has systems in place that seemingly by design, ensure that there’s this constant confusion; it takes weeks to count votes, and I think that within that confusion and uncertainty and those constant imperfections, lie the ability to manipulate the process one way or the other and I think that’s why there is so much valid mistrust...” – Glenn Greenwald on Rising with Krystal & Saager, The Hill YouTube Channel, December 14, 2020.</p> <p><i>GGDM Commentary: From the view of GGDM civilizations, the participants need to decide whether advanced technology and the complexity of interstellar civilization means that civilizations have overcome systemic inefficiency – in short, how close to utopia are they? Would transhuman or post-human, or even post-technological singularity civilization still have systemic inefficiencies? That’s the question. For design purposes, GGDM must assume the answer is ‘no,’ not only because it has never happened that way on Earth, there is no utopia, but also because systemic inefficiencies make stories and pragmatic history and News Events, Concierge Interventions, and an interesting game.</i></p> <ul style="list-style-type: none"> • Systemic inefficiency is Windows 10 search that makes me go through 80 documents to find what I know I wrote, even when I enter the exact words I wrote! Systemic inefficiency is when the document with the most hits for the search term I entered is not the top document, but is fifth, sixth, tenth document down the list. Windows search in previous versions was better, Microsoft has deliberately made their search function inefficient by searching for each word entered individually instead of strings in sentences and paragraphs. 	<p>‘mistrust,’ Bridge Repair, 5 Culture, p. 424</p> <p>Systemic Inefficiency:</p> <p>Inherent Failure, 2 Disruption, p. 268</p> <p>How the Cold War Ended Cold, 4 Commerce, pp. 1236-1238</p> <p>Pragmatic History:</p> <p>Pragmatic Ethics, 3 Order, pp. 551-552</p> <p>Pragmatic GGDM, 6 Combat, p. 1032</p>
<p>Griffin, Andrew</p>	
<p><i>Ontic Description vs. Ontology, sacrificium intellectus vs. science, fame/infamy:</i></p> <p>“Some of the scientists interviewed as part of the exercise were religious, and so might be expected to take against Dawkins’ often vociferous opposition to religion. But even scientists who didn’t believe in religion at all said that Dawkins work tended to overestimate the borders of what science can and should examine. ‘Scientists differ in their view of where such borders rest,’ said David Johnson, an assistant professor at the University of Nevada in Reno and the paper’s lead author. ‘And they may even view belief in a deity as irrational, but they do not view questions related to the existence of deities or ‘the sacred’ as within the scope of science.’” – Andrew Griffin, “British scientists don’t like Richard Dawkins, finds study that didn’t even ask questions about Richard Dawkins,” The Independent, October 31, 2016.</p> <p><i>GGDM Commentary: It’s either really good or really bad when your name comes up when no one even asked about you (sort of like Jesus – uh oh!). It’s a kind of fame, the sort of celebrity status discussed by Chris Cillizza in three quotes in 3 Dreamtime, pp. 168-169. It’s a sort of power that some people crave. But this quote hints at the fact that Dawkins is the ‘elephant in the room’ at least in British science, or more likely, that Dawkins represents the ‘elephant in the room’ in science, namely religion (‘elephant in the room’ is not the same as ‘white elephant’ – but the two are commonly confused and conflated in conversation and that <u>would</u> be really funny here!).</i></p>	<p>‘ontic description vs. ontology,’ Michael Robbins Feature Quote, 2 Reformation, bottom p. 1393</p> <p>‘sacrificium intellectus vs. science,’ Hans Albert quote, 3 Kairotic Moments, p. 1449</p>
<p>Groom, Toby and/or Charles Nove (Epic History TV YouTube Channel)</p>	
<p><i>Naval Power, Minor Races, loss of starships, interstellar power:</i></p>	<p>‘starships are the sailing ships of sci-fi,’ Breezes of</p>

<p>“Britain, master of the sea, Napoleon, unbeatable on land. The whale and the elephant, neither able to challenge the other in its own domain.” – Narrator, “Napoleon’s Masterpiece: Austerlitz 1805,” Epic History TV YouTube Channel, June 28, 2018 (the narration voice is possibly that of Charles Nove, Toby Groom is founder). (<i>Toby name identified on Patreon page</i>)</p> <p><i>GGDM Commentary: Yeah but we know who won. England was, through sea power and Napoleon’s overextension, able to invade with land armies in Portugal, eventually reaching France. France could not invade England. Starships are the ‘sailing ships’ of science fiction which usually imitates the age of European exploration and colonization. This situation could very easily repeat in GGDM games, ground units and defense bases do no good if you need to invade enemy territory but have insufficient naval power to clear the way. Of course, if none of the participants want GGDM to be a wargame (the Spinrad faction), then this is irrelevant, but don’t count on it.</i></p> <p>See also, ‘Spinrad faction,’ <i>The Fuzzy Game Engine</i>, 2 <i>The Big Bang</i>, p.5.</p>	<p>the Heavens, 1 Stardrive, pp. 779-780</p> <p>‘losing all starships,’ War of the Worlds, 4 Diplomacy, pp. 1144-1145</p> <p>Naval Power and Naval Superiority, 1 Commerce, pp. 1182-1183</p>
<p>Gould, Stephen Jay</p>	
<p>Accepting and playing Fundamental Realities in GGDM, humans need meaning, base 10 counting system, pragmatic history, sapience connecting disparate data & forcing structure and meaning:</p> <p>“The human mind delights in finding pattern – so much so that we often mistake coincidence or forced analogy for profound meaning. No other habit of thought lies so deeply within the soul of a small creature trying to make sense of a complex world not constructed for it... No other error of reason stands so doggedly in the way of any forthright attempt to understand some of the world’s most essential aspects – the tortuous paths of history, the unpredictability of complex systems, and the lack of causal connection among events superficially similar.</p> <p>Numerical coincidence is a common path to intellectual perdition in our quest for meaning. We delight in catalogs of disparate items united by the same number, and often feel in our gut that some unity must underlie it all. Our ancestors pondered the mystique of seven – the number of planets (sun, moon, and five visible planets, all circling the Earth in Ptolemy’s system), the deadly sins, the seals of the Revelations. Five has also been favored, not only for fingers and toes, but for acts of a proper play according to Horace, the smooth stones that David selected to slay Goliath, the few loaves that Christ used to feed the multitude, the number of Ms. Bixby’s sons (all of whom, apparently, did not die gloriously on the field of battle, Mr. Lincoln notwithstanding)....</p> <p>In this essay, I shall discuss two taxonomic systems (theories for the classification of organisms) popular in the decades just before Darwin published the Origin of Species. Both assumed reasons other than evolution for the ordering of organisms; both proposed a scheme based on the number five for placing organisms into a hierarchy of groups and subgroups. Both argued that such a simple numerical regularity must record an intrinsic pattern in nature, not a false order imposed by human hope upon a more complex reality. I shall describe these systems and then discuss how evolutionary theory undermined their rationale and permanently changed the science of taxonomy by making such simple numerical schemes inconsistent with the new view of nature. This important change in scientific thought embodies a general message about the character of history and the kinds of order that a world built by history, and not by a preordained plan, can (and cannot) express. ...</p>	<p>Fundamental Realities, <i>et. seq.</i>, 3 Beginnings, pp. 37-38</p> <p>‘Axiom of Human Meaning,’ Humans Need Meaning, 1 Beginnings, pp. 23-24</p> <p>Pragmatic Humility toward past views:</p> <p>‘proper humility, pragmatic history,’ Richard Rhodes quote, 3 Order, p. 551</p> <p>‘astronomy vs. astrology,’ Sapience, 2 Expansion, pp. 897-898</p> <p>‘primitive magic and religion,’ Loren Eiseley Feature Quote about Sir James Frazer, 3 Information, bottom p. 1360</p>

The excitement of new theories lies in their power to change contexts, to render irrelevant what once seemed sensible. If we laugh at the past because we judge it anachronistically in the light of present theories, how can we understand these changes in context? And how can we retain proper humility toward our own favored theories and the probability of their own future lapse into insignificance? Honest intellectual passions always merit respect.

Evolutionary theory was the greatest context changer in the history of biology. Theodosius Dobzhansky wrote in a famous statement that nothing in biology makes sense except in the light of evolution. But [Lorenz] Oken's world made sense under a different set of beliefs about how nature worked. Dobzhansky meant, of course, that once we recognize evolution as the basis of organic history, all biology must be reformulated. But if we wish to understand why evolution was such a watershed in the history of ideas, we must comprehend the contexts that it replaced, not view them as imperfect harbingers of evolution. They were different, subtle, brilliant (and wrong), not stupid. We must study such theories as Oken's classification by fives, and we must learn why evolution destroyed their rationale if we wish to grasp the sweep and power of evolution itself. ...

Cf. "intellectual brilliance is no guarantee against being dead wrong" – Carl Sagan, *Cosmos*, Episode 1.

Darwin destroyed the rule of five forever because he removed its rationale by reconstructing nature. His agent of destruction was not evolution itself. I can imagine evolutionary theories (indeed some have been proposed) so committed to the foreordination by simple laws or directing intelligences that numerical order might still emerge from rigidly predictable process. Darwin's exterminating angel was, simply, history. Evolution does not unroll according to simple laws specifying necessary results. It follows the vagaries of history. Its pathways are twisted and churned by changing environments, from minor shifts in temperature and precipitation to the rise of mountain chains, the growth of glaciers, the drift of continents, and even (probably) the impact of comets or asteroids. Evolution cannot achieve engineering perfection because it must work with inherited parts available from previous histories in different contexts: the panda's 'thumb' is a clumsy, detached wrist bone, pressed into service because the true first digit became committed to other functions; we suffer the pain of aching backs and the annoyance of hernias because large four-footed creatures of our lineage were not really made to walk on their toes – four legs good, two legs not so good. [appreciate this snide ode to George Orwell's *Animal Farm*, "four legs good, two legs bad!"] – Stephen Jay Gould, *The Flamingo's Smile* (1985), Ch. 13, pp. 199-211 (Ch. 13 "The Rule of Five" is found on Google Books for free).

GGDM Commentary: Guilty as Charged! This provides another Thomas Kuhn-like angle on the hostile reaction against Charles Darwin's book, he was destroying the massive cloud castles of Lorenz Oken and William Swainson (which Gould discussed in detail and at length in the parts of Chapter 13 omitted from this quote).

"Evolution cannot achieve engineering perfection because it must work with inherited parts available from previous histories in different contexts." – this is true also in

Sapience Finding Patterns:

'projection' and 'detective' discussion, *Enemy Mine*, 1 *Combat*, pp. 938-939

'building immense castles on conjecture,' Edward Emerson Barnard bottom Feature Quote, 2 *Beginnings*, p. 36

'Wizard of Oz and Dark Side of the Moon synchronicity,' 1 *Temporal Technology*, p. 809


'seemingly disparate pieces of data in a grand narrative,' see also, Ruth Graham quote, [this document](#)

Base-10 Counting Systems:

'a priori shortcut and Roman Numerals discussion,' *Empirically Provable and EN 9*, 1 *Beginnings*, pp. 27-28, 33

'tally and place notation systems,' *Roman Numerals Again*, 3 *Technology*, pp. 713-714

'fingers and toes,' *The Conversation*, 3 *Diplomacy*, p. 1132

<p><i>GGDM (and in real civilization too!) where Fundamental Realities are the inherited history of the game civilizations. Players must accept and 'faithfully' play the Fundamental Realities as they are and accept, in the game, imperfect civilizations.</i></p> <ul style="list-style-type: none"> In light of the foregoing, I note the following: “In 1969, life on earth was classified into five kingdoms, as introduced by Robert Whittaker. [Lynn] Margulis became the most important supporter, as well as critic – while supporting parts, she was the first to recognize the limitations of Whittaker’s classification of microbes. But later discoveries of new organisms, such as archaea, and emergence of molecular taxonomy challenged the concept. By the mid-2000s, most scientists began to agree that there are more than five kingdoms. Margulis became the most important defender of the five kingdom classification. She rejected the three-domain system introduced by Carl Woese in 1990, which gained wide acceptance. She introduced a modified classification by which all life forms, including the newly discovered, could be integrated into the classical five kingdoms. ... Her concept is given in detail in her book Five Kingdoms, written with Karlene V. Schwartz. It has been suggested that it is mainly because of Margulis that the five-kingdom system survives.” – from Wikipedia article, “Lynn Margulis,” captured April 4, 2021. 	<p>Accepting and Playing Fundamental Realities:</p> <p>‘voluntarily accept, agree to play Fundamental Realities,’ Through Rose Colored Shades, Type 1, Type 3, Type 5, 3 Beginnings, pp. 41-43</p> <p>Punch in the Nose, 2 Entropy, p. 236</p>
<p>2013 film Gravity, Anthropic Principle:</p> <p>“We are here because one odd group of fishes had a peculiar fin anatomy that could transform into legs for terrestrial creatures; because the earth never froze entirely during an ice age; because a small and tenuous species, arising in Africa a quarter of a million years ago, has managed, so far, to survive by hook and by crook. We may yearn for a ‘higher’ answer – but none exists.” – Stephen Jay Gould [though this quote is unsourced, I have no reason to think it isn’t his words].</p> <p>✓ Cf. “Occasionally someone remarks on what a lucky coincidence it is that the Earth is perfectly suitable for life – moderate temperature, liquid water, oxygen atmosphere, and so on. But this is, at least in part, a confusion of cause and effect. We earthlings are supremely well adapted to the environment of the Earth because we grew up here. Those earliest forms of life that were not well adapted died. We are descended from the organisms that did well. Organisms that evolve on a quite different world will doubtless sing its praises too...” – Carl Sagan, Cosmos, Episode 2.</p> <p><i>GGDM Commentary: The final scene in the movie Gravity reminded me of an amphibian crawling up out of the water – many others got that impression too and I think that was the intent of the filmmaker. And did you notice the various religious figurines as she went from spacecraft to spacecraft during the movie? Buddha, Jesus, Confucius.</i></p>	
<p>Afterlife, Clarence Darrow, heaven is subjective:</p> <p>“If you absolutely forced me to bet on the existence of a conventional anthropomorphic deity, of course I’d bet no. But basically [Thomas] Huxley was right when he said that agnosticism is the only honorable position because we really cannot know. And that’s right. I’d be real surprised if there turned out to be a conventional God. I remember a story about Clarence Darrow, who was quite atheistic. Somebody asked him: ‘Suppose you die and your soul goes up there and it turns out the conventional story is true after all?’ Darrow’s answer was beautiful, and I love the way he pictured it with the 12 apostles in the jury box and with his reputation for giving long speeches (he spoke two straight days to save Leopold and Loeb). He said that for once in his life he wasn’t going</p>	<p>‘angels, Jimmy Hendrix and the harp,’ EN 13, 1 Constructural Elements, p. 186</p> <p>‘what is heaven to a cat?’ Heavens</p>

<p>to make a long speech. He was just going to walk up to them, bow low to the judge’s bench, and say, ‘Gentlemen, I was wrong.’” – Stephen Jay Gould interview by Michael Shermer, “An Urchin in a Haystack,” <i>Skeptic</i>, Vol. 4, No. 1, 1996, pp. 86-90 (available for free, full interview found at http://www.theeway.com/skepticc/04.1.sherm-gould-iv.html).</p> <p><i>GGDM Commentary: I guess I’d have to ask after this, in the cat’s version of heaven, does the ‘human caretaker’ have a cat’s face and ears? I’ve always wanted to purr for my cats.</i></p> <p><i>Clarence Darrow’s answer reflects and represents what Julia Galef called the ‘scout mindset’ approach, see Julia Galef TEDx speech, this document. The ‘scout mindset’ is necessary for players to take a ‘godview’ of the game apart from player disputes.</i></p> <p><i>See also, Afterlife as a function of Human Time: ‘two models of birth and death,’ <i>Point of No Return, 4 Fallen to Earth</i>, pp. 1564-1566, ‘fundamental problem of Abrahamic religion,’ <i>Sapience, 1 Beginnings</i>, pp. 28-29, ‘Hayflick limit is the reason for afterlife,’ <i>Senescence, 4 Taxation & Census</i>, p. 328, ‘leaping the barrier of our own mortality,’ <i>The Insistence of Memory, 3 Temporal Technology</i>, pp. 830-832.</i></p>	<p>Apart, 1 Reformation, pp. 1378-1379</p> <p>Clarence Darrow:</p> <p>‘Clarence Darrow on retirement from law practice,’ EN 1, 2 Government Titles, p. 602,</p> <p>Sweet Trial – Closing Arguments excerpts, The Next Season.</p>
<p>GrrlScientist (pen name)</p>	
<p><i>Mass Extinction Events, human concern for extinction of other species, minimum viable population:</i></p> <p>“As extinctions go, the extinction of the passenger pigeon is truly a stupendous human achievement, unparalleled in recorded history: thanks to our penchant for relentless killing combined with large-scale habitat destruction, these iconic birds’ population crashed from billions to zero in just fifty years. But how could these birds decline so rapidly? Surely, people did not murder every last one of them, did they? Shouldn’t mind-bogglingly huge and wide-spread populations protect a species from extinction? Why didn’t some pigeons survive in remote areas?</p> <p style="text-align: center;">***</p> <p>In retrospect, it’s obvious that the passenger pigeon could not tolerate much hunting -- and certainly not the sort of intense, consistent massacre that they were subjected to by European immigrants and colonists. ‘Our mass murder of them over the course of decades was just too fast for evolution to keep up,’ Professor Shapiro said.</p> <p>‘Our study shows that passenger pigeons were strikingly well adapted to living in large populations,’ Professor Shapiro elaborated in email. “In large populations, natural selection is highly efficient. This suggests that if the environment had changed slowly (as it may have after the end of the last ice age) they would be able to adapt to these changes (as they did at the end of the last ice age).’</p> <p>However, in the 1800s, the passenger pigeon environment changed suddenly due to hunting. ‘We killed millions of passenger pigeons over the course of only a few passenger pigeon generations,’ Professor Shapiro said in email. ‘There was no time at all for passenger pigeons to adapt to this new environment. They did not die because they had very little diversity ... but because they suddenly found themselves living in an environment that was very different from the one to which they were adapted, still being overexploited by a highly skilled predator, and now lacking an efficient means to evolve in response to this environmental change.’</p>	<p>‘human concern for mass extinction,’ David Benatar Feature Quote, 3 Diplomacy, p. 1134</p> <p>‘minimum colony size,’ Iowa State University Feature Quote and Minimum Viable Population and Inbred Populations, 4 Taxation & Census, pp. 429-431</p> <p>‘preventing extinction,’ Seeding Space, 1 Expansion, p. 877</p> <p>‘assumptions for general colonies,’ Specialized Colonies, 4 Expansion, pp. 925-926</p> <p>‘how horror films work,’ Death of a Young Groundhog, 4 Fallen to</p>

<p>Can we learn any practical lessons from this tragic extinction event? Neither this study nor the 2014 study, provide any genetic insights into the mystery of how the passenger pigeon went extinct so quickly. For example, none of the research published so far has figured out how to predict how many passenger pigeons could be killed before the entire population would collapse into nothingness, forever. When was that line crossed?</p> <p>Conservation is tricky work. Generally, conservation biologists assume that a large population corresponds to a high genetic diversity, and this, presumably, acts as a buffer against extinction. But the passenger pigeon serves as a powerful cautionary example that this assumption is not necessarily true....</p> <p>The passenger pigeon probably was unable to survive in small relict populations. Their vast numbers were probably one of their most effective survival strategies: no predator could possibly kill them all. This strategy is seen in some insects and other animals, and even in some vertebrate species. For example, the Atlantic cod, <i>Gadus morhua</i>, suffered a remarkably similar fate to that of the passenger pigeon. Historically, these fish lived in extremely large populations along Newfoundland’s Grand Banks until the 1990s, when its numbers crashed due to exuberant overfishing. Although all fishing of the Grand Banks population of the North Atlantic cod stopped more than 15 years ago, that fishery is still decreasing and is predicted to go extinct within 20 years....</p> <p>Genetics is only part of the story. Based on historic reports, we are fairly certain that passenger pigeons were behaviorally adapted to living in large communities....</p> <p>Professor Shapiro and her colleagues’ data suggest that the passenger pigeon lacked the genetic resources necessary to adapt their physiology and behavior quickly enough to living in small communities, and that stemmed, at least partially, from a reduction in the genetic diversity that was necessary to make that happen. This resulted from a pattern of widespread, systemic abuse by people.”– GrrlScientist (pen name, science writer, senior contributor), “Why did the passenger pigeon go extinct?” Forbes.com, November 24, 2017.</p> <p><i>GGDM Commentary: Most serious alien invasion movies picture the same thing happening to humans as happened to the passenger pigeon. Perhaps they are part of our guilt, a sort of just deserts – I am reminded of this criticism of the 2009 movie Knowing by Philip French: “On the other hand, Darwinists will be gratified to see Gaia and her stellar opposite numbers sock it to an unconcerned mankind.” As I argued in GGDM, alien invasion movies make us feel better about ourselves, because that’s what we would do and that makes aliens just like us, so we aren’t so bad or so alone in our badness.</i></p> <p><i>The passenger pigeon extinction also segues to the minimum viable population discussion in 4 Taxation & Census about the smallest genetically viable population for a human colony or settlement – this is separate from discussion of the minimum viable distribution of skills, training, genders and ages, and social classes for a colony – unless it is a specialized colony, GGDM <u>assumes</u> that those are present in sufficient numbers in any general colony (also consider that expertise may be available in companion artificial intelligence, but AI can’t help with the viable genetic distribution issue!).</i></p>	<p>Earth, pp. 1551-1552</p> <p><i>See also, Sixth Mass Extinction Event excerpt, Taxation & Census.</i></p> <p>Alien Invasion Movies:</p> <p>‘aliens invasion movies make aliens just like us,’ Earth Landing, 2 Government Titles, pp. 593-594</p> <p>‘why Minor Races lose,’ War of the Worlds, 4 Diplomacy, pp. 1144-1145</p> <p>To Serve Man, 1 Diplomacy, pp. 1092-1093</p> <p>‘Minor Race inability to resist initial landings,’ Dropping In, 4 Combat, pp. 991-992</p>
<p>Hallpike, C.R.</p>	
<p>Silly Space Game discussions, Homo Abnegus:</p> <p>“Summing up the book as a whole, one has often had to point out how surprisingly little he seems to have read on quite a number of essential topics. It would be fair to say that whenever his facts are broadly correct they are not new, and whenever he tries to strike</p>	<p>Frame It, 1 Order, pp. 526-527</p>

<p>out on his own he often gets things wrong, sometimes seriously. So we should not judge Sapiens as a serious contribution to knowledge but as ‘infotainment,’ a publishing event that will titillate its readers by a wild intellectual ride across the landscape of history, dotted with sensational displays of speculation, and ending with blood-curdling predictions about human destiny. By these criteria it is a most successful book.” – C.R. Hallpike, “A Response to Yuval Harari’s ‘Sapiens: A Brief History of Humankind,’” New English Review, December 2017.</p> <p><i>GGDM Commentary: Some will find me guilty as charged. It’s just another silly space game, don’t worry about it.</i></p> <p>See also, Silly Space Game: Silly Space Game Fallacy, 2 <i>Fallen to Earth</i>, p. 1519, <i>Another Silly Space Game</i>, 3 <i>Colleges</i>, p. 499, <i>Fallacy of Pretentiousness</i>, 3 <i>Fallen to Earth</i>, p. 1546.</p>	<p>The Looking Laws, 2 Expansion, pp. 890-891</p> <p>‘academic light-weight,’ Alliterate, 1 <i>Fallen to Earth</i>, pp. 1501-1502</p>
<p>Harris, Kamala</p>	
<p>“... that was passed to me by someone who was so profoundly passionate about a gift, which is the gift that scientist give to us, in that their whole reason for being is to see what can be unburdened by what has been. Their whole reason for being is to pursue what is possible for the sake of improving human life and conditions. It is such a noble pursuit.” – Vice President Kamala Harris, speech at NIH after 2nd COVID Vaccination, January 26, 2021.</p> <p><i>GGDM Commentary: This is a wonderful rhetorical description of science and the keynote of a speech delivered without papers or teleprompter. I only take issue with the characterization that science is either burdened by history or can be pursued unburdened of history; Oppenheimer and the other atomic-bomb scientists, shell shocked by what they had let out of the bottle, would I think, agree. And certainly, many felt in my Cold War youth that science had not improved the world but instead gave us the means to make ourselves extinct. Ms. Harris is my age and grew up in that same world, so does she authentically have that different view, or was she saying what was necessary?</i></p>	
<p>Hayes, Chris</p>	
<p><i>Legitimacy & cheating, Civil War, Insurgency, Revolution, this is literally the opposite of 18 Brumire:</i></p> <p>“If you live in a country where the state apparatus can successfully overturn an election to keep the ruling regime in power even when it loses, you do not live in a democracy, you live in a dictatorship. And should the Supreme Court have declared the U.S. a dictatorship [pause, slight head shake] what if this had worked? How do you think the American citizenry would react? ... How should the American people react to the state government invalidating the people’s choice? How do you think they would react? What would have happened in this country if this lawsuit had won? I think it is pretty clear that if this lawsuit had won ... it would have represented the worst crisis in this country since Succession. I don’t think that’s an overstatement. It’s not just me, this is part of an impassioned plea that Democratic Senator Chris Murphy made today; think about the fact that these words needed to be spoken today on the floor of the United States Senate.” – Chris Hayes, All In with Chris Hayes, MSNBC, December 11, 2020.</p> <p><i>GGDM Commentary: Legitimacy, what else can be said? Power may grow from the barrel of a gun, but legitimacy does not grow from the perception of cheating. That is really the central, unsolvable conundrum of dictatorship. And that is precisely what</i></p>	<p>Tale of Two Revolutions, 3 Government Titles, pp. 606-607</p> <p>Civil Wars, 2 Disruption, pp. 267-268</p> <p>‘Friendly Colony revolt,’ Asymmetric Conflict, 2 Order, p. 542</p> <p>‘cheating in GGDM,’ Eric Michael Johnson Feature Quote and Losing My Religion, <i>et seq.</i>,</p>

<p><i>overturning the 2020 election results would look like, it would be cheating to win. No society or group ever on Earth has long legitimized cheaters without adverse effects.</i></p> <p><i>See also the concept of “simony,” which was an accusation in the excellent, absorbing 2006 movie The Conclave which is mentioned very briefly twice in GGDM’s text.</i></p>	<p>1 The Sidereal Stage, pp. 111-113</p>
<p>Hammack, Bill (The Engineerguy on YouTube)</p>	
<p><i>Reverse Engineering, materials science, cyber-sabotage of Iranian centrifuges, preventing proliferation of nuclear weapons (Soviet collapse, terrorist):</i></p> <p>“I have here a scale model of the first atomic bomb ever used. This bomb, which destroyed Hiroshima, contains about 60 kg of Uranium-235 of which only about 600 g underwent fission. Enough though to generate an explosion equal to more than thirteen kilotons of TNT. ... Now, the exact details of this bomb remain classified, because they could still be used. Although this design involved some brilliant innovation by engineers in the 20th Century, the really difficult part is preparing the uranium. This lies at the heart of all efforts to stop the spread of nuclear weapons. The key problem? Separating two nearly identical variants of the element uranium. Natural uranium occurs as a metal ore and it contains primarily two isotopes. Most uranium is U-238. U-235 however, can easily sustain a chain reaction that releases tremendous energy, whereas the more common U-238 will not. ... So how do we go about enriching the U-235 in natural uranium? When we separate two items we make use of their differences. The two major uranium isotopes have identical magnetic and chemical properties. No magnet will tug on one more than the other, solvent will wash away only one isotope and neither will boil before the other.</p> <p>So to separate them, engineers exploit the one small difference between them: U-235 weighs slightly less than U-238. Less than a two percent difference, just enough to make separation possible, but it’s not easy. That tiny weight difference means that the two isotopes will move at slightly different speeds when exposed to an equal force. To enrich uranium for the first atomic bomb, engineers built immense gaseous diffusion plants that capitalized on the differing speeds. A gas-containing uranium flows through miles of pipe in a race where the lighter U-235 wins out. ... To enrich 3% U-235 to 90% takes nearly 4,000 stages. Enriching uranium for the first atomic bomb required a diffusion plant that covered over 40 acres. ... These diffusion plants used great amounts of energy to run....</p> <p>Another method of separation exploits the small mass difference by using a centrifuge. ... The enriched stream can be removed from the centrifuge and sent to another centrifuge to be separated even more. ... In an actual centrifuge, the amount of enrichment is a fraction of a percent so a typical plant might have 60,000 centrifuges to enrich natural uranium to 30% U-235. Such a plant uses 4% of the energy of a gaseous diffusion plant. Even though this is a much more efficient process, the precision that the rotors need to be manufactured with makes them very difficult to engineer. The smallest defect and the rotor spins itself to pieces. That’s lucky for us, otherwise we might have nuclear devices right next to our microwave ovens.” – Bill Hammack (“The Engineerguy”), “What Keeps Nuclear Weapons from Proliferating: The hardest step in making a nuclear bomb,” Engineerguy YouTube Channel, June 19, 2012.</p> <p><u><i>GGDM Commentary: This discussion is very useful to GGDM in terms of reverse engineering: Just because you figure out what a thing is, what it does, and how it was built, doesn’t mean you can do it! Or in the case of stealing and sharing Patents in GGDM,</i></u></p>	<p>‘Iranian centrifuges,’ Sneakers on the Ground, 2 Special Operations, p. 1290</p> <p>Reverse Engineering, generally, and Flying Saucers and EN 5, 3 Technology, pp. 712, 718, 725</p> <p>Matter, Weapons and Industry Research Areas, 2 Technology, pp. 701, 702</p> <p>Engineering Proficiency, 3 Culture, pp. 387-388</p> <p>Stealing and Sharing Patents in GGDM:</p> <p>Fuzzy Ops, 3 Special Operations, pp. 1306-1307,</p> <p>Letters Patent, 3 Patents, pp. 748-749,</p> <p>‘Research Pieces and Groups laid on the Diplomatic Space,’ Shared Spaces, 2 Diplomacy, pp. 1118-1119</p> <p>Terrorist getting a nuke:</p>

<p><i>even if we told you how it's done, you still couldn't do it! This also provides an explanation as to why we – allegedly – have not made progress (assuming this is so) on using or replicating any alien artifacts that the U.S. government – allegedly – does not possess. This is also interesting for GGDM Special Operations, it shows the reasoning and value of sabotaging and destroying centrifuges with cyber-attacks on the controlling software.</i></p> <ul style="list-style-type: none"> • Consider in the context of WWII – the United States was not being bombed day and night despite being at war with three other countries. We were the bombers, not the bombees. A 40-acre diffusion plant in Germany or any of its conquered territories would have been a huge, easy bombing target, they would have needed to build it underground (not impossible), like the V-2 tunnels. To prevent the Nazis from getting The Bomb, British commandos raided and destroyed a heavy water plant in Norway in February 1943 (Operations Grouse and Freshman). <p><i>See also, first GGDM Comments to first Richard Feynman quote, this document, regarding equations, philosophies and reverse engineering.</i></p>	<p>‘suitcase nuke,’ EN 14, 4 Combat, pp. 1002-1003</p> <p>Never Again, 4 Diplomacy, p. 1143</p> <p>‘collapse of the Soviet Union,’ How the Cold War Ended Cold, 4 Commerce, pp. 1236-1238</p> <p>Shattered States, 5 Government Titles, pp. 640-641</p>
<p><i>Logistics, Log Ships, OSL (Operational Supply Limitations), cannibalism, triumph of the aircraft carrier:</i></p> <p>“A good package blends technical know-how and psychology. The engineer must understand the chemistry between, say, the orange juice and its coated cardboard package, but must also grasp the emotional chemistry between the package and the consumer. In Japan, for example, fish cakes come wrapped in paper that looks like traditional handmade leaves, yet it sports a bar code. The granddaddy of all packagers is Gale Borden.</p> <p>Milk springs to mind when I mention Borden, which just shows how successful he was; he became interested in packaging food to make it portable after hearing in 1846 of the Donner Party. While travelling west, they became trapped by snow. Only 47 of the original 87 survived, and they did so by eating the others. This gruesome tragedy stirred Borden to action. He first tried to condense the essence of meat into a biscuit; it took six years and \$60,000 to develop but failed because it was unsightly and unpalatable.</p> <p>But the idea of condensing fascinated Borden. He advised his pastor to, ‘Condense your sermons,’ he told lovers to no longer write poetry but to ‘Condense all they have to say into a kiss’ and he suggested you spend as little time as possible at a meal, he was always done in 15 minutes [ok, this guy is OCD!] Borden’s next attempted food packaging came while on an ocean voyage to London, the ship’s sea sick cows couldn’t be milked, so the ship filled with the cries of hungry infants, which spurred him to invent condensed milk. Although experts told him it wouldn’t work, Borden put some in a vacuum pan and boiled it; it failed just as the experts predicted, because it stuck to the pan. Being less knowledgeable than the experts, Borden simply greased the pan and it worked fine to make condensed milk. He canned the product, selling it with the promise of all good packaging: a sanitary and safe product.</p> <p>Borden’s condensed milk took off with the Civil War because soldiers needed portable rations [meaning that he profited from the Civil War]. In fact, wars are often the stimulus for a quantum leap in packaging. From WWI emerged cellophane, it was used for gas mask lenses, and after the war, packagers used cellophane to wrap and display goods. Then WWII sparked our current state of packaging by making America excel in plastics; Saran Wrap for example, started in the war as a film to protect aircraft engines from water [how did Japanese aircraft carriers solve this?] And eventually WWII soldiers had</p>	<p>‘the only reason for Log Ships in GGDM is supporting warships,’ Empty Cans, 3 Movement, p. 861</p> <p>‘resupplying Cargo Ships in alien system,’ Cold Lunch, 1 Commerce, pp. 1189-1190</p> <p>‘extended Scout OSL,’ Imperial Interstellar Scout Service, 3 Movement, p. 855 and Scout’s Honor, 1 Expansion, p. 879</p> <p>‘amateurs talk tactics, professionals talk logistics,’ Ship Systems, 3 Movement, p. 854 and Magnitude of Mars, 4 Expansion, pp. 926-927</p> <p>‘a thousand people in an iron</p>

plastic canteens and containers to protect ammo and they carried rations in plastic or foil pouches. Plastics were not the only innovation from WWII, it also introduced, of course, the nuclear age; I hope for humanity's sake that this new type of war never makes for a packaging revolution!" – Bill Hammack, "How the Donner Party inspired food packaging," Engineerguy YouTube Channel, July 29, 2014 (audio originally aired on WILL AM-580, NPR's Morning Edition, November 30, 2004 – posted under CC License).

GGDM Commentary: This commentary on the engineering of packaging goes right to the breadbasket of logistics in both the real world and in GGDM. GGDM is a simulation game that pays special attention to logistics, even though it is a science-fiction setting; it is a gritty science-fiction setting in respect to logistics.

- It is kind of odd that he first tried to develop a 'meat biscuit,' because soldiers and sailors have been eating beef jerky for centuries, which Europeans seem to have learned from the Incas in the 1500s – so why develop a 'meat biscuit'? This in turn is an example of how cross-cultural contact – even in the simplest things – can affect a game of GGDM; the Incas (a Minor Race in GGDM terminology) certainly didn't benefit from sharing this knowledge with the Europeans, but the Europeans used it to continue their ocean-going military, colonial and commercial domination of the world for centuries afterward.
- Growing up, I heard the story often of how canning was invented by a Frenchman and how Napoleon's armies benefitted from it (my mother and grandmother home canned annually).¹² The first part is true, canning in glass jars (and modern bottling) was invented by Nicholas Appert around 1804, and it certainly was spurred by logistical problems of his day (even if he didn't invent it, he industrialized the process opening the first bottling factory in 1804). The extent to which Napoleon's armies benefitted from it is another question, as he didn't present the idea until 1806 and it was rejected, while an English inventor, Peter Durand, invented a process for true canning in tin cans in 1810.
- How many swashbuckling, sword and sea Age of Sail adventure movies show live cows onboard? I know I have seen some ship movies with chickens on deck or in cages, but rarely. Also gives some clue about the sanitation issue, it's like having a farm on a ship – a ship packed with people with no escape until they reach land. And how much water do those cows need for the voyage?
- I do have to wonder then how the Japanese kept water off their aircraft engines in WWII? This is one of those little details of naval air operations that no one thinks of; it is certainly an example of how a small technological improvement can make a difference in GGDM (and the real world).
- I learned of the Donner party story when I was young, in 1978 there was a big made-for-TV movie called Donner Pass and I was lectured on it by my mother. I don't think I saw the movie when it first aired, but I definitely saw it when it re-aired around 1980. There was some public fascination with the Donner party in the 1970s and 1980s, I think it played into the Cold War feeling (and fallout shelters) and what we knew had happened in WWII (Leningrad, the Holocaust). And in Criminal Law class in the mid-1990s, the very first case we read was Queen v.

box,' Survival & Ethical Dilemmas, 4 Expansion, p. 923

'Colony Ships out of OSL cannot refuse to Land,' Spiffy Spaceman, 4 Expansion, pp. 920-920

'triumph of the aircraft carrier as the main capital warship,' Sebastian Roblin quote, 1 Carriers & Fighters, bottom p. 1051

Cannibalism in Science Fiction:

'human cannibalism in The Book of Eli movie,' EN 10, p. 950

'Magog in Andromeda TV series,' Brandenburg Tor and EN 13, pp. 1025, 1034

Also, it was revealed in Stargate SG-1 that the Goa'uld engage in ritual cannibalism of their young and cannibalism was implied at least in the 1997 movie Event Horizon.

¹² I'll never forget the time my mother tried to make rootbeer – she was very successful at canning fruits and vegetables and my grandmother had big shelves in the basement full of canned goods in Mason jars – but the homemade root beer was a memorable disaster because the seals on all of the bottles failed while they were cooling on the counter and big fountains of soda sprayed the kitchen! ☺

<p>Dudley ((1884) 14 QBD 273 DC) – a gruesome case of murder and cannibalism of a teen boy by two men on a lifeboat at sea.</p>	<p><i>Cannibal should not be confused with carnivore</i></p>
<p>Heckewelder, John</p>	
<p><i>First Contact, Minor Races, Treaty with Minor Races, balkanization of Minor Race planets, population density argument:</i></p> <p>“THE Lenni Lenape claim the honour of having received and welcomed the Europeans on their first arrival in the country, situated between New England and Virginia. It is probable, however, that the Mahicanni or Mohicans, who then inhabited the banks of the Hudson, concurred in the hospitable act. The relation I am going to make was taken down many years since from the mouth of an intelligent Delaware Indian, and may be considered as a correct account of the tradition existing among them of this momentous event. I give it as much as possible in their own language.</p> <p>A great many years ago, when men with a white skin had never yet been seen in this land, some Indians who were out a fishing, at a place where the sea widens, espied at a great distance something remarkably large floating on the water, and such as they had never seen before. These Indians immediately returning to the shore, apprised their countrymen of what they had observed, and pressed them to go out with them and discover what it might be. They hurried out together, and saw with astonishment the phenomenon which now appeared to their sight, but could not agree upon what it was; some believed it to be an uncommonly large fish or animal, while others were of opinion it must be a very big house floating on the sea. At length the spectators concluded that this wonderful object was moving towards the land, and that it must be an animal or something else that had life in it; it would therefore be proper to inform all the Indians on the inhabited islands of what they had seen, and put them on their guard. Accordingly they sent off a number of runners and watermen to carry the news to their scattered chiefs, that they might send off in every direction for the warriors, with a message that they should come on immediately. These arriving in numbers, and having themselves viewed the strange appearance, and observing that it was actually moving towards the entrance of the river or bay; concluded it to be a remarkably large house in which the Mannitto (the Great or Supreme Being) himself was present, and that he probably was coming to visit them. By this time the chiefs were assembled at York island, and deliberating in what manner in which they should receive their Mannitto on his arrival. Every measure was taken to be well provided with plenty of meat for a sacrifice. The women were desired to prepare the best victuals. All the idols or images were examined and put in order, and a grand dance was supposed not only to be an agreeable entertainment for the Great Being, but it was believed that it might, with the addition of a sacrifice, contribute to appease him if he was angry with them. The conjurers were also set to work, to determine what this phenomenon portended, and what the possible result of it might be. To these and to the chiefs and wise men of the nations, men, women, and children were looking up for advice and protection. Distracted between hope and fear, they were at a loss what to do; a dance, however, commenced in great confusion. While in this situation, fresh runners arrive declaring it to be a large house of various colours, and crowded with living creatures. It appears now to be certain, that it is the great Mannitto, bringing them some kind of game, such as he had not given them before, but other runners soon after arriving declare that it is positively a house full of human beings, of quite a different colour from that of the Indians, and dressed differently from them; that in particular one of them was dressed entirely in red, who must be the Mannitto himself. They are</p>	<p>Mathó Thípila, Roanoke Island Colony, <i>Parens patriae</i>, and Population Density 4 Diplomacy, pp. 1140-1141, 1146</p> <p>Minor Races, 5 Beginnings, p. 52</p> <p>Interstellar Paleolithic Culture, 6 Diplomacy, pp. 1172-1173</p> <p>Trail of Tears, 2 Disruption, p. 278</p> <p>John Winthrop and Alfred Crosby Feature Quotes and Bad Exchanges, 4 Expansion, pp. 924-925</p>

hailed from the vessel in a language they do not understand, yet they shout or yell in return by way of answer, according to the custom of their country; many are for running off to the woods, but are pressed by others to stay, in order not to give offence to their visitor, who might find them out and destroy them. The house, some say, large canoe, at last stops, and a canoe of a smaller size comes on shore with the red man, and some others in it; some stay with his canoe to guard it. The chiefs and wise men, assembled in council, form themselves into a large circle, towards which the man in red clothes approaches with two others. He salutes them with a friendly countenance, and they return the salute after their manner. They are lost in admiration; the dress, the manners, the whole appearance of the unknown strangers is to them a subject of wonder; but they are particularly struck with him who wore the red coat all glittering with gold lace, which they could in no manner account for. He, surely, must be the great Mannitto, but why should he have a white skin? Meanwhile, a large Hackhack is brought by one of his servants, from which an unknown substance is poured out into a small cup or glass, and handed to the supposed Mannitto. He drinks – has the glass filled again, and hands it to the chief standing next to him. The chief receives it, but only smells the contents and passes it on to the next chief, who does the same. The glass or cup thus passes through the circle, without the liquor being tasted by any one, and is upon the point of being returned to the red clothed Mannitto, when one of the Indians, a brave man and a great warrior, suddenly jumps up and harangues the assembly on the impropriety of returning the cup with its contents. It was handed to them, says he, by the Mannitto, that they should drink out of it, as he himself had done. To follow his example would be pleasing to him; but to return what he had given them might provoke his wrath, and bring destruction on them. And since the orator believed it for the good of the nation that the contents offered them should be drunk, and as no one else would do it, he would drink it himself, let the consequence be what it might; it was better for one man to die, than that a whole nation should be destroyed. He then took the glass, and bidding the assembly a solemn farewell, at once drank up its whole contents. Every eye was fixed on the resolute chief, to see what effect the unknown liquor would produce. He soon began to stagger, and at last fell prostrate on the ground. His companions now bemoan his fate, he falls into a sound sleep, and they think he has expired. He wakes again, jumps up and declares, that he has enjoyed the most delicious sensations, and that he never before felt himself so happy as after he had drunk the cup. He asks for more, his wish is granted; the whole assembly then imitate him, and all become intoxicated.

After this general intoxication had ceased, for they say that while it lasted the whites had confined themselves to their vessel, the man with the red clothes returned again, and distributed presents among them, consisting of beads, axes, hoes, and stockings such as the white people wear. They soon became familiar with each other, and began to converse by signs. The Dutch made them understand that they would not stay here, that they would return home again, but would pay them another visit the next year, when they would bring them more presents, and stay with them awhile; but as they could not live without eating, they should want a little land of them to sow seeds, in order to raise herbs and vegetables to put into their broth. They went away as they had said, and returned in the following season, when both parties were much rejoiced to see each other; but the whites laughed at the Indians, seeing that they knew not the use of the axes and hoes they had given them the year before; for they had these hanging to their breasts as ornaments, and the stockings were made use of as tobacco pouches. The whites now put handles to the former for them, and cut trees down before their eyes, hoed up the ground, and put the stockings on their legs. Here, they say, a general laughter ensued among the Indians,

that they had remained ignorant of the use of such valuable implements, and had borne the weight of such heavy metal hanging to their necks, for such a length of time. They took every white man they saw for an inferior Mannitto attendant upon the supreme Deity who shone superior in the red and laced clothes. As the whites became daily more familiar with the Indians, they at last proposed to stay with them, and asked only for so much ground for a garden spot as, they said, the hide of a bullock would cover or encompass, which hide was spread before them. The Indians readily granted this apparently reasonable request; but the whites then took a knife, and beginning at one end of the hide, cut it up to a long rope, not thicker than a child's finger, so that by the time the whole was cut up, it made a great heap; they then took the rope at one end, and drew it gently along, carefully avoiding its breaking. It was drawn out into a circular form, and being closed at its ends, encompassed a large piece of ground. The Indians were surprised at the superior wit of the whites, but did not wish to contend with them about a little land, as they had still enough themselves. The white and red men lived contentedly together for a long time, though the former from time to time asked for more land, which was readily obtained, and thus they gradually proceeded higher up the Mahicannittuck, until the Indians began to believe that they would soon want all their country, which in the end proved true." – John Heckewelder, History, Manners, and Customs of The Indian Nations who once Inhabited Pennsylvania and the Neighbouring States (1818), Ch. II (found on Gutenberg Project, Ebook #50350).

GGDM Commentary: This original description provides context for encounters with Minor Races in GGDM, from which the Concierge may enhance the story. Note that the "large floating house" description of oceangoing sailing ships is similar to the "floating castle" description in Yae no Sakura (2013), see EN 15, 6 Combat, p. 1034.

Hitchens, Christopher

Anthropic Principle, collision with the Andromeda Galaxy, expanding universe, size of the universe since the end of the Cold War:

"But the cosmic why not? There are four – I think it's four thousand billion observable galaxies now – anyone who claims to know a lot about all of these has sources of information denied to me, but we know a little bit about them and a lot more than we used to do and Edwin Hubble noticed rather famously a few decades ago that they're all moving away from each other rather rapidly. This one called the red light [red shift] problem or observation, very rapidly indeed in fact. Now, this has very important implications because it was thought until nine years ago that because of gravitational factors that rate of expansion would surely by now be slowing, they'd still be expanding, moving away from each other fast, but less fast all the time. No, the rate is going up, the speed is increasing; Lawrence Krauss has a wonderful piece in the upcoming Scientific American on this absolutely crucial point.

It means that within measurable time, there will be no signs left in the observable universe that the Big Bang ever occurred at all. Everything will have disappeared out of sight, there will be no markers, nothing to take observations from. I mentioned this because it's often said, 'how can ... something come out of nothing?' It's the clever, clever question every registered Magog and business man always begins by asking you. Well, we know we've got a bit of something in this universe and we know nothingness is coming, so some design, huh? Nothingness is not just innate programmed, it's the next big thing! And we at least had some somethingness. As if to make assurance doubly sure,

'Andromeda Galaxy collision,' Colonizing the Andromeda Galaxy, and 'universe is 20x bigger than it was in the Cold War,' Let's Do Some Calculations, 1 Movement, pp. 837-838

Cosmic Cycle excerpt, Wheel in the Sky

'human spread around the globe,' Circumambulation, 1 Expansion, p. 875

Sixth Mass Extinction Event

the Andromeda Galaxy is headed directly, directly in collision course with ours, measurably, it's already filling the sky, can be seen with the naked eye. In five billion years, which is to say fucking soon ladies and gentlemen [audience laughter] it's on us and if it hasn't happened before then, our sun goes into a red giant then a red dwarf, we become a crisp. That'll be nothingness programmed instead of somethingness, some design huh?

Well let's move then while you ponder that to the Chinese suburb in which we actually do know we live; this little corner, just our solar system. Every other rock in our solar system is completely inhospitable to life either too hot or too cold, as is most of our planet which we know, have good cause to know is on a knife edge of climatic survival as we speak. We could become extinct at any moment, in fact when we still lived on the savannah of Africa, the environment to which we were adapted and fled, but where we still betrayed our lowly origin by the coat of fur we grow in the womb and then shed by the appendix, but our terrible gentition, and by many other things, our adrenal glands are big, our prefrontal lobes are too small, we're not the finest primates that could have evolved [audience laughter]. It's estimated by the people who've done the DNA work on this that we were down as a species to less than a few thousand because of climatic events and other nightmares and catastrophes before the decision was made to abandon the savannah and seek cooler territory. We could very easily have joined the 99.9% of every other species that has ever been in existence on this tiny planet and become extinct. That close.

What are we flattering ourselves about, what is so great about our Anthropic Principle? That we should attribute this to a design or designer, some design huh? And some designer too! Who but a serf wants it to be true? Here's what you'd have to believe to be a fierce: For 100,000 years, humanity is born, perhaps 25% of it dies in childbirth or very shortly afterwards, life expectancy, I don't know, 25 for a very long time, infant mortality extraordinary, but after childbirth killed by microorganisms we didn't know existed, by earthquakes that we thought were portents, by storms that we didn't know came from our climate system, by other events that arise from being born onto a cooling planet with deep cracks in its crust, faults in its mouth. Then man-made things, turf wars, fights over women, fights over territory, food, some very, very slow gradual upward progress, we might like to think pretty slow, but at least we can claim of our own self-respect, man-made. And for the first 96,000 years of this experience, heaven watches with folded arms us go through this. With indifference, without pity. And then around 4,000 years ago decided gee, it's time to intervene [audience laughter]. And the best way of doing that would probably be in Bronze Age Middle East, making appearances to stupefied illiterate peasants [audience laughter] which could later be passed on; the news would get to China after about a thousand years or something like that." – Christopher Hitchens audio (only), "The Indifference of Heaven," unknown date, before a live audience.

- The Lawrence Krauss article in Scientific American that Hitchens refers to is probably "The End of Cosmology," co-authored with Robert J. Scherrer, published February 2008, so that dates this speech within a few months before February 2008.
- The same exact video appears on at least three YouTube Channels, "pangeaprogressredux," "Prometheus Unchained" and "hitch archive." None of them provide the dates of the audio or the name of the original source video.
- Very similar comments were made by Hitchens during the debate with Frank Turek which seems to have occurred sometime between 2008 and 2012. The debate can be found here on Vimeo: <https://vimeo.com/1904911>. A shortened video of

Excerpt, Taxation & Census

'nothingness is not quantum anything,' Michael Robbins Feature Quote, 2 Reformation, p. 1393

Robbins is the type that Hitchens called a 'Magog' in the quote, Robbins criticizes Hitchens' friend Lawrence Krauss

Anthropic Principle:

Kate Becker quote, 1 The Big Bang, pp. 2-3

Matt O'Dowd quote, 2 Expansion, p. 896

As Coo Coo as a Swiss Clock, 1 Order, pp. 524-525

In Our Puddle, 1 Entropy, pp. 231-232

'man the maker,' Douglas Adams Feature Quote, 3 Technology, p. 720

'oddities in the way we see the world,' Douglas Adams Feature Quote, 1 Commerce, p. 1184

this debate appears on YouTube Channel silverstream314 titled, “The Nonchalance of Heaven,” dated April 28, 2009.

- Further, there is a very similar quote to the last paragraph above on Good Reads: <https://www.goodreads.com/quotes/919133-let-s-say-that-the-consensus-is-that-our-species-being>

GGDM Commentary: This is Christopher Hitchens on full blast, he had only one gear; it’s easy to see why some didn’t like him much. Hitchens is also famous for debating creationist and religious figures and The Thinker in the blog April 9, 2017 article for Atheism and the City provides two important points in relation to a debate with Rabbi Wolpe (November, 2008 at Temple Emanu-El):

- 1) “I don’t look to Christopher Hitchens if I want to hear the most sophisticated arguments for or against god” and
- 2) The part of the debate quoted in the blog article shows both Rabbi Wolpe and Hitchens using the ‘knife’s edge’ reference.

I think the main problem with Hitchens was that while he was right, and he was a fierce debater, he did it with an entertaining smirkiness and smugness that was seen as denigrating to the faithful.¹³

- In a December 2011 column in Slate titled “A Rabbi and Hitchens Walk Into a Bar...,” Rabbi Wolpe said, “Christopher Hitchens was that rarest of polemicists – even his disgust had delight. As he pronounced anathemas on you and your kind, the smile peeked out beneath the sneer. His bearing was like Muhammad Ali in the early days: gleeful contempt for the opponent was sort of a game – a high-stakes game, but a game nonetheless. Apart from his occasional abrupt rudeness to a questioner he considered bumptious or untutored, Hitchens threw himself into combat with infectious gusto. Arguing with him did not involve meeting the punch you knew he would throw, but the hopeless task of combating the unexpected uppercut, the stinging apercu offered in his British baritone. Hitchens evoked laughter the way master comedians do, even before speaking. His throat clearing was like the unbuttoning of a stripper’s overcoat, promising delights to come.”

Hossenfelder, Sabine

Funny, Looking discussions, measurement problem in quantum mechanics, Schrödinger’s Cat discussion, double slit experiment, Copenhagen Interpretation:

“[Beginning of video] Today I want to talk about a peculiar aspect of quantum measurements that you may have heard of. It is that the measurement does not merely reveal a property that previously existed but that the act of measuring makes that property real. [Deadpan delivery] So, when Donald Trump claims that not testing people for COVID means that there will be fewer cases, rather than just fewer cases you know about, then that demonstrates his deep knowledge of quantum mechanics. This special role of the measurement process is an aspect of quantum mechanics that Einstein worried about profoundly. He thought it could not possibly be correct. He reportedly summed up the

Peek-a-Boo, Neither Nor and Life, Looking and Luck, 2 Expansion, pp. 893-895, 896-897 and ‘double slit experiment’ EN 6, pp. 903-905

¹³ A detailed recounting of the debate with Rabbi Wolpe can be found at: <https://cityroom.blogs.nytimes.com/2008/11/03/hitchens-vs-rabbi-on-god/>. Hitchen’s friend, Lawrence Krauss also drew critical ire, for example, the Michael Robbins Feature Quote, 2 Reformation, p. 1393, for his part in the ‘somethingness from nothingness’ argument echoed by Christopher Hitchens in the quote above.

<p>question by asking whether the moon is there when nobody looks, implying that certainly the question is absurd. ...</p> <p>[Middle Video] But that brings up the question what is a measurement in quantum mechanics? A measurement is the very act of amplifying the subtle quantum signal and creating a definite outcome. It happens because if the particle hits the detector, it has to interact with a lot of other particles. Once this happens, the quantum effects are destroyed. And here is the important thing. A measurement is not the only way that the quantum system can interact with many particles. Indeed, most particles interact with other particles all the time, just because there is air and radiation around us and there are constantly particles banging into each other. And this also destroys quantum effects, regardless of whether anyone actually measures any of it. This process in which many particles lose their quantum effects is called ‘de-coherence’ because quantum effects come from the ‘coherence’ of states in the superposition. Coherence just means these states which are in superposition are all alike. But if the superposition interacts with a lot of other particles, this likeness is screwed up and with that the quantum effects disappear. If you look at the numbers, you find that de-coherence happens enormously quickly, and it happens more quickly the larger the system and the more it interacts. A few particles in vacuum can maintain their quantum effects for a long time.</p> <p>A cat in a box, however, de-coheres so quickly there isn’t even a name for that tiny fraction of a second. For all practical purposes therefore, you can say that cats do not exist in quantum superpositions of dead and alive. They are either dead or alive. In Schrödinger’s thought experiment, the de-coherence actually happens already when the toxin is released, so the superposition is never passed onto the cat to begin with.</p> <p>Now, what’s with viruses? Viruses are not actually that large. In fact, some simple viruses have been brought into quantum superpositions. But these quantum superpositions disappear incredibly quickly. And again, that’s due to de-coherence. That’s what makes these experiments so difficult. If it was easy to keep large systems in quantum states, we would already be using quantum computers.</p> <p>[End of video] So, to summarize, the moon is there regardless of whether you look and Schrödinger’s Cat is either dead or alive regardless of whether you open the box, because the moon and the cat are both large objects that constantly interact with many other particles. And people either have a virus or they don’t, regardless of whether you actually test them.” – Prof. Sabine Hossenfelder, “Is COVID there if nobody looks?” Sabine Hossenfelder YouTube Channel, June 28, 2020.</p> <p><i>GGDM Commentary: Frau Hossenfelder’s explanation of de-coherence later in the video is fine, it explains why the universe is there when no one is looking, but it still does not quite explain the three-holes experiment, why electrons act differently when we look. Notably, Einstein’s question is also asked in 2 Expansion, whether I arrived at the same one my own (and no, I am certainly not Einstein) or I picked it up through the filter of our cultural milieu, I did raise the question. I also arrived at a sort of de-coherence argument when I pointed out that life must always be looking to its own existence; that making life its own constant de-coherence by virtue of being conscious.</i></p> <ul style="list-style-type: none"> • As a final matter, it is admitted in at least two places in 2 Expansion that looking as used in GGDM is strictly a game mechanic and most would consider it absurd. 	<p>Copenhagen Interpretation:</p> <p>Kate Becker Feature Quotes, ‘quantum intuition,’ 4 Colleges, p. 505 and ‘classic physical intuition,’ 2 Expansion, pp. 891-892</p> <p>Erwin Schrödinger, Letter to Max Born, 1 Technology, pp. 689-690</p>
<p><i>C-question, time-dilation problem, Alcubierre Warp Drive, sub-light drives, science fiction inspires science, space-time curvature</i></p>	<p>‘universe expanded faster than light,’ C-</p>

“As many of us, I became interested in physics by reading too much science fiction... I thought that was all fascinating. Of course, the depressing part of science fiction is that you know it’s not real. So in a sense, I became a physicist to find out which science-fiction technologies have a chance to one day become real technologies. Today, I want to talk about warp drives, because I think, on the spectrum from fiction to science, warp drives are on the more scientific end. And just a few weeks ago, a new paper appeared about warp drives that puts the idea on a much more solid basis. ... The idea is that by warping space-time, you can beat the speed-of-light barrier. This is not entirely crazy for the following reason: Einstein’s theory of general relativity says you cannot accelerate objects from below to above the speed of light because that would take an infinite amount of energy. However, this restriction applies to objects in space-time, not to space-time itself. Space-time can bend, expand or warp at any speed. Indeed, physicists think that the universe expanded faster than the speed of light in its very early phase. General relativity does not forbid this.

There are two points I want to highlight here. First, it is a really common misunderstanding, but Einstein’s theories of special and general relativity do not forbid faster-than-light motion. You can very well have objects in these theories that move faster than the speed of light. Neither does this faster-than-light travel necessarily lead to causality paradoxes. ... Instead, the problem is, according to Einstein, you cannot accelerate from below to above the speed of light, so the problem is really crossing the speed-of-light barrier, not being above it.

The second point I want to emphasize is that the term ‘warp drive’ refers to a propulsion system that relies on the warping of space-time, but just because you are using a warp drive does not mean you have to go faster than light. You can also have slower than light warp drives. I know that sounds somewhat disappointing but I think it would be pretty cool to move around by warping space-time at any speed. [Editor: Earth to Mars in three minutes!] Warp drives were a fairly weak idea until 1994, Miguel Alcubierre found a way to make them work in General Relativity; his idea is now called the Alcubierre Drive. The explanation you usually get on how the Alcubierre Drive works is that you contract space in front of you and expand it behind you, which moves you forward. That never made sense to you? Just among us, it never made sense to me either because, why would this allow you to break the speed-of-light barrier? Indeed, if you look at Alcubierre’s mathematics, it does not explain how this is supposed to work. Instead, his equations say that this warp drive requires large amounts of negative energy; this is bad, it’s bad because ... there isn’t any such thing as negative energy. And even if you had this negative energy, that would not explain how you break the speed-of-light barrier. So how does it work?

A few weeks ago, someone sent me a paper that beautifully sorts out the confusion surrounding warp drives. ... Einstein’s equations then tell you that the distribution of different types of energy determines the curvature [of space-time] and the curvature in turn determines how the distribution of the stress energy changes. The way you normally solve these equations is to use a distribution of energies and masses at some initial time, then you can calculate what the curvature is at an initial time and you can calculate how the energies and masses will move around and how the curvature changes with that. So this is what physicist usually mean by a ‘solution’ of general relativity; it is a solution for a general distribution of mass and energy but – you can instead, take any space-time, put it

Question, 1 Stardrive, p. 779

‘science fiction inspires science,’ Norman Spinrad Feature Quote, 1 Stardrive, p. 786

‘space-time curvature,’ John Archibald Wheeler Feature Quote, 2 Movement, top p. 848

Time Dilation Problem:

Starship Jefferson and Assumptions of Light, 1 Stardrive, pp. 781-782

Thumbing Our Nose at Einstein, 1 Temporal Technology, p. 802

Alcubierre Warp Drive:

T-Minus 10,000,000, 1 Stardrive, p. 783

EM Drive and Alcubierre Warp Drive excerpts, Movement

US Patent top Feature Quote, 3 Temporal Technology, p. 828

(continued next page)

into the left side of Einstein's equations and then the equations will tell you what the distribution of mass and energy would have to be to create this space-time. On a purely technical level, these space-times will indeed be solutions to the equations...

The problem is that in this case, the energy distribution which is required to get a particular space-time is in general entirely unphysical and that's the problem with the Alcubierre Drive. It is a solution to general relativity, but in and by itself, this is a completely meaningless statement. Any space-time will solve the equations of General Relativity provided you assume that you have a suitable distribution of masses and energies to create it. The real question is therefore, not whether a space-time solves Einstein's equations, but whether the distribution of mass and energy required to make it a solution to the equations is physically reasonable. And for the Alcubierre Drive, the answer is multiple 'Nos.' First, as I already said, it requires negative energy, second, it requires a huge amount of that, third, the energy is not conserved ... instead, you just assume that you have something that accelerates it beyond the speed-of-light barrier; that it's beyond the barrier is why you need negative energies and that it accelerates is why you need to feed energy into the system.

Let me then get to the new paper. ... This paper has not yet been peer reviewed, but I read it and I'm pretty confident it will make it through peer review. In this paper [the authors] describe the geometry of a general warp drive space-time [it is] basically a bubble, it has an inside region which they call the passenger area. In the passenger area, space-time is flat so there are no gravitational forces. Then the warp drive has a wall of some sort of material that surrounds the passenger area and then it has an outside region, this outside region has the gravitational field of the warp drive itself but the gravitational field falls off and in the distance, one has normal flat space-time. This is important so you can embed the solution into our actual universe. What makes this fairly general construction a warp drive is that the passage of time inside of the passenger area can be different from that outside of it, that's what you need if you have normal objects like your warp drive passengers and want to move them faster than the speed of light; you cannot break the space-time barrier for the passengers themselves relative to space-time, so instead, keep them moving normally in the bubble but then you move the bubble itself superluminally.

As I explained earlier, the relevant question is then, what does the wall of the passenger area have to be made of? Is this a physically possible distribution of mass and energy? [The authors] explain that if you want superluminal motion, you need negative energy densities, if you want acceleration, you need to feed energy and momentum into the system. And the only reason the Alcubierre Drive moves faster than the speed of light is that one simply assumed it does. Suddenly it all makes sense. I really like this new paper because to me it has really demystified warp drives. Now, you may find this a downer because really it says that we still don't know how to accelerate to superluminal speeds, but I think this is a big step forward because now we have a much better mathematical basis to study warp drives." – Sabine Hossenfelder, "Warp Drive News. Seriously!" Sabine Hossenfelder YouTube Channel, November 21, 2020.

*GGDM Commentary: This is a very long quote and I would apologize except that FTL or at least interstellar travel is the absolute core of GGDM's setting and 99.999% of interstellar or space-opera fiction. It is the threshold to the 1st Era in GGDM.*¹⁴

Sub-light travel is not directly addressed in GGDM:

Humans Advance Swiftly, 1 Star-drive, pp. 785-786

Disturbulence, 2 Movement, pp. 846-847

'sleeper or seed ships,' Assumptions of Light, 1 Stardrive, pp. 781-782

'seed ships,' Be Fruitful and Multiply, 1 Expansion, pp. 877-878

¹⁴ The quintessential sub-light colonization and exploration story is Poul Anderson's The Enemy Stars (1959) and even at that, they had to use a 'stargate' technology (decades before SG-1!).

<p><i>I'm just a simpleton, but what strikes me about this is the statement that "Instead, the problem is, according to Einstein, you cannot accelerate from below to above the speed of light, so the problem is really crossing the speed-of-light barrier, not being above it." How can you go above 60 mph, without crossing 60 mph? Seems nonsensical. Or to put it another way, how did we get above the sound barrier without an aircraft first crossing the sound barrier? If it is possible to do as Sabine suggests, it seems like the warp drive must act like quantum tunneling, where a particle that cannot escape the gravity well suddenly is in a moment, on the other side of the gravity well, as if it 'tunneled' its way out.</i></p>	
<p><i>Copenhagen Interpretation, interpretations, ghost probabilities, simulation, art vs. science, Schrödinger's Cat thought experiment:</i></p> <p>"If quantum mechanics is right, then what is real? Is the universe fundamentally random, and if so, what does that mean? Can we describe all of reality with mathematics, or must we find a better way to make sense of the world? Quantum mechanics is more than 100 years old, but physicist still struggle to make sense of it. On one hand, they have a theory that is remarkably successful; quantum mechanics underlies all modern electronic devices and there is no doubt that it works. On the other hand, with quantum mechanics, physicist have a theory so different from all other known scientific theories that they are still not sure just what it means.</p> <p>Last week, I visited the Center for Contemporary Culture in Barcelona, or CCCB for short. The CCCB currently has an exhibition about quantum mechanics ... I will admit that I don't love mixing art with science; I often find the results to be a compromise that has both poor artistic value and poor scientific value. But the quantum exhibition at CCCB sidesteps this issue by leaving the art to artists and the science to scientists. So, rather than forcing a scientific message on the artistic installations, which usually works badly, they have here complemented the artworks with educational material from scientists. In this way, the visitor learns something about the history, theory and applications of quantum mechanics, while the artworks make the abstract tangible and invite the visitor to reflect on the mysteries of the quantum world.</p> <p>I particularly liked this installation by the Korean artist Yunchul Kim. ... [describes installation that captures cosmic rays that keeps liquid pumping through transparent tubes] I find this a lovely visualization of how microscopic quantum events can grow and have macroscopic consequences. How much of our life is really just due to random chance? If you could find out, would you want to find out?" – Sabine Hossenfelder, "Quantum Physics: Still mysterious after all those years," Sabine Hossenfelder YouTube Channel, May 30, 2019.</p> <p><i>GGDM Commentary:</i> <i>Two points here. In 2 Expansion, I described the Schrödinger's Cat thought experiment as an attempt to express or bring, or blow up, quantum events into a macro scale. It seems that this line of reasoning is not lost in contemporary physics, in fact, it is the first exhibit she described in the video, it was the one she loved.</i></p> <p><i>Second is a more profound point about GGDM as a macrostructural or macrosocial simulation game: Are her comments about mixing art and science analogous to mixing macrosocial dynamics or macrosocial theory with a game? I am sure there must be the same feeling if any sociologist saw GGDM and realized what it is, but on the other hand, simulations are so important for visualizing concepts and dynamics, and games are important to enjoyment in learning, and yes, GGDM is probably both poor macrosociology, and also a poor game.</i></p>	<p>'struggle to define what GGM is,' Expected Ice Cream, Waiter Brought Sorbet, 1 Beginnings, p. 30</p> <p>'Copenhagen Interpretation and ghost electrons,' Kate Becker Feature Quote and John Gribbin quote in EN 6, 2 Expansion, pp. 892, 903-904 and 'Schrödinger's Cat thought experiment,' Peek-a-Boo, pp. 893-895</p> <p><i>See also, Arvin Ash 'delayed choice quantum eraser,' this document above.</i></p>

<ul style="list-style-type: none"> • Someday, someone will write a ‘GGDM for Dummies’ book, like someone wrote a ‘High Frontier for Dummies’ file on BGG. 	
<p><i>Brain plasticity, Artificial Intelligence (AI), self-driving cars, Deep Learning AI, fuzzy thinking wetware:</i></p> <p>“Today I want to tell you about what is artificial about artificial intelligence. There is, of course, the obvious which is that the brain is warm, wet and wiggly, while the computer is not. But more importantly, there are structural difference between human and artificial intelligence. ... What goes as artificial intelligence today are neural networks, a neural network is a computer algorithm that imitates certain functions of the human brain. It contains virtual neurons that are arranged in layers which are connected with each other. The neurons pass on information and therefore perform calculations, much like neurons in the human brain pass on information and thereby perform calculations.</p> <p>In the neural net, the neurons are just numbers in the code, typically they have values between zero and 1. The connections between neurons also have numbers associated with them, and those are called weights. These weights tell you how much the information from one layer matters for the next layer. The values of the neurons and the weights of the connections are essentially the free parameters of the network. By training the network, you want to find those values of the parameters that minimize a certain function, called the loss function. So really, it’s an optimization problem that neural nets solve.</p> <p>In this optimization, the magic of neural nets happens through what is called backpropagation. Backpropagation means that if the net gives you a result that is not particularly good, you go back and change the weights of the neurons and their connections. This is how the net can learn from failure. [This text appeared in the closed caption, but she didn’t say it: “Again this plasticity mimics that of the human brain.”]...</p> <p>Having said this, here are the key differences between artificial and real intelligence:</p> <p>First, form and function. A neural net is software running on a computer; the neurons of an artificial intelligence are not physical, they are encoded on bits and strings on hard disks or silicon chips and their physical looks nothing like that of actual neurons. In the human brain in contract, form and function go together</p> <p>Second, size. The human brain has about 100 billion neurons, current neural nets typically have a few hundred or so.</p> <p>Third, connectivity. In the neural net, each layer is usually fully connected to the previous and next layer. But the brain doesn’t really have layers, it instead relies on a lot of pre-defined structure. Not all regions of the human brain are equally connected and the regions are specialized for certain purposes.</p> <p>Fourth, power consumption. The human brain is dramatically more efficient than any existing artificial intelligence. The brain uses around 20 watts, which is comparable to what a standard laptop uses today. But with that power, the brain handles a million times more neurons.</p> <p>Fifth, architecture. In a neural network, the layers are neatly ordered and are addressed one after the other. The human brain on the other hand, does a lot of parallel processing and not in any particular order.</p>	<p>‘neuroplasticity,’ Stardrive (in reference to Andromeda Slipstream Drive), 1 Stardrive, pp. 782-783</p> <p>Fuzzy Logic, 2 The Big Bang, pp. 5-6</p> <p>Fuzzy Beliefs, 4 Culture, pp. 407-408</p> <p>Fembots, 1 Beginnings, pp. 22-23</p> <p>‘Chatbots,’ Minister of Loneliness, 3 Fallen to Earth, pp. 1530-1531</p> <p>Turing Test:</p> <p>‘Turing Test is not a test of intelligence,’ Sophistry, 2 Diplomacy, pp. 1113-1114</p> <p>Sentience vs. Sapience, 5 Beginnings, pp. 56-57</p> <p>AI Emergent Play, 3 Fallen to Earth, p. 1548</p> <p>Artificial Intelligence (AI):</p> <p>‘AI scout ships and First Contact,’ Imperial Interstellar Scout Service, 3 Movement, p. 855</p>

Sixth, activation potential. In the real brain, neurons either fire or don't, in a neural network, the firing is mimicked by continuous values instead, so the artificial neurons can smoothly slide from off to on, which real neurons can't.

Seventh, speed. The human brain is much, much slower than any artificially intelligent system. A standard computer performs some 10 billion operations per second. Real neurons on the other hand, fire at a frequency of at most a thousand times per second.

Eighth, learning technique. Neural networks learn by producing output, and if this output is of low performance according to the loss function, then the net responds by changing the weights of the neurons their connections. No one knows in detail how humans learn, but that's not how it works.

Ninth, structure. A neural net starts from scratch every time. The human brain, on the other hand, has a lot of structure already wired into its connectivity, and it draws on models which have proved useful during evolution.

Tenth, precision. The human brain is much more noisy and less precise than a neural net running on a computer. This means the brain basically cannot run the same learning mechanism as a neural net and it's probably using an entirely different mechanism.

A consequence of these differences is that artificial intelligence today needs a lot of training with a lot of carefully prepared data, which is very unlike how human intelligence works. Neural nets do not build models of the world, instead they learn to classify patterns, and this pattern recognition can fail with only small changes to the data. A famous example is that you can add small amounts of noise to an image, so small amounts that your eyes will not see a difference, but artificially intelligent system may be fooled into thinking a turtle is a rifle.

Neural networks are also not presently good at generalizing what they have learned from one situation to the next, and their success very strongly depends on defining just the correct loss function. If you don't think about that loss function carefully enough, you will end up optimizing something you didn't want, like this simulated self-driving car trained to move at constant high speed which learned to rapidly spin in a circle.

But neural networks excel at some things, such as classifying images or extrapolating data that doesn't have any well-understood trend. And maybe the point of artificial intelligence is not to make it all that similar to human intelligence. After all, the most useful machines we have, like cars or planes, are useful exactly because they do not mimic humans; instead, we may want to build machines specialized in tasks that we are not good at." – Sabine Hossenfelder, "10 differences between artificial intelligence and human intelligence," Sabine Hossenfelder YouTube Channel, August 7, 2019.

GGDM Commentary: Given Professor Hossenfelder's sober description here, it is hard to see how we would reach the Technological Singularity that is predicted within the next fifty years to two centuries – which is to say that whatever I said about the subject in GGDM may (and probably will) prove 'wrong.' But then again, we now have 'deep learning' AI software driving cars in the real world and interacting with humans in communication... fembots receptionist in Japan, IBM Watson AI, Google Assistant, Echo, Dot...

Within GGDM, participants will need to decide if Artificial Intelligence in GGDM games are neural nets or actual artificially created neurons or something equivalent, and what

'drone fighters,' Web of Night and EN 17, 2 Colleges, pp. 477-478, 485-486

'gas drone in Battlefield Earth,' NBC – Nuclear, Biological, and Chemical Warfare, 4 Combat, pp. 997-998

Imperial Admiral Eurisko, 4 Colleges, p. 512

'a little humility,' Artificial Persons, 2 Diplomacy, p. 1114

Deep Learning AI discussions:

AI Problem excerpts, Corporations

'technological singularity,' Vernor Vinge Feature Quote and Deep Learning the Singularity, 2 Technology, pp. 705-706

In the Mirror, I Meta Me, 2 Constructural Elements, pp. 195-196

'faith in deep learning AI,' Gap Into, 1 Movement, pp. 841-842

AI Nanny, 1 Government Titles, pp. 580-581

<p><i>the heck that means as a matter of difference? For example, consider Data from Star Trek TNG who has a ‘positronic brain’ against what Professor Hossenfelder described.</i></p>	
<p>Humanity+ (Transhumanism Organization)</p>	
<p>Basic transhumanism statement, transhumanism runs through GGDM:</p> <p>“Humanists believe that humans matter, that individuals matter. We might not be perfect, but we can make things better by promoting rational thinking, freedom, tolerance, democracy, and concern for our fellow human beings. Transhumanists agree with this but also emphasize what we have the potential to become. Just as we use rational means to improve the human condition and the external world, we can also use such means to improve ourselves, the human organism. In doing so, we are not limited to traditional humanistic methods, such as education and cultural development. We can also use technological means that will eventually enable us to move beyond what some would think of as ‘human.’” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 69-74).</p> <p><i>GGDM Commentary: This translates in stock sci-fi terms to the cyborg trope; cyborgs are mentioned in GGDM only four times, three as rules matters and once in a short movie quote (5 Beginnings, p. 57) from Nydenion (2010).</i></p>	<p>Cyborgs in GGDM:</p> <p>Brave New World, 5 Taxation & Census, p. 343</p> <p>Cyberia, 2 Taxation & Census, p. 311</p> <p>The Fine Print, 1 Construction, p. 661</p>
<p>Life expectancy, Brave New World discussions:</p> <p>“Many transhumanists wish to follow life paths which would, sooner or later, require growing into posthuman persons: they yearn to reach intellectual heights as far above any current human genius as humans are above other primates; to be resistant to disease and impervious to aging; to have unlimited youth and vigor; to exercise control over their own desires, moods, and mental states; to be able to avoid feeling tired, hateful, or irritated about petty things; to have an increased capacity for pleasure, love, artistic appreciation, and serenity; to experience novel states of consciousness that current human brains cannot access. It seems likely that the simple fact of living an indefinitely long, healthy, active life would take anyone to posthumanity if they went on accumulating memories, skills, and intelligence.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 147-150).</p> <p><i>GGDM Commentary: This ties transhumanism to the Hayflick limit and life expectancy discussion. See also, Child Soldiers discussion, 6 Combat, pp. 1030-1032, also EN 7, 1 Culture, p. 361 and Assumptions of Light and Ten Million Year Leap, 1 Stardrive, pp. 781, 784.</i></p> <p><i>And of course, in Day Million, the quintessential transhuman short story, “They lived happily ever after—or anyway, until they decided not to bother anymore and died.” See Day Million excerpts, Resolution section.</i></p>	<p>Technological Senescence, 5 Taxation & Census, pp. 343-344</p> <p>Polymath Problem, 1 Fallen to Earth, p. 1501</p> <p>Natural Assumptions and Senescence, 4 Taxation & Census, pp. 327-328</p>
<p>This goes to the broad discussion of nuclear weapons, global warming, mass extinction event, etc.</p> <p>“Existential risks are a different kind of beast. For most of human history, there were no significant existential risks, or at least none that our ancestors could do anything about. By definition, of course, no existential disaster has yet happened. As a species we may therefore be less well prepared to understand and manage this new kind of risk.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 383-385).</p> <p><i>See also, T.H. White quote, 3 Beginnings, bottom p. 40, Sixth Mass Extinction Excerpts, Taxation & Census, David Parfit’s question, The Unicorn Song, 1 Resolution, p. 1461,</i></p>	<p>Little Willie Won’t Go Home and Dawning of Horror, 1 Combat, p. 937-938</p> <p>Standing on the Tracks, 3 Entropy, pp. 244-245</p>

<p><i>The Bomb, 2 Combat, pp. 962-963, Deflection Dilemma, 2 Construction, pp. 669-670, and 'dinosaur extinction,' Ben Guarino Feature Quote, 3 Taxation & Census, pp. 314-315.</i></p>	
<p><i>This goes to my argument about green- or primo-anarchist and how the clock cannot be turned back even if we wanted to:</i></p> <p>“Environmentalists are right to insist that the status quo is unsustainable. As a matter of physical necessity, things cannot stay as they are today indefinitely, or even for very long. If we continue to use up resources at the current pace, without finding more resources or learning how to use novel kinds of resources, then we will run into serious shortages sometime around the middle of this century. The deep greens have an answer to this: they suggest we turn back the clock and return to an idyllic pre-industrial age to live in sustainable harmony with nature. The problem with this view is that the pre-industrial age was anything but idyllic. It was a life of poverty, misery, disease, heavy manual toil from dawn to dusk, superstitious fears, and cultural parochialism. Nor was it environmentally sound – as witness the deforestation of England and the Mediterranean region, desertification of large parts of the middle east, soil depletion by the Anasazi in the Glen Canyon area, destruction of farm land in ancient Mesopotamia through the accumulation of mineral salts from irrigation, deforestation and consequent soil erosion by the ancient Mexican Mayas, overhunting of big game almost everywhere, and the extinction of the dodo and other big featherless birds in the South Pacific. Furthermore, it is hard to see how more than a few hundred million people could be maintained at a reasonable standard of living with pre-industrial production methods, so some ninety percent of the world population would somehow have to vanish in order to facilitate this nostalgic return.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 513-524).</p> <p>Cf. “The coming of doom is because of deeds that do not seem evil on the face of it. Because we are concerned with the improving of the health of mankind and its security, our population has increased markedly, especially in the last hundred years, to the point where the Earth cannot support us all. Because we have industrialised ourselves in order to lift the curse of physical labour from our backs we have poured the poisons produced by the internal combustion engine into our atmosphere and dirtied it to the point where we can scarcely breathe it. Because we have learned to make new materials for the greater convenience of mankind, we have produced chemical toxins that have saturated our soil and water. Because we have found a new source of energy, and destruction, in the atomic nucleus, we face the threat of nuclear war or, even if we avoid that, the permeation of our environment with dangerous radiation and nuclear wastes.” – Isaac Asimov and Frederick Pohl, <u>Our Angry Planet: A Ticking Ecological Bomb</u> (1991).</p> <p><u>GGDM Commentary</u>: <i>There is a video on YouTube by Sabine Hossenfelder titled, “Flat Earth ‘science’ – wrong but not stupid.” I think she was being kind – but I thought, well if you are going to revolt against modernity, why do it piecemeal, why not go all the way? The Earth is flat, at the center of the universe, germs don’t exist, molecules don’t exist, illness and decay and electricity is caused by spirits, gold is the blood of the gods, the sun is a god, the moon is a goddess, witches exist... but you see, most rebels don’t do that, they pick their spots. Why not make the Amish look like modern liberals? Because it’s a matter of ego, they’d look dumb, nobody wants to look dumb. And this says something important about populations that hold divergent views, and inactive Constructural</i></p>	<p>‘too late to turn back the clock,’ Green Anarchists from Earth, 1 Technology, p. 686</p> <p>Conquest by Entitlements, 5 Culture, p. 430</p> <p>‘Unabomber discussion,’ 3 Taxation & Census, p. 315</p> <p>Math Exercises, 4 Taxation & Census, pp. 326-327</p> <p>Joseph Tainter quotes, Resources Proficiency, 3 Culture, p 397</p>

<p><i>Elements in GGDM; legitimacy can be passive acceptance of the status quo without proof.</i></p>	
<p><i>This dovetails nicely with the discussion of the “Phineas Snodgrass” short story in GGDM:</i></p> <p>“Even with full-blown space colonization, however, population growth can continue to be a problem, and this is so even if we assume that an unlimited number of people could be transported from Earth into space. If the speed of light provides an upper bound on the expansion speed then the amount of resources under human control will grow only polynomially (~ t³). Population, on the other hand, can easily grow exponentially (~ e^t). If that happens, then, since a factor that grows exponentially will eventually overtake any factor that grows polynomially, average income will ultimately drop to subsistence levels, forcing population growth to slow. How soon this would happen depends primarily on reproduction rates.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 534-539).</p>	<p>Math Exercises, 4 Taxation & Census, pp. 326-327</p> <p>‘Reasons star-faring civilization would retard population growth,’ Brave New World, 5 Taxation & Census, p. 343</p>
<p><i>This goes to the “Bowl of Biskies” short story discussion in 3 Information:</i></p> <p>“A common worry is that inheritable genetic modifications or other human enhancement technologies would lead to two distinct and separate species and that hostilities would inevitably develop between them. The assumptions behind this prediction should be questioned. It is a common theme in fiction because of the opportunities for dramatic conflict, but that is not the same as social, political, and economic plausibility in the real world. It seems more likely that there would be a continuum of differently modified or enhanced individuals, which would overlap with the continuum of as-yet unenhanced humans. The scenario in which ‘the enhanced’ form a pact and then attack ‘the naturals’ makes for exciting science fiction but is not necessarily the most plausible outcome. Even today, the segment containing the tallest 90 percent of the population could, in principle, get together and kill or enslave the shorter decile. That this does not happen suggests that a well-organized society can hold together even if it contains many possible coalitions of people sharing some attribute such that, if they unified under one banner, would make them capable of exterminating the rest.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 609-617).</p>	<p>A Bowl of Biskies, 3 Information, p. 1364</p> <p>Day Million Excerpts, The Next Season</p>
<p><i>Higher SQ (Sentience Quotient) slows time perception:</i></p> <p>“Sometimes a distinction is made between weak and strong superintelligence. Weak superintelligence is what you would get if you could run a human intellect at an accelerated clock speed, such as by uploading it to a fast computer.... If the upload’s clock-rate were a thousand times that of a biological brain, it would perceive reality as being slowed down by a factor of a thousand. It would think a thousand times more thoughts in a given time interval than its biological counterpart.” – Humanity+. <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 746-749).</p> <p>“If you were running on a fast computer, you would think faster than in a biological implementation. For instance, if you were running on a computer a thousand times more powerful than a human brain, then you would think a thousand times faster (and the external world would appear to you as if it were slowed down by a factor of a thousand). You would thus get to experience more subjective time, and live more, during any given day.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 889-891).</p>	<p>Clock Speed, 1 The Streams of Time, pp. 75-76</p> <p>Sapience, 1 Beginnings, pp. 28-29</p> <p>Ten Million Year Leap, 1 Stardrive, pp. 783-784</p> <p>‘interaction of higher and lower SQs,’ EN 4, 3 Information, p. 1371</p>

<p><i>This is somewhat similar to the argument I made about how cats see vs. how humans see:</i></p> <p>“No matter how much you speed up your dog’s brain, you’re not going to get the equivalent of a human intellect.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 750-751).</p> <p><u>GGDM Commentary</u>: <i>This also demonstrates tangentially that sapience isn’t simply a matter of SQ.</i></p>	<p>Perception, 3 Information, p. 1358</p> <p>EN 1, 1 Reformation, p. 1386</p>
<p><i>This dovetails with my comment that when sapient AI exists, a little diplomacy would go a long way:</i></p> <p>“The arrival of superintelligence will clearly deal a heavy blow to anthropocentric worldviews. Much more important than its philosophical implications, however, would be its practical effects. Creating superintelligence may be the last invention that humans will ever need to make, since superintelligences could themselves take care of further scientific and technological development. They would do so more effectively than humans. Biological humanity would no longer be the smartest life form on the block.” – Humanity+, <u>What is Transhumanism?</u> (undated publication) (Kindle Locations 779-782).</p> <p><i>See also, The Vinge Rule and ‘technological singularity,’ Vernor Vinge Feature Quote, 2 Technology, p. 705 and Deep Learning the Singularity, 2 Technology, p. 706.</i></p>	<p>Artificial Persons, 2 Diplomacy, p. 1114</p> <p>AI Nanny, 1 Government Titles, pp. 580-581</p>
<p><i>This relates to the idea that we might need to become something else in order to travel at FTL, also the mystery of quantum entanglement:</i></p> <p>“You could travel at the speed of light as an information pattern, which could be convenient in a future age of large-scale space settlements.” – Humanity+, <u>What is Transhumanism?</u> (Kindle Location 892). Humanity+.</p> <p><i>See also, FTL Communications, 1 The Streams of Time, p. 77, ‘you don’t need to explain a phenomena to use it,’ Sarah Kaplan Feature Quote, 1 Eras, 761 and Empirical Mythology, 1 Technology, p. 691.</i></p>	<p>Ten Million Year Leap, 1 Stardrive, p. 783</p> <p>Speed of Bad News, 4 Movement, p. 873</p>
<p>Hunt, Kasie</p>	
<p><i>The Bargain, forward expectations:</i></p> <p>“That’s going to be the pressure and the divide, as much as it is between progressives and centrist Democrats, if they win, is going to be between people who want to play by the rules and the norms, and people who think that Republicans have thrown all of that out the window and that they need to basically use the same strategy that Republicans have been using as they have governed Washington over the last four years.” – Kasie Hunt on Morning Joe, MSNBC, October 27, 2020.</p>	<p>The Bargain, 5 Culture, p. 426</p> <p>Forward Expectations, 1 Disruption, p. 255</p> <p>Technosolution, 1 Patents, p. 726 ¹⁵</p>
<p>Hurst, Laurence</p>	
<p><i>Genetic Drift, Brave New World, genetic engineering and technology effects, senescence-distorted perception of aging, human life expectancy, Chinese army re-fitting</i></p>	<p>‘lactose intolerance,’ EN 1, 3</p>

¹⁵ As I mentioned in 1 Patents, I heard the term ‘technosolution’ sometime in the early 1990s and I don’t know where or in what context, but it stuck in my head. I stumbled upon a potential source of the term in preparing this document; Part III of the non-fiction book, Our Angry Earth (1991) by Isaac Asimov and Frederik Pohl is titled “The Technocures” which it is possible that someone misheard or transmuted into ‘technosolutions.’ I never heard of the book before to my recollection and it is possible that they borrowed ‘technocures’ from other earlier sources. But it shows that the term was circulating in some form in the early 1990s.

problem, food supply changes (age of menarche regression, population weight and height), lactose intolerance:

“The Tibetan high plateau lies about 4,500 meters above sea level, with only 60% of the oxygen found below. While visitors and recent settlers struggle with altitude sickness, native Tibetans sprint up mountains. This ability comes not from training or practice, but from changes to a few genes that allow their bodies to make the most of limited oxygen. These differences are apparent from birth – Tibetan babies have on average, higher birth weights, higher oxygen saturation, and are much likelier to survive than other babies born in this environment. These genetic changes are estimated to have evolved over the last 3,000 years or so and are ongoing. That may sound like a long time, but would be the fastest an adaptation has ever evolved in a human population. It’s clear that human evolution isn’t over so what are other recent changes? And will our technological and scientific innovations impact our evolution?

... People in Siberia and the high arctic are uniquely adapted to survive extreme cold. They’re slower to develop frostbite, and can continue to use their hands in subzero temperatures much longer than most people. They’ve undergone selection for a higher metabolic rate...

...The Bajou people in southwest Asia can dive 70 meters and stay underwater for almost 15 minutes. Over thousands of years living as nomadic hunters at sea, they have genetically-hardwired unusually large spleens that act as oxygen stores.... an adaptation similar to that of deep-diving seals.

...The ability to drink milk is another such adaptation. All mammals can drink their mother’s milk as babies. After weaning, they switch off the gene that allows them to digest milk. But communities in sub-Saharan Africa, the Middle East and northwest Europe that used cows for milk have seen a rapid increase in DNA variants that prevent the gene from switching off over the last 7 to 8,000 years. At least in Europe, milk drinking may have given people a source of calcium to aid in Vitamin D production as they moved north and sunlight, the usual source of Vitamin D, decreased.

...All of these changes improve people’s chance of surviving to reproductive age – that’s what drives natural selection.... Modern medicine removes many of these selective pressures by keeping us alive when our genes, sometimes combined with infectious diseases, would have killed us. Antibiotics, vaccines, clean water and good sanitation, all make differences in our genes less important. Similarly, our ability to cure childhood cancers, surgically extract inflamed appendixes and deliver babies whose mothers have life-threatening, pregnancy-specific conditions, all tend to stop selection by allowing more people to survive to a reproductive age.

...There are other aspects of evolution besides natural selection. Modern medicine makes genetic variation that would have been subject to natural selection subject to what’s called genetic drift instead. With genetic drift, genetic differences vary randomly within a population. On a genetic level, modern medicine may actually increase variety because harmful mutations don’t kill people and thus aren’t eliminated. This variation doesn’t necessarily translate to observable ... differences among people, however.

Researchers have also been investigating whether genetic adaptations to a specific environment could appear very quickly through epigenetic modification: Changes not to genes themselves, but to whether and when certain genes are expressed. These changes can happen during a lifetime and can even be passed to offspring ... researchers are conflicted over whether epigenetic modifications can really persist over many generations

Reformation, p. 1412

‘puberty related to body weight,’ E.R. Baker top Feature Quote, ‘linkage of body fat and menstruation,’ P.B. Kaplowitz Feature Quote, ‘falling sperm counts,’ Moving Parts, ‘Chinese army re-fitting problem,’ Headroom and Legroom, and ‘human longevity,’ Rob Stein bottom Feature Quote, 4 Taxation & Census, pp. 325, 331-333

Genetic Drift and Human Life Expectancy:

Frontier Drift, 3 Entropy, p. 246

Brave New World, Technological Senescence, and ‘life expectancy’ EN 18, ‘Assortative mating,’ EN 23, 5 Taxation & Census, pp. 343-344, 350, 351

Race & Ethnicity, 5 Beginnings, p. 52

<p>and lead to lasting changes in populations.” – Laurence Hurst, “Is human evolution speeding up or slowing down?” TED-Ed YouTube Channel, September 22, 2020.</p> <p><i>GGDM Commentary: This clears up the ‘genetic drift’ issue in GGDM which I don’t think I quite understood or got quite right. The video did not answer the question in the title, adapting the famous tactic of newspaper headlines and internet click bait.</i></p>	
<p>IMDB (Internet Movie Database)</p>	
<p>“Europeans have light skin because it is more difficult for dark skinned African people produce Vitamin D with the amount of sunlight in Europe the further North people go. 700 years earlier, the world had no idea about Vitamin D or supplements. African adults and children would be physically weaker. After 700, they would have much weaker bone density and other problems. 700 years of this.” – unknown poster, IMDB ‘factual errors’ entry for the TV series Noughts + Crosses, captured October 20, 2020.</p> <p><i>GGDM Commentary: Most quotes that I pick are offered for their positive value toward the subject (in a sense, confirmation bias), but this one struck me in a very negative way. I am sure there is some small bit of science behind it – I have heard something about vitamin D and pigmentation in the past – but this is stretched to the point of being blatantly racist. The suggestion that Africans were physically weaker than Europeans as a result of vitamin D deficiency is easily refutable: Africa was where humans evolved, and that environment would have provided all that humans needed naturally and there is plenty of history of Africans killing each other, farming, building roads and cities and so forth – before the European colonization to refute the idea that they were physically inferior to Europeans. Lack of physical prowess was not the reason they ‘lost’ to Europeans and were enslaved, nor was individual intelligence or any other physical attribute. This is the kind of pseudo-scientific garbage that is designed precisely to promote the idea of Caucasian mythical superiority.</i></p>	<p>Elder Race, Real Racism, The Diamond Problem, 5 Diplomacy, pp. 1153, 1155, 1157</p>
<p>Jabr, Ferris</p>	
<p><i>Noosphere, Pan-Galactic Culture-Altruism discussion, Sentience Quotient (SQ), Diplomatic Spaces, Social Cohesion-connectedness, Social Safety Net:</i></p> <p>“Suzanne Simard discovered that beneath the forest floor, tree roots are actually connected to each other through massive fungal networks and carbon, water, nutrients, and chemical alarm signals can actually pass from tree to tree through these underground networks. And the reason this was so astounding is that in traditional forestry, trees are often regarded as competing individuals that are rather solitary, but what her work shows is that in some cases, they seem to be exchanging resources and information and ultimately helping each other survive, especially in times of stress and sickness. ...</p> <p>Most of her colleagues were male, and there were a lot of older males that were initially quite skeptical, sometimes even disparaging of her studies. Her earliest studies were actually quite provocative because nobody had studied these fungal networks in the wild before, no one had shown that such an immense amount of resources could pass from tree to tree, even trees of different species, and it really went against some of the tenants of traditional evolutionary biology to say that trees that were unrelated to each other, weren’t even the same species, might be sharing resources and possibly even helping each other. So initially there was quite a bit of skepticism, but over time, Susanne and other ecologist around the world replicated her findings again and again, and it’s now become well accepted that this is actually happening. ...</p>	<p>Noosphere, 4 Expansion, p. 925</p> <p>Diplomatic Spaces, <i>et seq.</i>, 2 Diplomacy, p. 1116</p> <p>Pan-galactic-Altruism:</p> <p>Pan-galactic People, 5 Diplomacy, pp. 1155-1157</p> <p>Homogenized Milk, 3 Commerce, p. 1222</p> <p>Late Dinner Guests, 2 Corporations, p. 1257</p>

<p>So, plants of all kinds are constantly producing chemical compounds that signal what they are going through in the moment, and if a tree or a plant is under attack, say from an insect, it will actually produce stress signals that will waft into the air and other plants nearby can detect those stress signals and prepare their own defenses in case they get attacked by insects as well. And what Suzanne has shown is that type of chemical communication is not just restricted to the air, it happens below ground as well. ...</p> <p>Competition has been so central to traditional evolutionary biology for so long, this idea that individuals are constantly competing for space and resources, and that they are often trying to leave more offspring than the other individuals and species around them, but I think in recent years, I've seen more attention to and more emphasis on the importance of cooperation and connectivity in addition to competition. And I think that's something that's really come to light recently because of the pandemic, we've seen that we can't just go about looking out for ourselves all the time, we are connected to each other and dependent on each other, often with vast hidden webs of connectivity that only become apparent when they start to break down and when we become really vulnerable. And we've seen that countries where selfish attitudes have prevailed have some of the worst outcomes in this pandemic..." – Ferris Jabr, "Live CBSN," CBS News, December 8, 2020.</p> <p><i>GGDM Commentary: Literally, Suzanne Simard's work and acceptance of it, empirical evidence, should bolster and thrill proponents of the Gaia hypothesis, see James Lovelock, Lynn Margulis and Bruno Latore quotes, this document.</i></p> <p><i>See also, Connectedness: Degrees of Connectedness, 1 Constructural Elements, p. 171, 'social cohesion,' Dave Nilsen Feature Quote and Artifice, 2 Constructural Elements, pp. 191-192, 'social safety net' David Leonhardt Feature Quote and Social Safety Net, 5 Culture, pp. 424-425, and Corporation Games, 1 Corporations, pp. 1243-1244.</i></p>	<p>Mephisto's Marriage Counseling and Ant Altruism, 3 Diplomacy, pp. 1135-1137</p> <p>'moral economy and altruistic punishment,' Eric Michael Johnson Feature Quote, 1 The Sidereal Stage, p. 111</p>
<p>James, William</p>	
<p><i>Cosmic cycle, Happiness Meta-Aspect, Axiom of Human Meaning, Existential Void, Legacies, Anthropic Principle:</i></p> <p>"Theism and materialism, so different when taken retrospectively, point, when we take them prospectively, to wholly different outlooks of experience. For, according to the theory of mechanical evolution, the laws of redistribution of matter and motion, though they are certainly to thank for all the good hours which our organisms have ever yielded us and for all the ideals which our minds now frame, are yet fatally certain to undo their work again, and to redissolve everything that they have once evolved. You all know the picture of the last state of the universe, which evolutionary science foresees. I cannot state it better than in Mr. [Arthur J.] Balfour's words: 'The energies of our system will decay, the glory of the sun will be dimmed, and the earth, tideless and inert, will no longer tolerate the race which has for a moment disturbed its solitude. Man will go down into the pit, and all his thoughts will perish. The uneasy consciousness which in this obscure corner has for a brief space broken the contented silence of the universe, will be at rest. Matter will know itself no longer. 'Imperishable monuments,' and 'immortal deeds,' death itself, and love stronger than death, will be as if they had not been. Nor will anything that is, be better or worse for all that the labor, genius, devotion, and suffering of man have striven through countless ages to effect.'^[16]</p>	<p>Cosmic Cycle excerpt, Wheels in the Sky</p> <p>'happiness as the Meta-Aspect of humanity,' The Happy Hurdle, <i>et seq.</i>, 4 Culture, pp. 409-410</p> <p>'Axiom of Human Meaning,' Humans Need Meaning, 1 Beginnings, pp. 23-24</p> <p>Existential Void:</p>

¹⁶ This quote is from [Foundations of Belief](#) (1896) and remains popular on the internet in 2021 as shown by several results in a Bing search.

That is the sting of it, that in the vast driftings of the cosmic weather, though many a jeweled shore appears, and many an enchanted cloudbank floats away, long lingering ere it be dissolved – even as our world now lingers, for our joy – yet when these transient products are gone, nothing, absolutely nothing remains, to represent those particular qualities, those elements of preciousness which they may have enshrined. Dead and gone are they, gone utterly from the very sphere and room of being. Without an echo; without a memory; without an influence on aught that may come after, to make it care for similar ideals. This utter final wreck and tragedy is of the essence of scientific materialism as at present understood. The lower and not the higher forces are the eternal forces, or the last surviving forces within the only cycle of evolution which we can definitely see. Mr. Spencer believes this as much as anyone; so why should he argue with us as if we were making silly aesthetic objections to the ‘grossness’ of ‘matter and motion,’ the principles of his philosophy, when what really dismays us is the disconsolateness of its ulterior practical results ?

No, the true objection to materialism is not positive but negative. It would be farcical at this day to make complaint of it for what it is, for ‘grossness.’ Grossness is what grossness does – we now know that. We make complaint of it, on the contrary, for what it is not, not a permanent warrant for our more ideal interests, not a fulfiller of our remotest hopes.

The notion of God, on the other hand, however inferior it may be in clearness to those mathematical notions so current in mechanical philosophy, has at least this superiority over them, that it guarantees an ideal order that shall be permanently preserved. A world with a God in it to say the last word, may indeed burn up or freeze, but we then think of him as still mindful of the old ideals and sure to bring them elsewhere to fruition; so that, where he is, tragedy is only provisional and partial, and shipwreck and dissolution not the absolutely final things. This need of an eternal moral order is one of the deepest needs of our breast. And those poets, like Dante and Wordsworth, who live on the conviction of such an order, owe to that fact the extraordinary tonic and consoling power of their verse.” – William James, *Pragmatism* (1907), pp. 103-107, as quoted by Clarence Marsh Case, “Religion and the Concept of Progress,” *The Journal of Religion*, March 1921, Volume 1, Number 2, pp. 160-173.

GGDM Commentary: I heard it said a few times in my youth that the purpose of consciousness is so that matter, the universe, can see itself. This in turn is presented as if it were a good, precious desirable thing that guarantees that consciousness (or human consciousness) will not be entirely snuffed out of the universe. You can see the roots of this idea expressed in Mr. Balfour’s turn-of-the 20th Century writings quoted above. Is this wishful thinking? To provide our special niche in the universe with or without invoking a supreme creator?

- Within GGDM, I developed a ‘fractured universe’ argument which suggests that a series of cosmic emergences fractured the universe allowing or creating second, third, and fourth orders of natural phenomenon to exist (see Clarence Marsh Case orders of natural phenomenon, *Aspects of Sociology*, 2 Culture, pp. 371-372). This fracture, rather than providing a special purpose or niche, or happy guarantee, or being teleological, is instead an offered explanation for the Anthropic Principle and the source of the petty entropy and stupidity of our lives. Mr. Balfour and I arrive at the same, but by different roads. If you feel need of explanation

The Key to the Singularity, 1 Beginnings, p. 22

In the Mirror, I Meta Me, *et seq.*, 2 Constructural Elements, pp. 195-196

‘Existential Void vs. Camus,’ EN 11, 3 Kairotic Moments, p. 1454

‘atheism and meaninglessness,’ Michael Robbins Feature Quote, 1 Technology, p. 696

Anthropic Principle:

Kate Becker quote, 1 The Big Bang, pp. 2-3

Matt O’Dowd quote, 2 Expansion, p. 896

As Coo Coo as a Swiss Clock, 1 Order, pp. 524-525

Fractured Universe Argument:

Moonwalking to the Stars, 1 The Big Bang, pp. 3-4

Fourth Frame, 1 Entropy, pp. 226-227

Ontological Schisms, 2 Expansion, pp. 892-893

The Ontological Terrorism of

<p>for this, Mr. Balfour grew up in a world that had not yet seen WWI, a world of emerging science, whereas I am a child of the late Cold War.</p> <p><i>See also, Legacy Discussions: The Insistence of Memory, 3 Temporal Technology, pp. 830-832, Integrity Proficiency, 3 Culture, pp. 390-391, 'extended legacy' The Inge Process, 5 Diplomacy, pp. 1161-1163, 'learning legacy as a designer' Historical Cycles, 1 Resolution, pp. 1457-1458.</i></p>	<p>GGDM, 3 Fallen to Earth, pp. 1529-1530</p> <p>Order of Genesis, 1 Order <i>et seq.</i>, pp. 522-523</p>
<p>Johnson, Griffin (The Armchair Historian)</p>	
<p><i>Logistics, Occupation and Colony Surrender in Ground Combat, Combat College, disbanded ground units becoming resistance, separation of military and civilian leadership, the 'historical coincidence' of United States military supremacy (industrial-technological warfare), combat on inhospitable planets, morale in combat and surrender discussion:</i></p> <p>“In early October 1940, the Chief of the Italian General Staff, Pietro Badoglio, was ordered by Mussolini to begin preparing for the invasion of Greece and no the 28th, using the recently-annexed Albania as a base, the Italian vanguard of two divisions advanced into the Pindus Mountains. From the outset, progress was slower than anticipated and within eleven days, the Greeks had stopped the invasion dead in its tracks. And to make matters worse, the Italian logistical system collapsed. By the 14th of November, the Greeks had pushed the Italians back to the border and began a unified counter-offensive which shattered the Italian line and threw them into a panic. In some places, the Greeks penetrated as far as 50 km or 31 miles into Albania. The counter-offensive only ended after the Greeks lost momentum and a stalemate then ensued which would only be broken in April by the Germans.</p> <p>As we’ve seen in previous videos, Benito Mussolini’s aspirations to recreate the Roman Empire were hindered by the poor performance of the Italian military in the Second World War. [Background display enumerates the reasons: “1) Brash leadership, 2) Lack of Industry, 3) Scarce Resources and 4) Equipment Shortages”] And this was just one major reason why Italy was more or less reduced to a German client state as the conflict continued. More so than any other campaign, the Italian invasion of Greece, which ended with a bailout from the Germans cemented the dependent relationship.</p> <p>In many ways, Italy’s invasion of Greece was an attempt to imitate the expansionist policies of their German ally; up to this point, Italy’s only conquests had been in Ethiopia and Albania, while Italian participation in the Second World War had been limited to the French Alps and North Africa. But Mussolini was a man of boundless ambition and had become convinced that the fastest method of securing dominance over the Mediterranean lay in the annexation of Greece.</p> <p>From the outset, Italian logistics and maneuverability were compromised by the harsh climate of the Pindus Mountains combined with an unusually cold winter; by December, conditions were nearly arctic, foreshadowing what was in store for their German allies one year later. Pack animals quickly began dying of hypothermia and tens of thousands of men on both sides developed frostbite. But these were not insurmountable obstacles and the hardy Italians were no strangers to bad weather or rough terrain. They also possessed a substantial number of tanks, modern infantry weapons and a strong air corps. In contrast, the majority of the Greek troops had to make do with a truly archaic arsenal consisting mostly of equipment left over from the Great War. Furthermore, the Axis</p>	<p>‘amateurs talk tactics, professionals talk logistics,’ Ship Systems, 3 Movement, p. 854</p> <p>Combat Resupply, <i>et seq.</i>, 4 Movement, pp. 868-869</p> <p>Pac Mecha Fever and Beans, Bullets, and Bandages, Vac Suits, and Occupation, <i>et seq.</i>, 4 Combat, pp. 987-989, 995-996, 1000-1001</p> <p>‘disbanded Ground Units becoming Resistance Value,’ You Will be Assimilated, 6 Combat, p. 1022</p> <p>‘separation of military and civilian leadership,’ Fog of Lutzen, 4 Colleges, pp. 510-511</p> <p>Morale in GGDM Combat and Over My Dead Body, 5 Combat, pp. 1006-1008, 1011-1012</p>

stranglehold over Europe cut them from shipments of ammunition or spare parts. In terms of air power, the only force they could muster consisted of a mere 79 planes.

Yet, despite their advantages, the Italians would soon find that the armor which had proved instrumental in the deserts of Ethiopia were useless in the Pindus Mountains. Meanwhile the air force that had terrorized the Republicans in the Spanish Civil War would be given a harsh lesson in humility by the British RAF which flew many sorties in defense of Greek airspace from the island of Crete. During the invasion, the British were also able to supply the Greeks with accurate and reliable intelligence on enemy troop movements and strategic objectives thanks to having cracked Italian military encryption protocols.

The character of the Italian military establishment was also a major contributor to the disaster. A culture of mistrust created bitter personal feuds in which generals were more concerned with humiliating each other than they were with defeating the enemy. Inter-service rivalries were just as severe with each branch cooperating as little as possible out of fear that doing so would undermine their own political relevance. This was not helped by internal competition for the limited resources they had to work with as Italy was a largely agrarian country which, unlike Germany, did not have large occupied territories to plunder. These issues prevented use of the combined arms tactics that their German allies had used so successfully in France and in Poland.

Italian generals were also astonishingly unwilling to consider new tactics, preferring instead to believe that properly-motivated and equipped infantry units could do anything in sufficient numbers. This attitude was highlighted when Italian observers compiled a detailed and insightful report on German tactics and handed it to Chief of Staff Badoglio only for him to promptly dismiss it with the words, 'We'll study it when the war is over.' But contrary to popular perception, the Italian army was not wholly incompetent, the issue did not lie with the morale or training of the average soldier, but instead lay in the systemic failures of the military establishment as a whole. Even Erwin Rommel noted that when given proper leadership, the Italian troops under his command displayed incredible bravery. But this quote from the war diary of a disgruntled Italian general underlines the lack of foresight or strategic planning that went into the campaign:

'Someone will say that in fifteen days we must be ready to march against Yugoslavia, or that in eight days, we will attack Greece from Albania as easily as saying let's have a cup of coffee. The Duce hasn't the least idea of the differences between preparing for war on flat terrain or in mountains, in summer or in winter. Still less does he worry about the fact that we lack weapons, ammunition, equipment, animals, raw materials.'

The factors we've discussed so far, though important, were not enough to guarantee an Italian failure. That was guaranteed by the resolve displayed by the Greek people. Before the war, Greece was a nation suffering from many internal divisions, Prime Minister Ioannis Metaxas had been a veteran of the Great War who had taken to politics after becoming alarmed by the growing Communist movement among the Greek peasantry. But after failing to secure popular support, Metaxas was appointed Prime Minister by the King of Greece, George II. Shortly thereafter he used the threat of a Communist uprising to abolish parliament and establish himself as an authoritarian dictator. But despite the fact that his regime was deeply unpopular, Metaxas was a genius propagandist whose total control over the Greek media allowed him to spin a narrative of Italian cowardice and incompetence.

Symbolic Military victory – Fort Douaumont discussions:

Symbolic Constructural Element, 1 Constructural Element, pp. 176-178

Hazy Overlapping Middle, 2 Culture, p. 370

Venn Diagram, 2 Writs, p. 440

(the preceding cites are in relation to the symbolic Greek victory at Hill 731 discussed in the quote)

Then on August 15, weeks before the declaration of war, an Italian submarine torpedoed a Greek light cruiser. This coincided with a major festival to the Virgin Mary and the pious Greeks reacted by elevating the deceased crew to the status of religious martyrs. Metexus could not have wished for a more perfect opportunity and the state propaganda machines went into overdrive whipping the nation into a patriotic frenzy for the coming righteous conflict against the vile Italian oppressors. The subsequent tenacity with which the Greeks resisted invasion was seen on numerous occasions such as the Battle of Hill 731 in which an entire Italian division supported by an armored element was repeatedly repulsed by a single battalion of Greeks defending an important mountain pass. This act of heroism has often been called the modern Thermopylae and ultimately caused the Italian spring offensive to be cancelled.

Yet, despite their numerous successes, the Greeks were ultimately doomed by factors beyond their control. Even with British aid, their army had effectively run out of supplies by March 1941. War materiel captured from the retreating Italians provided only a temporary solution and by the time the Germans invaded, the Wehrmacht faced an enemy that barely had enough ammunition for a month of sustained fighting. In total, at least 250,000 Greek reservist never even saw combat as their country lacked the means to provide them with so much as a pair of boots. As the mainland collapsed, the government withdrew to the island of Crete...

Italian strategist ignored every lesson of modern warfare, pushing troops into battle with neither the equipment nor the support they needed to accomplish their mission. In the end, individual heroism could not compensate for the abject failures of the Italian military establishment and even after Greece finally capitulated, its remaining soldiers took up arms in the British Army of North Africa while many civilians fought as partisans, forming one of the strongest and most effective resistance movements of the war.” – Griffin Johnson (The Armchair Historian), “How did Italy Fail to Invade Greece?” The Armchair Historian YouTube Channel, August 21, 2020.

GGDM Commentary: My senior drill instructor said, “What happens if you get killed by an obsolete weapon system? You are still dead and I have to write a letter to your mother, and I hate writing letters!” This history by the Armchair Historian neatly packages most of the concepts discussed in GGDM with regard to warfare, particularly ground invasion of enemy colony planets and colony or carrier-based fighter support (in this case, Allied fighter support from an ‘unsinkable carrier’ – the Island of Crete). The Italian belief in the spiritual supremacy of morale in infantry warfare is not particularly unique, it was shared by the equally-inept French high command, and by the Japanese, who, unlike the Italians, had conquered territories to plunder, had a large, effective navy and air force, were more experienced, and were independent of German control, but like the Italians, had a limited industrial base.

- It is possible that certain democratic Western observers may have dismissed the Italian invasion of Greece as a sideshow war between two petty dictators, especially after the fall of France occupied most of the sympathetic attention.

It is also worth noting the recurring theme of Allied success with breaking enemy military code and encryption, which should not be underestimated in GGDM combat (to the extent that participants may deem quantum communication breakable, see ‘hack-proof’ quantum entangled communications discussion, FTL Communications, 1 The Streams of Time, p. 77 and ‘Chinese quantum communications satellite’ Sarah Kaplan Feature Quote, 1 Eras, p. 761): The U.S was successful at Midway because of at least partial

success in breaking Japanese encryption, the allies were successful in the Battle of the Atlantic due to capturing Kriegsmarine naval code and encryption machines (see the crazy U-559 incident, *For the Babylon Bobs*, 6 *Combat*, p. 1029 or look it up online) in the Mediterranean Sea, while the Axis powers had limited to no success in doing the same. Even before WWII, the Germans were astounded that the Russians were broadcasting un-encoded battlefield orders and communications in 1914 and at first, thought it was a Russian trick, until they correlated the communications with actions and realized that the Russians were in fact, using un-encoded military communications. The Polish success at the Battle of Warsaw in 1920 is attributed in large part to both the Polish jamming the Russian radio frequencies (by broadcasting the Bible in Morse Code) and also breaking Red Army military code or encryption and accurately discovering a exploitable hole in the Red Army line south of Warsaw.

- In the November 2020 Periodic Public Spaces entry, I wrote, “The historical coincidence that propelled the rise of the United States as a world power in the 20th Century is that the United States reached its hegemonic frontier potential and the end-result of the most significant human population shift in history (see Jared Diamond Feature Quote 1 Expansion, p. 875) at the same time that industrial economics, and industrial warfare, came to dominance, a role for which the United States was uniquely suited.”

“Julien” (Invicta YouTube Channel)

Information game, probe/observation/reconnaissance Special Operations, doctrinal template in GGDM, failed rolls to see if a ship obeys a Combat Power Activation:

“At the end of the day, intelligence gathered ahead of time is great but always comes with a degree of uncertainty that will be made worse by the inevitable chaos of war, therefore, militaries often take many precautions to have multiple ways to pierce the fog of war. When it comes to the planned attack on Midway, Japan had three major ways of doing so. The first involved a mission that would reconnoiter Pearl Harbor to confirm that the U.S. carriers were still there. This would have been achieved by sea planes that would be refueled during the long journey by submarines. However, the U.S. was aware of the possible rendezvous point near the French Frigate Shoals and increased their security. When the Japanese submarine arrived, it found the area mined and two warships guarding the area. The mission was therefore cancelled and Japan left in the dark regarding American carrier activity.

The second effort involved the deployment of a submarine picket line east of Midway meant to ambush the U.S. fleet once they rushed into the trap. However, the Japanese submarines were actually delayed in their assembly which allowed the U.S carriers to slip by undetected on their way to the northern Point Luck. This, in and of itself was pretty bad, but what was worse was that the Japanese high command was unaware of the delay and thus falsely believed that their flank was secured.

The third effort involved the launching of recon planes ahead of the carrier task force. Theoretically this would be able to detect forces stationed on the flanks, however, the Japanese fleet dedicated only seven planes to cover an incredibly large area which was suffering from adverse weather conditions that limited visibility. The search pattern, therefore, had many holes in it which could have been covered by the deployment of more planes. A possible motivation against doing so was the desire to reserve as much air power as possible for the strike on Midway and the U.S. fleet, as well as the mistaken

‘reconnaissance purpose of the Special Operations Power activation,’ ABBA Arrival, *et seq.*, Pistols Posies & Patience, *et seq.*, and Alien Probes, *et seq.*, 2 Information, pp. 1340, 1342, 1346

‘GGDM doctrinal templates,’ Combat Formations, *et seq.*, 4 Colleges, pp. 503-505

‘checks to see if each ship obeys Combat Power activation,’ Move Out! and Initiate Combat, pp. 942-943 and 944-945

Engines Offline and Supporting

idea that the flank was already secured by the picket line of submarines, which was not the case.

This cavalier decision cost the Japanese dearly and is heavily criticized by many historians. The Japanese were so stung by the damage of this oversight that they later introduced two-phase scouting into their doctrine to mitigate the risk of future surprises. So yea, that about covers the main reasons why the Japanese intelligence failed at Midway and opened the door of opportunity to the Americans who, frankly, stumbled through it to victory in large part due to sheer dumb luck. It's not an elegant picture of naval strategy but so goes war and after all, as the ancient Latin proverb states, fortune favors the bold." – Julien (as identified on Invicta's Patreon page), "Why Did Japanese Intelligence Fail at Midway?" Invicta YouTube Channel, November 16, 2019.

GGDM Commentary: This video is a basic tutorial on battlefield intelligence that could be applied to operations in GGDM. The delay of the Japanese subs picket line in reaching their position east of Midway is an example of 'failed ship obedience rolls as described in GGDM while the change in Japanese reconnaissance doctrine might be an example of what is called (by a great stretch) a Doctrinal Template in GGDM.

- The Battle of Midway also makes the case for combat results die rolls in GGDM and wargames in general: The Japanese operational plan was competent and sound, but the execution and results, and 'chaos of combat' and 'dumb luck' made it come up short! Which just goes to the old sports saying that the coaches can't play the game for the players. ☺

There is a scene in the 2019 movie Midway (which is probably also the reason why Invicta posted this video in November 2019) where a Japanese junior naval intelligence officer correctly predicted the location of the American fleet during a planning wargame conducted by Adm. Nagumo and was overruled and the game reset, replayed, as the Japanese high command expected. This scene was not invented for the movie, I encountered this same story while doing research for an undergrad paper on game theory in 1989 and it was so striking to me (because I was a wargamer and later trained as a battlefield intelligence analyst at Ft. Bragg) that it stuck in my memory. I have not been able to determine the name of the junior officer who foresaw the American ambush, the story may even be historical urban myth, but the objection of Nagumo was probably based on the belief that the submarine picket line would prevent the Americans from assuming the position predicted by the junior officer. Unfortunately that is not clear in the movie portrayal, but does offer some logic to the situation.

Colony, 1 Movement, p. 839-840

'Scout drought,' Then Never Comes, 3 Expansion, 907-908

'combat die rolls and hope,' The Heroic & the Dismal, 3 Combat, pp. 979-980

Kaku, Michio

The Big Bang, anti-matter:

"At the instant of the Big Bang, there should have been equal quantities of matter and anti-matter which annihilated driving the Big Bang. So, by rights, we shouldn't be here. Because we have more matter than anti-matter in our sector of the galaxy – we've looked for anti-galaxies, we've looked for anti-planets, we don't see any. There should be anti-people, anti-love, anti-CBS, but in fact, we see no evidence of that at all. So physicist say by rights we shouldn't exist; this that at the instant of the Big Bang, there was a slight overabundance of matter over anti-matter and here we are as a consequence! Now, why? This is one of the greatest mysteries in all of physics, we are clueless to understand why, and like I said, if you want to win a Nobel Prize, figure this one out." –

Michio Kaku (in-studio appearance), “New findings have physicists questioning reality,” CBS News, October 25, 2017.

Asteroid defense systems, Deflection Dilemma, Orbital Cities producing resources, lifting population (Load/Unload Population), the Magnitude of Mars, von Neumann Machines:

“We are entering what I call the next golden era of space exploration. We have not just new energy and new financing and money coming from Silicon Valley, we also have a new vision emerging. For Elon Musk of SpaceX, it’s to create a multi-planet species; however for Jeff Bezos of Amazon, he wants to make Earth into a park so that all of the heavy industries, all the pollution, goes into outer space ... Now, I once talked to Carl Sagan and he said that because the Earth is in the middle of a shooting gallery of asteroids and comets and meteors, it’s inevitable that we will be hit by with a planet buster, something like what hit the dinosaurs 65 million years ago, we need an insurance policy. Not he was clear to say that were not talking about moving the Earth into outer-space – that costs too much money and we have problems of our own on the Earth like global warming. We have to deal with those problems on the Earth, not flee to outer space. But as an insurance policy, we have to make sure that humans become a two-planet species; these are the words of Carl Sagan.

And now, of course, Elon Musk has revived this vision by talking about a multi-planet species. He wants to put up to a million colonist on the planet Mars, sent to Mars by his rockets financed by a combination of public and private funding, including fusion rockets, ramjet fusion rockets, including anti-matter rockets.

[Michio Kaku then goes off on some tangent about sending postage-stamp sized chips with parachutes at 20% of the speed of light to Alpha Centauri by using lasers to propel them and somehow in the end, this equates to sending a starship? I didn’t quite get it...]

... But remember, we are talking about the future of humanity; if Elon Musk wants to put a million settlers on Mars, you have to have a million hammers. You have to have a million saws. You have to have fleets of workers to begin the process of building things – unless you create the first self-replicating robot. With one self-replicating robot, you get two, then four, then eight, sixteen, thirty-two, sixty-four, until you have an army of these robots that can build cities on Mars. And so that’s the weak link. Everyone dreams of having these gigantic domed cities on mars as part of our science-fiction heritage, but who’s going to build these domed cities. I say they are going to be built by self-replicating robots.” – Michio Kaku, “Michio Kaku: 3 mind-blowing predictions about the future,” Big Think YouTube Channel, January 4, 2021.

GGDM Commentary: Life on Earth is just a walk in the park! It is possible in GGDM to build industry on Orbital Cities, and it is even possible to have a colony where all industry is in Orbital Cities to avoid Pollution Potentials (see 3 Taxation & Census, p. 320). Of course, that brings about another set of potential problems in the game... Participants should remember that the technology scheme in GGDM is very basic and is intended to be expanded, improved upon and tweaked, such that it might be possible to put massive industry in Orbital Cities in excess of the baseline rules.

Asteroid/Meteor Defense:

‘deflection technologies,’ Wikipedia Feature Quote and Deflection Dilemma, 2 Construction, pp. 669-670

Colony Defense Bases and The Bomb, 2 Combat, pp. 954, 962-963

Close-in Defense Weaponry, 2 Carriers & Fighters, pp. 1058-1059

Orbital Cities:

Orbital City, 2 Construction, pp. 667-668 and ‘industry on Orbital Cities,’ p. 666

‘moving population to or from Orbital Cities,’ Sardine Tins and Opening the Can Of..., 3 Expansion, pp. 911, 914

Colonizing Mars:

The Human Diaspora, 1 Expansion, pp. 885-887,

‘million-human logistics,’ Magnitude of Mars, 4 Expansion, pp. 926-927

Technology Power, Industry Patent, cybernetic implants, global hive mind, cyberpunk fiction:

“In the history of science, we’ve had some big projects that galvanized entire nations. First we had the Manhattan Project which gave us the atomic bomb. Then we had the Genome Project which allowed us to map the genes of the body. And President Barack Obama initiated the Connectome Project, a project to map the entire human brain.

[somehow he missed the moon landings? Which were a much bigger public-galvanizing interest than the Connectome Project which nobody ever heard of...]

It is possible to connect the brain directly to a computer now; Stephen Hawking, the late physicist, my colleague – if watch videotape of him and look at his right frame, you’ll realize that there was a chip in his right eye glass that communicated by radio with his brain. The chip in turn communicated to a laptop and it allowed him to type mentally. So we can now have telepathy. We can now combine minds with the internet, send memories, send emotions on the internet, and who’s paying for it? The United States Pentagon. The United States Pentagon has already donated over \$150 million for GIs from Iraq and Afghanistan who have spinal cord injuries. We can now bypass the spinal cord and connect the brain directly to the muscles of our body. And in fact, Iron Man – it’s possible to create an Iron Man exoskeleton; at the World Cup games in São Paulo, Brazil, there was a man who kicked the football and started the soccer games. ... That man was paralyzed, he couldn’t move. At Duke University, they suited him up with an exoskeleton, connected to his brain, and he was mentally able to walk and then kick the football.... Now, that’s today, you can imagine what it’s going to be like in the future now when we have direct brain-computer interface.

Eventually, computer chips will cost a penny ... they’ll be everywhere and nowhere, including your eyeball, in your contact lens. You’ll blink and you’ll be online. And who are the first people to buy internet contact lenses? College students taking final examinations; they will blink and see all the answers to my exam right there in their contact lenses. And this could be very useful, if you are at a cocktail party, and there’s some very important people there who could influence your future but you don’t know who they are, in the future, you’ll know exactly who to suck up to at any cocktail party. On a blind date, they could be great because, of course, your blind date could say he’s single, he’s rich, and he’s successful, but...

Already we’ve been able to record memories. We’ve been able to record small memory, short memories, in nice. Now it’s being done on monkeys. Next on Alzheimer’s patients.... So we’re entering a new era where the internet itself could become ‘brain net’; brain net could replace digital internet; instead of zeros and ones, you’ll send emotions, feelings, memories on the internet. And of course, teenagers will love it.” – Michio Kaku, “Michio Kaku: 3 mind-blowing predictions about the future,” Big Think YouTube Channel, January 4, 2021.

GGDM Commentary: At least in this role, Michio Kaku is acting more as a futurist than a science educator or physicist. However, the opening statement about science projects that galvanized entire nations is essentially a description of the Technology Power in GGDM. This, of course, being on the scale of a planetary, pre-1st Era civilization, participants will need to decide how it translates to a multi-system, multi-planet setting, possibly with mixed populations of aliens! And that, of course, is one of the weaknesses of GGDM (and all sci-fi) as it is constructed from Earth standards, projected into the night sky, into an interstellar setting. And fill-in the gaping gaps with your imaginations!

Technology, 2
The Sidereal
Stage, p. 116

‘cyberpunk got there a long time ago,’ Black ICE, 3 Special Operations, p. 1320

‘global hive mind in Mindjammer RPG,’ Trans-human Touchdown, 1 Stardrive, pp. 784-785

‘extracting memories from the dying in Traveller RPG,’ The COM-ing of the Virus, 3 Special Operations, p. 1322

Industry Existential Patent:

Industry, 2 Construction, pp. 665-666

‘improvements to population are subsumed under the Industry Existential Patent,’ Cyberia, 2 Taxation & Census, p. 311

<ul style="list-style-type: none"> It is also worth noting, once again, that all of the brain-net improvements that he talks about are <u>subsumed in GGDM under the Industry Existential Patent</u>, thus each would be a Continuous Operational or Enhancement Patent attached to the Industry Existential Patent. 	
Keeperman, Jacob, M.D.	
<p>Medical Proficiency and internal boundary control:</p> <p>“Unfortunately, the concept of health care being a humanitarian specialty, a humanitarian issue has turned into a politics issue, which has no place in providing care. We are all human, and we all need to look at our similarities, not our differences.” – Dr. Jacob Keeperman (EMS doctor), “MSNBC Live with Ayman Mohyeldin,” MSNBC, December 2, 2020.</p>	<p>Medical Proficiency and Integrity Proficiency, 3 Culture, pp. 390-392</p>
Keilar, Brianna	
<p>Willful Ignorance discussion:</p> <p>“I mean, I don’t know how you would describe it. He’s either ignorant, willfully ignorant, or just very stupid.” – Brianna Keilar, CNN Right Now with Brianna Keilar, October 30, 2020 (talking about a Donald Trump, Jr.’s recent appearance on Fox News).</p>	<p>Willful Ignorance, <i>et. seq.</i>, 2 Information, p. 1353</p>
Kennedy, John F.	
<p>This kind of goes to the argument of artist sensitivity to the human condition, the part where I talk about how apathetic and depressed people are sensitives that experience the Existential Void differently than others:</p> <p>“If sometimes our great artist have been the most critical of our society, it is because their sensitivity and their concern for justice, which must motivate any true artist, makes him aware that our Nation falls short of its highest potential. I see little of more importance to the future of our country and our civilization than full recognition of the place of the artist.” – President John F. Kennedy, Remarks at Amherst College, October 26, 1963.</p> <p><i>See also, Andragogy and Material World, 3 The Big Bang, pp. 12-13.</i></p>	<p>Quiet Desperation, 3 Fallen to Earth, pp. 1531-1532</p> <p>Indifference of Apathy Excerpts, Constructural Elements</p>
Kesari (2018, movie dialogue)	
<p>Invoking God, attributing victories to God discussions:</p> <p>Khan Masood: “Why do you keep getting God into this? What does He have to do with human wars and bloodshed?”</p> <p>Mullah Saeedullah: “Wars aren’t fought without weapons. You use yours. And let me use mine.” – Kesari (2019).</p>	<p>Invoking God, 1 Reformation, p. 1384</p> <p>Will’s God, 3 Combat, p. 969</p>
Khapaeva, Dina	
<p>Relates to the Putin quasi-monarchy discussion:</p> <p>“In his 2007 novel ‘The Apocalypse of Vladimir,’ television journalist Vladimir Solovyov calls Putin ‘the czar and the prophet,’ whose mission is to prepare Russia for the Last Judgment. Vladimir the Apostle, the book’s first-person narrator, destroys thousands of ‘sinners,’ including the entire city of Krasnoyarsk, by burning them alive. Tellingly, Vladimir the Apostle reflects that the ‘sinners’ who were left with no time to repent ‘just croaked.’ For Solovyov, preparing for the ‘long-awaited and bright day of the</p>	<p>Anton Troianovski quote, 5 Government Titles, p. 639</p>

<p>Last Judgment’ requires Russia to introduce hereditary ‘antidemocratic monarchy,’ with Putin as its czar.</p> <p>This view aligns with that of other rank-and-file Orthodox believers. One sect’s followers believe that Putin is a reincarnation of the early Christian missionary Paul the Apostle. The sect’s founder, who calls herself Mother Fotina, trusts that ‘God has appointed Putin to Russia to prepare for the coming of Jesus Christ,’ because he ‘has the spirit of a czar in him.’ ...</p> <p>At the same time, a kind of neo-medieval thinking, focused on the restoration of autocratic monarchy and the supremacy of the Orthodox Church, has been gaining prominence in Russia. Putin’s fire-and-brimstone rhetoric may actually reflect the mindset of these fundamentalists, who view nukes as a “practical solution” to the world’s problems.” – Dina Khapaeva, “Putin and the Apocalypse,” The Japan Times, January 27, 2019.</p>	
Kierkegaard, Søren	
<p><i>Special Operations-Plausible Deniability, dis-Information game, legitimacy, worldview filtering, willful ignorance, propaganda/marketing:</i></p> <p>“There are two ways to be fooled. One is to believe what is not true; the other is to refuse to believe what is true.” – Søren Kierkegaard, <u>Works of Love</u> (1847).</p> <p><u>GGDM Commentary:</u> <i>So much said in so few words!</i></p> <p>See also, world view filtering: ‘anti-vaxxers, weltanschauung,’ Bob Moser Feature Quote, <i>Selecting Bits and Gag Reflex</i>, 1 Information, pp. 1334-1335.</p>	<p>Plausible Deniability, 3 Special Operations, p. 1314</p> <p>Propaganda, 1 Diplomacy, pp. 1091-1092</p>
King Jr., Martin Luther	
<p><i>Willful ignorance and political correctness:</i></p> <p>“Nothing in the world is more dangerous than sincere ignorance and conscientious stupidity.” – Martin Luther King from <u>Strength to Love</u> (1963), Ch. 4.</p> <p><u>GGDM Commentary:</u> <i>Political correctness (PC) appears in over 60 documents in GGDM.</i></p> <p>See also, ‘ignorance is not virtue,’ Barak Obama top Feature Quote, 2 Information, p. 1339 and <i>Elder Race and The Inge Process</i>, 5 Diplomacy, pp. 1153, 1161 and ‘sexism in neurology, neurosexism,’ Lise Eliot Feature Quote, 1 Dreamtime, p. 130.</p>	<p>Willful Ignorance, <i>et. seq.</i>, 2 Information, p. 1353</p>
Kirschner, Glenn	
<p><i>Transhumanism:</i></p> <p>“We can’t lose sight of the fact that we can only imprison a man for one lifetime.” – Glenn Kirschner on The Last Word with Lawrence O’Donnell, MSNBC, October 9, 2020.</p> <p><u>GGDM Commentary:</u> <i>Perhaps medical science will solve this problem someday. See also, EN 8, 3 Order, pp. 563-564.</i></p>	<p>Crime & Punishment and Incarceration, 5 Order, pp. 518-519</p>
Koch, Christof and Jochan Braun	
<p><i>Triviality, meta-consciousness:</i></p>	<p>‘triviality,’ top Feature Quote, 3</p>

“We believe that because consciousness is an evolved property that probably nature discovered once during evolution and the different forms of consciousness are visual consciousness, auditory consciousness, maybe even high-level self-consciousness are probably just different variants of the same theme, the same mechanism. ... For the world to them looks like this, they’re blind in the left side of the visual field and they go to the doctor and the doctor says, ‘well, can you see this?’ [Waving a pen around the blind side] ‘No.’ ‘Can you guess whether it moves to the left of the right?’ And the patient says, ‘well I’m blind.’ And the doctor says, ‘well guess.’ And the patients guess left-right, up-down and the patient is as surprised as the doctor, at least they were at first, and the point is that these patients – there’s not a quite substantial number of them throughout the world – they do not have conscious access to information in the blind hemisphere yet, if forces to respond, it turns out that something in their brain has information because it can correctly guess for some the direction of motion, they can correctly roughly point at a bright light, they can roughly say something about what colors is out there, it’s very cool.” – Dr. Christof Koch (neuroscientist, MIT, CIT) interview from “Non-conscious Processing: Blindsight.”

“The theory of which has been advanced by others, not only by us, is that there are actually two visual systems, one ventral and one dorsal visual system with different functions. So the function of the ventral visual system would be to recognize things, to read, to see faces, to acquire visual memories and so forth, and that visual system, they theory goes contributes to your conscious experience. The other visual system, the dorsal one, has a different function, namely to guide your movements, your eye movements, and input also your hand movements or just locomotion if you’re walking around.” – Dr. Jochen Braun (cognitive biology, University of Magdeburg) interview from “Non-conscious Processing: Blindsight.”

“In some sense, we have within us a kind of robot that allows us to interact with the world, that is controlled to some degree by our conscious visual experience. So our conscious visual experience marks this as a goal object, then we bring to bear a robot that allows us to reach out and pick this up. Different computational demands. It’s unconscious vision and it’s indicia in some real sense never be conscious. It’s quite inaccessible to conscious report.” – uncredited interview, from “Non-conscious Processing: Blindsight” (the video cuts off before the speaker is identified).

GGDM Commentary: This “Non-conscious Processing: Blindsight” video is apparently part of a larger, unidentified video, possibly for a neurology course. It appears currently in 2021 on two channels on YouTube, Coolpsychologist (posted 9 years ago) and Tercs Time (posted March 18, 2011, where it is described as “Tercs AP Psychology Class Videos”), both without attribution to the original video. But both videos are still up so we can assume that no one filed a copyright infringement protest.

- AP is ‘advanced placement,’ an exam system used by the College Board so this video is likely from a course or exam preparation program. I am unable to determine any particular meaning for ‘tercs time.’

*Anyway, ‘blindsight’ is an issue that is used in the Fox Network 2019 War of the Worlds TV series and that is where I first became aware of it. But it reminded me very much of the 2011 “Knut” quote used in GGDM which – in the sense of this video – **attributes triviality to those acts which do not require consciousness or conscious access.** And so that is how the subject connects to the GGDM discussion, though in science fiction (e.g.*

Technology, p. 712

‘extra-sensory abilities in GGDM races,’ Farsight, 3 Information, pp. 1362-1363

Meta-consciousness discussions:

In the Mirror, I Meta Me, 2 Con-structural Elements, p. 195

‘object permanence,’ Life, Looking, and Luck, 2 Expansion, pp. 896-897

‘drug abuse,’ EN 1, 3 Fallen to Earth, p. 1549

<p><i>the War of the Worlds TV series) it is capable of being extrapolated in many different directions, for example, the series writers combined it with research into how birds sense the magnetic field of the Earth to navigate during migration.</i></p>	
<p>Komanduri, Chaitanya</p>	
<p><i>The Bargain, Culture War, domestic subsistence, definition of politics, Finance Proficiency:</i></p> <p>“The GOP basically does this one trick over and over again. They take any issue, whether it’s national security, the economy, and they turn it into a culture war. I mean, just look at the COVID issue, which is a medical issue, it’s a scientific issue, they’ve turned it into an expression of toxic masculinity where Republicans refuse to wear masks, refuse to socially distance, and they do all this at rallies while they watch Trump dance to “Macho Man.” It’s the same thing that occurred with the Tea Party where they turned it into a ‘makers vs. takers’ dynamic. Of course, you had the first African-American President with the implication that he was performing a ‘wealth transfer’ to non-white minorities [via the 2009 stimulus bill], but it did not happen with this stimulus bill [the 2021 COVID Relief Bill] and it’s really important to think about why it did not occur. I think, quite frankly, direct checks are basically culture-war kryptonite.” – Chai Komanduri, appearance on The Beat with Ari Melber, MSNBC, March 3, 2021.</p> <p><u><i>GGDM Commentary:</i></u> <i>The Republican Party/conservative coalition is not Superman, if they were, they’d actually accomplish something and be on the right and moral side of history!</i> ☺</p>	<p>The Bargain and Cultural War, 5 Culture, pp. 426, 428</p> <p>‘Colony domestic subsistence,’ Resources, 2 Taxation & Census, p. 301</p> <p>Interstellar Politics, 1 Taxation & Census, p. 295</p>
<p>LaCroix Vampire (character, Forever Knight)</p>	
<p><i>Enlightened Despotism?</i></p> <p>“The best form of government is a benevolent tyranny tempered by an occasional assassination.” – LaCroix Vampire, Forever Knight TV series.</p>	<p>EN 1, 1 Diplomacy, p. 1107</p>
<p>LaGrandeur, Kevin</p>	
<p><i>This covers so much ground in GGDM, speciesism, personhood, large scale distributed systems, Turing Test, animal rights cases:</i></p> <p>“Thus, the focus will be on function rather than form: humanness will be defined by how a species operates—in other words, whether it processes information like a human, is sentient, empathic, intelligent, and such—rather than how it looks.</p> <p>Humans and machines will be effectively merged, since differences in appearance will be meaningless (as Katherine Hayles puts it in her book How We Became Posthuman, bodies will essentially become fashion accessories). And, increasingly, some argue that this will also elide differences between humans and other species, as well. In fact, it already has, to some extent. A group called The Nonhuman Rights Project has recently won rights of legal personhood for certain great apes. Thus the posthuman naturally undermines human exceptionalism. ...</p> <p>Two significant differences between transhumanism and the posthuman is the posthuman’s focus on information and systems theories (cybernetics), and the posthuman’s consequent, primary relationship to digital technology; and also the posthuman’s emphasis on systems (such as humans) as distributed entities—that is, as systems comprised of, and entangled with, other systems. Transhumanism does not emphasize either of these</p>	<p>Pan-Galactic People, 5 Diplomacy, pp. 1155-1156</p> <p>Limp Chimps and Alien Persons, <i>et seq.</i>, 2 Diplomacy, pp. 1110-1111</p> <p>Habeas Corpus Monkey-us, 2 Writs, p. 438</p> <p>‘large-scale distributed systems,’ Wikipedia Feature Quote, 2 Culture, p. 363</p>

<p>things.” – Kevin LaGrandeur, “What is the difference between posthumanism and transhumanism?” Institute for Ethics and Emerging Technologies, July 28, 2014.</p> <p><i>See also, Speciesism, 6 Combat, p. 1025, Sophontistry, 2 Diplomacy, p. 1113, Sentience vs. Sapience, 5 Beginnings, p. 56.</i></p>	
<p>Latore, Bruno</p>	
<p><i>Biomass, Gaia Hypothesis, paradigm shift (Thomas Kuhn), colonizing Mars (Elon Musk), Pollution Potentials, art vs. science (related to ontology vs. ontic description):</i></p> <p>“In your latest art collaboration at ZKM Center for Art and Media in Karlsruhe, Germany, you define the scope of human existence as the ‘critical zone’, a narrow band of Earth that can support life. What is the purpose of this approach?</p> <p>It is a redefinition of our landscape. The idea of the ‘critical zone’ is useful because it gets you out of nature. Nature is very big. It covers everything from the big bang to microbes. Conceptually, that makes it a complete mess. The critical zone is limited. It is just a few kilometres thick – above and below the surface of the Earth. But all discovered life is within it. This brings us inside in a way that nature does not. It is very different from the way of thinking that makes people such as Elon Musk think they should go on a mission to Mars. That is escapist. But when you think in terms of a critical zone, you are locked in, you cannot escape. What does it mean for politics if we are locked in and not in the infinite cosmology opened by Galileo? It means we cannot behave in the same way. It means we cannot just endlessly extract resources and discard our waste. In the critical zone, we must maintain what we have because it is finite, it’s local, it’s at risk and it’s the object of conflict.</p> <p>[‘critical zone,’ <i>see Anton Petrov quotes from “Scientists Discover Huge Bacterial Biomass Inside Earth” this document, which predates this interview by a year and a half</i>]</p> <p>This seems to add a political edge to James Lovelock’s Gaia hypothesis, which explains how ‘Life’ acts to maintain habitable conditions for itself. You have long been a champion of this theory...</p> <p>Lovelock locked us in! While Galileo used a telescope to reveal that the Earth is part of an infinite universe, Lovelock used his electron capture detector to reveal that the Earth is completely different from any other planet because it has life. He and [Lynn] Margulis spotted Gaia. Lovelock from space, taking the question as globally as possible; Margulis from bacteria, taking the question from the other end, both realising that Life, capital L, has managed to engineer its own conditions of existence. For me that is the greatest discovery of this period, though it is still not very much accepted by mainstream science. This may be because we do not yet have the tools to receive it.</p> <p>Why do you think scientists are still wary?</p> <p>That such an important concept is still so marginal in the history of science is extraordinary. I have done everything I can to make it accepted. But scientists are reflexively cautious. The cosmological shift from Aristotle to Galileo is the same as that from Galileo to Gaia. With Galileo, our understanding moved outwards to an infinite universe. Grasping that took a century and a half and faced resistance. Gaia is not just one more concept. It is not just about physics and energy. It is Life.” – Bruno Latore interview by Jonathan Watts, “Bruno Latour: ‘This is a global catastrophe that has come from within,’” The Guardian, June 6, 2020.</p> <p><u><i>GGDM Commentary: Toby Tyrrell notes that the Gaia hypothesis is ‘dead’ in science now (see his comments, this document), but Bruno Latore’s interview illustrates that it</i></u></p>	<p>James Blish quote about Thomas Kuhn, 3 Fallen to Earth, pp. 1542-1543</p> <p>Jeffrey Kluger quote about Elon Musk and going to Mars, 1 Expansion, p. 886</p> <p><i>See also, Elon Musk quotes, this document</i></p> <p>Pollution Potentials and Low-Carb Colonies, 3 Taxation & Census, p. 320</p> <p><i>See also, Ferris Jabr’s comments about Suzanne Simard’s plant root communication network, forestry theory, this document.</i></p> <p>Colonizing Mars:</p> <p>The Human Diaspora, 1 Expansion, pp. 885-887</p> <p>Magnitude of Mars, 4 Expansion, pp. 926-927</p>

<p><i>will continue on in art and philosophy because it has such potential there and fits their worldview.</i></p>	
<p>The Last Starship (movie, 2017)</p>	
<p><i>Humans generally prefer fuzzy concepts to detailed pronouncements, unless technical in nature, ecumenical councils, Special Operations Mission Profile:</i></p> <p>“My experience has shown that betas ... that humans are calmer when details of the mission are not specific. They become too emotional, they look for too many options.” – Cloned human commando officer, The Last Starship aka Monsters (2017).</p> <p><u><i>GGDM Commentary:</i></u> <i>It is odd that in this 2017 German-made post-apoc, English language (mostly anyways) movie, I find an adjunct or corollary to an argument I made in GGDM about human thinking and fuzzy concepts in 2019. As to the movie, it is structured like much of Japanese anime, it throws the viewer into the strange world with little context, a lot happening as the story quickly moves along, it’s not clear who are the good or bad guys, what each side is trying to achieve, or what they did in the past, there is much backstabbing and spy stuff, and the viewer just has to pick up clues along the way. And in the end, none of it is clear at all except that they plan a sequel. But it was interesting.</i></p>	<p>Fuzzy Beliefs, 4 Culture, pp. 407-408</p> <p>‘Five Factor Model of Personality,’ EN 15, 2 Constructural Elements, p. 203</p> <p>Fuzzy Ops, 3 Special Operations, pp. 1306-1307</p> <p>Profile in Perfidy, 2 Special Operations, p. 1300</p>
<p>Letzter, Rafi</p>	
<p><i>GGDM detection abilities discussion:</i></p> <p>“An unexplained chemical has turned up in the upper atmosphere of Venus. Scientists are tentatively suggesting it could be a sign of life.</p> <p>The unknown chemical is phosphine gas (PH₃), a substance that on Earth mostly comes from anaerobic (non-oxygen-breathing) bacteria or ‘anthropogenic activity’ – stuff humans are doing. It exists in the atmospheres of gas giant planets, due to chemical processes that occur deep in their pressurized depths to bind together three hydrogen atoms and a phosphorus atom. But scientists don’t have any explanation for how it could appear on Venus; no known chemical processes would generate phosphine there. And yet, it seems to be there, and no one knows of anything that could make phosphine on Venus except for living organisms. ...</p> <p>In other words, they were checking what the phosphine signatures might look like as a baseline, on a planet assumed to have no natural way of producing the substance. ‘But unexpectedly,’ the researchers wrote in the study, ‘our initial observations suggested a detectable amount of Venusian PH₃ was present.’ They confirmed what they were seeing using the Atacama Large Millimetre/submillimetre Array in Chile. Variations in the light coming from Venus’ upper atmosphere showed a substantial amount of phosphine there.</p> <p>But phosphine on Venus doesn’t necessarily mean life on Venus, the authors wrote. They raised the possibility of life because bacteria are the only known way of making phosphine on a planet without a gas giant’s super-high atmospheric pressures. But it’s just as possible that some previously-unknown chemical process is producing the gas.</p> <p>‘This could be unknown photochemistry [chemical reactions that require light] or geochemistry, or possibly life,’ they wrote. ‘Information is lacking – as an example, the photochemistry of Venusian cloud droplets is almost completely unknown.’” – Rafi Letzter</p>	<p>Everyone Has a Venus, 4 Taxation & Census, pp. 328-329</p> <p>GGDM Detection Abilities:</p> <p>ABBA Arrival, Private Eyes, and Taking It All Down, 2 Information, pp. 1340-1341, 1342-1343</p> <p>Riding the T, 3 Temporal Technology, p. 828-829</p> <p>Battle of Churchill Sol B, 2 Carriers & Fighters, pp. 1061-1062</p>

– Staff Writer, “Possible hint of life discovered on Venus,” Live Science, September 14, 2020.

Lincoln, Don

C-Question, all news in space is old news, distance measured by time and not by actual distances, age of the universe problem, Big Bang horizon limitation:

“When we look out into space, we are not only looking at things that are far way, we’re looking at things that existed in the past. ... Thus, when we sit down in the morning with some toast and our first cup of coffee for the day and look at the sun, we’re seeing it not as it is now, but as it was when we put the bread in the toaster. Time and space are inextricably intertwined when we talk about how far away things are. ... In more familiar terms, a light year is nine and a half trillion kilometers or just shy of six trillion miles [5.9 trillion miles] ... Astronomers have determined the age of the universe very precisely; it is 13.7 billion years old. ... How big is the visible universe? ... When the universe began, it was filled with light which then travelled through the cosmos. And if the universe began 13.7 billion years ago and we’re just now seeing it arrive, it had to have travelled 13.7 billion light years before it hit Earth. And to make that point solid, astronomers can actually see light from shortly after the universe began. ... Accordingly, it would be reasonable to say that the visible universe consists of a sphere centered on the Earth with a radius of 13.7 billion light years. Boom. Done. Except that this is completely wrong. ...

And if you think about it for a moment, you’ll realize that this way of thinking assumes that the universe is static and, at least on average, distances between objects aren’t changing. But we know this isn’t true. To begin with, the Big Bang happened. The universe is expanding, and it used to be expanding much faster than it is now. And that means that the simple answer isn’t good enough.... And that expansion is key to understanding what is going on here. We start by imagining what the universe looked like when this microwave background radiation was emitted. ... But at that moment, it looked like everywhere else. Now, there was a sphere centered around that point, and at that time, the sphere is the origin of the cosmic microwave background arriving at the Earth now. That radiation moved toward the Earth at the speed of light and it took 13.7 billion years to get here. If we look at a sphere smaller than that special sphere, that light has already passed the Earth and we can’t see it. Light from a bigger sphere isn’t here yet, so we don’t see it either. When this light was emitted shortly after the Big Bang, this sphere’s radius was about 42 million ... light years away. Naively, you’d expect that this light would have taken 42 *million* years to get here, but it took 13.7 *billion* ... years to travel to Earth. And the reason that it took so long is that space was and is expanding. Now if you think about that, it means that the space between that sphere and the location of the Earth had to be expanding pretty fast. Otherwise, the light would have passed by the Earth long ago, I mean, it was only 42 *million* light years and it has been nearly 14 *billion* years. So that sphere from which the microwaves were originally emitted also grew in size, and in the simplest calculation, that sphere would now be 41 *billion* ... light years away. However, it turns out the simplest calculation isn’t quite right. You see, about five billion years ago, an energy field that we call Dark Energy became important. Dark energy is a repulsive form of gravity which means that the expansion of the universe isn’t slowing down, it’s accelerating. That of course, means that after 9 billion years of the expansion of space slowing down, it’s now speeding up. When you take into

‘expansion rate of the universe,’ C-Question, 1 Star-drive, p. 779

‘all news in space is old news,’ Datastream, Freeze Frame, and Taking It All Down, 2 Information, pp. 1340, 1341, and 1343

Scale Creep, 4 The Streams of Time, pp. 98-99

Heinrich Olber’s “dark sky paradox,” Let’s Do Some Calculations, 1 Movement, pp. 837-838

Distance is time:

“Time is perhaps our prime yardstick,” Roger Caras quote and following paragraphs, 3 Reformation, pp. 1404-1405

Groundhogs and Time & Space, 2 Movement, pp. 848-849

<p>account the effect of dark energy, that radius of the sphere from which the microwaves were emitted has grown from 42 <i>million</i> ... to 46 <i>billion</i> light years.</p> <p>And this highlights the confusion that arises from expanding space. We see the light from shortly after the Big Bang. It was emitted a short distance away and now the location from which it was emitted is now about 1100 times farther than it was. Further, when we see it, we see it as it was then and not as it is now. ... So, if we could somehow see 46 billion light years away, presumably there are also stars and galaxies. But we don't see them there because light from objects that are currently that far away hasn't had time to reach us yet. In fact ... we'll never see those stars and galaxies ... they are moving away from us very fast and space is still expanding. We saw that location when the universe was young, but we can't see them now. ... Currently there is a sphere around the Earth that is 15 billion light years. Objects that are now outside that sphere at this moment we'll never see as they look now, no matter how long we wait. ... We can see objects that are 46 billion light years away, but we can see them as they were in the distant past. And any objects that are currently within 15 billion light years we will be able to see as they are now, although we'll have to wait a long, long time for that light to get to us. And because of the expansion, it gets worse. It means that we constantly lose stars that we can see, indeed we lose about 20,000 stars per second. So there are stars that emitted photons at this moment that we will eventually see, but the photons that they emitted at this slightly later moment that we'll never see. One day, the expansion of the universe will make it so that almost all of the galaxies we see in our telescopes today, which I remind you we're now seeing as they were in the distant past, will slip from our view. We will one day only be able to see galaxies from our local group, meaning the Milky Way, Andromeda and a few dozen minor galaxies in the vicinity. ... Our visible universe has a radius of about 46 billion light years even though it is only 13.7 billion years old. But we're not seeing that distant point as it was now, but as it was shortly after the universe began." – Dr. Don Lincoln (Fermilab), "If the universe is only 14 billion years old, how can it be 92 billion light years wide?" Fermilab YouTube Channel, June 19, 2019.</p>	
<p>Louis-Dreyfus, Julia</p>	
<p><i>Funny, Related to the ‘no one will steal what you cannot even give away’ discussion:</i></p> <p>“Soon after, I was invited to be on the cover of a magazine. Remember those? I was so excited, like uh what is it going to be, People or Vogue or the Rolling Stone? Well, it turns out it was for Arrive, the official onboard magazine of Amtrak, which nobody ever reads, even though it's free.” – Julia Louis-Dreyfus, host monologue at the Democratic National Convention, August 20, 2020.</p> <p><i>See also, EN 3, 1 Fallen to Earth, p. 1506 and Enculturation of GGDM, 1 Reformation, p. 1374.</i></p>	<p>Material World, 3 The Big Bang, pp. 12-13</p>
<p>Lovelock, James</p>	
<p><i>Gaia Hypothesis, noosphere, Russian Cosmism, tribalism at the ballot box, Fundamental Realities:</i></p> <p>“I think that we reject the evidence that our world is changing because we are still, as that wonderfully wise biologist E. O. Wilson reminded us, tribal carnivores. We are programmed by our inheritance to see other living things as mainly something to eat, and we care more about our national tribe than anything else. We will even give our lives for it and are quite ready to kill other humans in the cruelest of ways for the good of our tribe.</p>	<p>Fundamental Realities, <i>et. seq.</i>, 3 Beginnings, pp. 37-38</p> <p>‘tribal war at the ballot box,’ John</p>

<p>We still find alien the concept that we and the rest of life, from bacteria to whales, are parts of the much larger and diverse entity, the living Earth.” – James Lovelock, <u>The Revenge of Gaia</u> (2006).</p> <p><i>GGDM Commentary: James Lovelock, CBE, CH, is probably considered a transhumanist figure in most circles, he is the originator of the modern Gaia hypothesis, and experimented successfully in cryonics. Mr. Lovelock is over 100 years old as of 2019. It appears that Mr. Lovelock is satisfied to die naturally as cryonic suspension would be pointless and impossible at his current age.</i></p> <ul style="list-style-type: none"> • ‘Gaia’ is only mentioned in GGDM in relation to Isaac Asimov’s famous sci-fi ‘Galaxia-Gaia’ <p>See also, noosphere: ‘noosphere, Sidereal Stage, Russian cosmism,’ EN 1, 1 The Sidereal Stage, p. 113, ‘history of noosphere, noogenesis,’ EN 8, 1 Order, p. 531, and Noosphere, 4 Expansion, p. 925 and Russian pre-Cosmism excerpt, The Sidereal Stage.</p>	<p>R. Schindler bottom Feature Quote, 4 Order, p. 577</p>
<p>Lucy (movie, 2014)</p>	
<p>Uber Alles, Existential Void, Hayflick Limit, Transhumanism/Post-Humanism, Culture by definition, Legacies discussion:</p> <p>“If life starts approximately a billion years ago, we will have to wait 400,000 years to see the aberration of the first nerve cells. This is where life as we know it begins. Brains in formation of only a few milligrams. It’s not possible to determine any sign of intelligence yet. It acts more as a reflex. One neuron, you’re alive. Two neurons, you’re moving, and with movement, interesting things begin to happen. Animal life on Earth goes back millions of years. Yet most species only use 3 to 5% of its cerebral capacity. But it isn’t until we reached human beings at the top of the animal chain that we finally see a species use more of its cerebral capacity. Ten percent may not seem like much, but it’s a lot if you look at all we’ve done with it. Now let’s discuss a special case. The only living being that uses its brain better than us. The dolphin. It is estimated that this incredible animal uses up to 20% of its cerebral capacity. In particular, this allows it to have an echolocation system that is more efficient than any sonar invented by mankind. But the dolphin did not invent the sonar, it developed it naturally. And this is the crucial part of our philosophical reflection we have today: Can we therefore conclude that humans are concerned more with having than being?</p> <p>For primitive beings like us, life seems to have only one single purpose: gaining time. And it is going through time that seems to be also the only real purpose of each of the cells in our bodies. To achieve that aim, the mass of the cells that make up earthworms and human beings has only two solutions. Be immortal or to reproduce. If its habitat is not sufficiently favorable or nurturing... The cell will choose immortality. In other words, self-sufficiency and self-management. On the other hand, if the habitat is favorable... They will choose to reproduce. That way, when they die, they hand down essential information and knowledge to the next cell, which hands it down to the next cell and so on. Thus, knowledge and learning are handed down through time.</p> <p>Let’s imagine for a few moments what our life would be like if we could access, let’s say, 20% of our brain’s capacity. This first stage would give us access to and control of our own body. For the moment, it’s just hypothesis, I confess. But if you think about it, it’s troubling to realize that the Greeks, the Egyptians and the Indians had notion of cells centuries before the invention of the microscope. And what to say about Darwin, whom everybody took for a fool when he put forth his theory of evolution? It’s up to us to push</p>	<p>‘definition of culture,’ Not Quite A Priori, 2 Culture, bottom p. 374</p> <p>‘production and reproduction,’ Frank Elwell Feature Quote, 1 Taxation & Census, top p. 296</p> <p>Uber Alles, 2 Eras, p. 767</p> <p>‘transhumanism,’ Russian pre-Cosmism Excerpt, The Sidereal Stage and EN 9, 2 Expansion, p. 905</p> <p>Hayflick Limit:</p> <p>‘aging is a fault of our genes,’ Feature Quote from Annihilation, p. 327 and Senescence, 4 Taxation & Census, p. 328</p> <p>‘Hayflick limit is the essence of human,’ EN 12, 3</p>

<p>the rules and laws and go from evolution to revolution. One hundred billion neurons per human, of which only 15% are activated. There are more connections in the human body than there are stars in the galaxy. We possess a gigantic network of information to which we have almost no access. Well, the next stage would probably be control of other people. But for that, we would need to access at least 40% of our brain’s capacity. After control of ourselves and others would come control of matter. But now we’re entering into the realm of science fiction and we don’t know any more than a dog who watches the moon.” – Professor Norman’s lecture, Lucy (2014).</p> <p><i>GGDM Commentary: I am a dog watching the moon and GGDM is my attempt at being rather than possessing, thus I agree with James Hetfield, “I do believe that to keep what you got, you’ve got to give it away.” (“Metallica’s James Hetfield At Guitar Center” (2014) interview video on YouTube). I have sacrificed much along the way to GGDM and expect only to be ridiculed by humanity and kicked in the back for it by the universe. The corollary question is whether ‘generativity’ is, in the words of Professor Norman, more a human concern with ‘having’ – that is, an attempt to ‘possess’ the future after we are deceased – or with ‘being’ in the present? So much of it depends on interpretation.</i></p> <p>See also, Legacy Discussions: The Insistence of Memory, 3 <i>Temporal Technology</i>, pp. 830-832 <i>Integrity Proficiency</i>, 3 <i>Culture</i>, pp. 390-391 ‘extended legacy’ <i>The Inge Process</i>, 5 <i>Diplomacy</i>, pp. 1161-1163, ‘learning legacy as a designer’ <i>Historical Cycles</i>, 1 <i>Resolution</i>, pp. 1457-1458, ‘attacking legacies to score a political point’ EN 9, 4 <i>Colleges</i>, p. 514, and ‘dethroning Offa of Mercia’ EN 16, 1 <i>Special Operations</i>, p. 1284.</p>	<p>Fallen to Earth, p. 1550</p> <p>‘Hayflick limit is the essence of literary,’ EN 18, 4</p> <p>Fallen to Earth, p. 1568</p>
<p>Transhumanism, “Humans need meaning” tiny human-limited scale of our interstellar fiction, language as an invented system of meanings, inherent meaninglessness of the universe:</p> <p>“Every cell knows and talks to every other cell. They exchange a thousand bits of information between themselves per second. Cells join together forming a joint web of communication, which in turn forms matter. Cells get together, take on one form, deform, reform — makes no difference, they’re all the same. Humans consider themselves unique so they’ve rooted their whole theory of existence on their uniqueness. One is their unit of measure, but it’s not. All social systems we’ve put into place are a mere sketch. One plus one equals two. That’s all we’ve learned, but one plus one has never equaled two. There are, in fact, no numbers and no letters. We’ve codified our existence to bring it down to human size to make it comprehensible. We’ve created a scale so that we can forget its unfathomable scale. ... Film a car speeding down the road. Speed up the image infinitely and the car disappears. So what proof do we have of its existence? Time gives legitimacy to its existence. Time is the only true unit of measure. It gives proof to the existence of matter. Without time, we don’t exist.” – Lucy from the 2014 film of the same name.</p> <p><i>GGDM Commentary: Though the premise of this movie – the underlying mechanics – are made of silly-putty, it served as an excellent vehicle to once again put transhumanism, post-humanism and the most profound existential questions and questions of human evolution before a new generation audience.</i></p> <p>“It’s funny, I used to be so concerned with who I was and what I wanted to be and now that I have access to the furthest reaches of my brain, I see things clearly and realize that what makes us, us it’s primitive. They’re all obstacles. Does that make any sense? Like this pain you’re experiencing. It’s blocking you from understanding. All you know now is pain. That’s all you know, pain.” – Lucy talking to Jang</p>	<p>Humans Need Meaning, 1 <i>Beginnings</i>, pp. 23-24</p> <p>‘human sidereal stage,’ <i>Stage Illusions</i>, 1 <i>The Sidereal Stage</i>, pp. 107-108</p> <p>‘the human forever,’ <i>Tribal Minds</i>, 1 <i>Temporal Technology</i>, pp. 813-814 and <i>A Dying Age</i>, 2 <i>Eras</i>, pp. 774-775</p> <p>Language as an arbitrary system of assigned meanings:</p> <p><i>Fundamental Realities</i>, 3 <i>Beginnings</i>, pp. 37-38</p>

<p>“I don’t feel pain, fear, desire. It’s like all things that make us human are fading away. It’s like the less human I feel, all this knowledge about everything, quantum physics, applied mathematics, the infinite capacity of a cell’s nucleus. They’re all exploding inside my brain, all this knowledge. I don’t know what to do with it.” – Lucy telephone conversation with Professor Norman.</p> <ul style="list-style-type: none"> The underlying theme of the movie is that life changes, learns, and passes it along (see Professor Norman’s speech above). This is what Lucy did at the end of the movie and it’s what each of us can do even if we do not ourselves have children; that is sapience. It is the basic urge to generativity. GGDM is my generativity. <p><i>GGDM Commentary: I admit that the film Lucy speaks to me on profound levels, perhaps it’s my age, but then again, chronological age is no longer considered any sure indicator of maturity or mental acuity. But I can say that in the last decades slowly the things I wanted or thought I wanted as a youth turned out to not matter at all, to be silly, embarrassing memories. The ‘pain’ is the existential void, we look away, shield ourselves and one of the main themes of GGDM is just that as the function of civilization. And the question of what to do with it is the one I first confronted and asked at about 14 years old, it was in a way, the defining question of my teen years; I knew, saw, felt, thought, dreamed in my sleep, all these things and wondered what to do with it, my head exploding with seeming to see it all at once in a sort of cubist way.</i></p> <p>See also, Inherent Meaninglessness: The Key to the Singularity, 1 Beginnings, p. 22, ‘understanding death as a concept’ <i>Domesticated Animals, 5 Taxation & Census</i>, pp. 336-338, ‘escaping adulthood’ <i>Kindergarten Experience, 1 Eras</i>, pp. 764-765, <i>The Ontological Terrorism of GGDM, 3 Fallen to Earth</i>, pp. 1529-1530, ‘Existential Void vs. Camus’ <i>EN 11, 3 Kairotic Moments</i>, p. 1454, ‘atheism and meaninglessness’ <i>Michael Robbins Feature Quote, 1 Technology</i>, p. 696.</p>	<p>‘blue is arbitrary,’ <i>Fuzzy Logic, 2 The Big Bang</i>, pp. 5-6</p> <p>‘how do you spell cat?’ <i>EN 1, 1 Dreamtime</i>, p. 139</p>
<p>Maddow, Rachel</p>	
<p>This is funny:</p> <p>“This is how loyalty works: The loyalty demands are infinite, the loyalty reciprocity is ... ‘what, I can’t hear you, you are breaking up, can you call me back?’” – Rachel Maddow, <i>The Rachel Maddow Show, MSNBC</i>, August 21, 2020 (talking about how Trump is distancing himself from Steve Bannon after his arrest).</p>	
<p>Maher, Kevin</p>	
<p>Bad Guy Isn’t Always Wrong, bad things must happen to good people to make a story:</p> <p>“Let’s talk about villains....villains are defined by their goals, whether it’s wanting to rule the world or simply kill Harry Potter. Typically, the villain is wrong, but there are examples where the antagonist has some valid points. ... I am talking about Planet of the Apes, because in each film the villain ends up being right! Let’s start with the first one, now Dr. Zaius is the chief defender of the faith and the minister of science, also he’s got a real grudge against man. I think his bigotry comes from his religious beliefs, articulated here in the sacred scrolls. Dr. Zaius does all the things you’d expect from a classic villain, he lies, he distorts facts, he even lobotomizes his enemies. The irony is that Dr. Zaius was right and the final scene proves it. In the sequel, <i>Beneath the Planet of the Apes</i>, Dr. Zaius doubles down on his judgment of man and the human basically proves that point by detonating an atomic bomb. Well, Dr. Zaius doesn’t even get to gloat about being right because he dies along with every living thing on Earth. ... In these movies, the vil-</p>	<p>Bad Guy Discussions:</p> <p><i>The Devil’s Argument and Crappy Things Must Happen, 1 Entropy</i>, p. 216</p> <p><i>EN 10, 3 Beginnings</i>, p. 45</p> <p>Planet of the Apes:</p>

<p>lain takes no pleasure in being right, in fact he’s punished for it and despite his best efforts, the future he fears happens anyway.” – Kevin Maher (writer/narrator), “Dr. Zaius was right,” Atomic Abe Productions YouTube Channel, May 6, 2020.</p> <p><i>GGDM Commentary: Mr. Maher then goes on to exonerate Dr. Hasslein (human, Escape from the Planet of the Apes) and Governor Breck (human, Conquest of the Planet of the Apes) in similar ways. The excellent video obviously is a metaphor for villainization of the opposition in 21st Century American politics, and at one point, he even throws an elbow commenting that the characters sound like “modern conspiracy theorists.” But the discussion from the GGDM point of view, blends well with the discussions of Tomorrowland (2015) and that there must be a bad guy in most stories and the bad guy isn’t always wrong.</i></p>	<p>‘chronology,’ The Door to That When is Closed, 1 Temporal Technology, pp. 804-805</p> <p>‘franchise reviews,’ EN 9, 1 Eras, p. 766</p> <p>‘cobalt bomb,’ EN 5, 4 Carriers & Fighters, p. 1090</p>
<p>Mann, Charles C.</p>	
<p><i>Xenomicrobes, Columbian Exchange, conservationist arguments, success dooms you to failure, personal sublime drive:</i></p> <p>“THE PROBLEM WITH environmentalists, Lynn Margulis used to say, is that they think conservation has something to do with biological reality. A researcher who specialized in cells and microorganisms, Margulis was one of the most important biologists in the last half century – she literally helped to reorder the tree of life, convincing her colleagues that it did not consist of two kingdoms (plants and animals), but five or even six (plants, animals, fungi, protists, and two types of bacteria).</p> <p>Until Margulis’s death last year, she lived in my town, and I would bump into her on the street from time to time. She knew I was interested in ecology, and she liked to needle me. Hey, <i>Charles</i>, she would call out, are you still all worked up about protecting endangered <i>species</i>?</p> <p>Margulis was no apologist for unthinking destruction. Still, she couldn’t help regarding conservationists’ preoccupation with the fate of birds, mammals, and plants as evidence of their ignorance about the greatest source of evolutionary creativity: the microworld of bacteria, fungi, and protists. More than 90 percent of the living matter on earth consists of microorganisms and viruses, she liked to point out. Heck, the number of bacterial cells in our body is ten times more than the number of human cells!</p> <p>Bacteria and protists can do things undreamed of by clumsy mammals like us: form giant supercolonies, reproduce either asexually or by swapping genes with others, routinely incorporate DNA from entirely unrelated species, merge into symbiotic beings – the list is as endless as it is amazing. Microorganisms have changed the face of the earth, crumbling stone and even giving rise to the oxygen we breathe. Compared to this power and diversity, Margulis liked to tell me, pandas and polar bears were biological epiphenomena – interesting and fun, perhaps, but not actually <i>significant</i>.</p> <p>Does that apply to human beings, too? I once asked her, feeling like someone whining to Copernicus about why he couldn’t move the earth a little closer to the center of the universe. Aren’t we special <i>at all</i>?</p> <p>This was just chitchat on the street, so I didn’t write anything down. But as I recall it, she answered that <i>Homo sapiens</i> actually might be interesting – for a mammal, anyway. For one thing, she said, we’re unusually successful.</p>	<p>‘conservationist arguments are noble oblige arguments,’ Noblesse n’oblige plus, 4 Movement, pp. 869-870</p> <p>‘sublime and Diminishing Returns Phenomena,’ Something Sublime and Bubbling to the Top, 3 Culture, pp. 380-381</p>

Seeing my face brighten, she added: Of course, the fate of every successful species is to wipe itself out.” – Charles C. Mann, “State of the Species,” Orion Magazine online, 2013 (<https://orionmagazine.org/article/state-of-the-species/>).

GGDM Commentary: In relating this conversation with Dr. Lynn Margulis, Charles C. Mann perhaps unintentionally revealed what she finds sublime, what drove her passion for microbes. As discussed in GGDM, one must find something sublime in a subject to become passionately interested, knowledgeable and pioneering and even caustic – all of which describes Dr. Margulis.

*See also, **Columbian Exchange and Xenomicrobes:** ‘Native Americans and small pox,’ John Winthrop Feature Quote and Bad Exchanges, 4 Expansion, p. 924 and EN 6, p. 930, The Black Death, 1 Disruption, p. 252, ‘xenomicrobial transmission between colonies,’ Pangalactic Pornography, 5 Beginnings, p. 53, ‘ending of War of the Worlds,’ EN 11, 2 Disruption, p. 280, ‘small pox retention debate,’ EN 12, 4 Diplomacy, p. 1152, ‘microorganisms in space,’ George Dvorsky Feature Quote, 1 Expansion, p. 885, ‘fungi nearly wrecked Mir,’ EN 4, 2 Movement, p. 853.*

Manley, Scott

A practical, real world demonstration of a GGDM COT Patent (small improvement, next gen), Ion Engines, Engineering Proficiency, materials science:

“[Kepler] launched with four reaction wheels and then a few years in it had lost two of them so it was not able to maintain its three axis pointing which is very important for a spacecraft that has to point very accurately ... But, the thing about the reaction wheels ... was that they were suspect before they even launched. ... Reaction wheels come from a company called ITHACO ... but the point is their reaction wheels actually ended up on a lot of different spacecraft because they were very cheap, they were great quality, they were better than anything else available in theory, and yet they failed quite a bit on some very critical spacecraft. They failed on the fused spacecraft Hyabusa, Dawn [Mission], TIMED, Kepler ... so when Kepler was about to launch, it had been obvious that this failure rate of these reaction wheels was anomalously high so they said let’s take them off the spacecraft and send them back to the manufacturer for testing ... they did that and they refurbished them ... and still they failed. But in the last year or so, a new paper has come out suggesting a reason for why all these wheels were failing. Now a reaction wheel fails when the friction on a bearing becomes too high and the motor has to work too hard and is unable to spin it and therefore is unable to operate the spacecraft. ... Bearings are incredibly well studied devices because of course they’re core to many, many pieces of engineering ... but spacecraft obviously operate in a slightly different environment and ... [the] paper correlates the failures to energetic solar events. ... They looked at the time of anomalous friction increases so you could have a case where the wheel got a little sticky, but then continued and was restored to functionality, and they looked at about twelve of the strongest events and four of these events happened at the same time as solar flares and not just any solar flares ... they took the twenty most intense solar flares since 1994 four of the twelve happened during these. This was pretty long odds for accidental correlation. Similarly in Kepler, one of its reaction wheel failures occurred in 2012 during a coronal mass ejection ... it was obvious that the cloud of plasma had actually flown out and had hit the spacecraft first ... it was quite possible that this had caused this [failure].

Engineering Proficiency, 3 Culture, pp. 387-388

Continuous Operational Technology (COT):

Continuous Operational Technologies, 2 Patents, p. 740

‘when ships receive benefits of new COT Patents,’ Free Re-supply, 3 Construction, pp. 678-679

Now the question is, is there an actual physical mechanism? Because, of course, spacecraft fail regularly when hit by these energetic solar events. Your electronics are sensitive to plasma and radiation ... but this is a mechanical device, how does a bearing fail because the magnetic fields are weird or radiation is high? Well, their theory is ... electrostatic discharge across the bearings. So the bearings have these little ball bearings in there and there has to be a little gap and of course there is a bit of lubrication and because the ball bearings typically aren't touching both sides, if electricity wants to flow it has to jump through the lubricant.... [detailed explanation of cratering of the bearing with 6 volts charge].

So, that's one possible mechanism, and of course it's not proven, nobody can go out and examine these spacecraft, these are all in deep space, they're lost for now ... Also related, two of the interplanetary spacecraft that were affected ... Hyabusa and Dawn, they both used ion thrusters which, as you know, generate high voltages ... so another possible correlation there. But on the other hand, engineers, they look at these things and say, well it's not a hundred percent sure that this works, after all, these reaction wheels are kind of self-contained assemblies, the casing should act as a Faraday cage so it's by no means guaranteed that this is the effect. On the other hand, it may not need to be something to be concerned about because, since about ten years ago ... ITHACO reaction wheels have been using ceramic bearings which means that ... an electrical short across the bearing wouldn't matter anymore. And so far, none of those have suffered any failure." – Scott Manley, "Scientists May Have Figured Out Why So Many Spacecraft Were Failing," Scott Manley YouTube Channel, August 20, 2018.

Masada (1981, movie dialogue)

Slavery, psychological warfare, Masada, Jewish Revolts, fanaticism:

[scene of Roman soldiers herding a column of Jewish civilians they have conscripted for slave labor]

Flavius Silva [speech to his Centurions in his tent after rounding up 2,000 Jews to serve as slave labor]: Slave labor is always a chancy business. I had to get a canal dug in Livonia once, and mishandled the bloody thing; I lost five hundred men in a week before I could resolve the problem. Believe it or not, it's a question of morale. Now, the situation here is trickier than usual, because these 2,000 are not born slaves. They're soft city types, a few farmers here and there, but flabby for the most part. Now, a man like that you can work for eight hours without food and about six without water, but the next day he's useless. Useless! Too tired to eat when you get around to feeding him. So what's the answer? You feed and water him on the job, no more than he needs. But remember that he's at his best when there's a reward in sight. Now, the largest effective workforce we can use at any one time is about 200. Once the wall is finished and we can concentrate on the filling-in process, we'll be able to use a hundred or more, probably in four hour shifts. That means that for most of the time, a lot of them will do nothing but sit around, so they'll need covering from the sun. Finally, whipping. Now, we must expect to lose about five men a day from whipping. More than that, we can't afford to lose, and we've got to make the guards understand that over-whipping is worse than no whipping because if the death rate goes too high, we won't have none left when the time comes we need them all; the time when the equipment needs to be hauled up that ramp! But, we keep the death rate down by rotating the guards more often. The shortest way to put it is this: Treat them decently and they'll do very nicely.

[*A really nice fellow he is! An ancient precursor to Enlightened Despotism!*]

Psychological Warfare:

PsyOps, 1 Special Operations, pp. 1280-1281

Adolf Hitler Feature Quote and Pedagogy of Propaganda, 1 Kairotic Moments, pp. 1424-1425

Jewish-Roman War/ Jewish Revolts:

'Jewish-Roman Wars,' Wikipedia Feature Quote, Smuggled Out in a Coffin, Romans, Rebels, and Ruins of Religions, and EN 8, 1 Constructural

Eleazer ben Yair [Standing atop the wall addressing the Romans after releasing water over the sides of the cliffs while the parched Romans watched]: Friends of the 10th Legion! Good afternoon. It seems to us that you didn't have enough water down there; it is the custom of our country to share what we have with strangers. Yet, I shouldn't call you strangers, in the past two weeks, we've gotten to feel that we know you very well. In the night when a full belly makes it very difficult to sleep, we worry about you. Sometimes the children have had dreams; my son dreamed that one day he will look over these ramparts and see 5,000 skeletons in armor. [laughter] A thousand years ago, there were two cities near the Dead Sea; they were called Sodom and Gomorrah. You would have felt right at home in either of them. But it was decreed that they should be punished for their evil and perversion, so there came a storm of stinging dust to warn the righteous to flee, and a withering fire from heaven which consumed the two cities. That same dust and that fire returned to this cursed land every year. No doubt you have enjoyed the balm spring weather of the region but I am sorry to say that the true summer is growing closer and nothing that stands where you stand would live to see the autumn. [Romans launch catapults at the wall, then are ordered to stop firing]

Ahh, the autumn; truly a time to be here, when the breezes cool, and the wadis run with fresh rain water, but before those rains come, the death I speak of will visit all of you. When the heat begins to press, you will have to dig holes in the Earth to put your heads in so that you can breathe. If you are a short man, your death will probably be a little bit easier since your heart will probably burst before the fluid begins to boil and explode through your skin. You have been ordered to die this death. Who would give such order?

When the great patriarch Noah had planted his vineyards, the adversary of God whom we call Satan, tricked him into sacrificing four animals and pouring their blood upon the Earth of the vineyards. It were a lamb, a lion, a pig and a monkey. Ever since then the drunkard has been this way. The first sips of wine leave him as a lamb. A little more and he is a lion, a man of purpose, who makes decisions and is not to be challenged! But a drunkard never stops, as a lion, he drinks again and becomes as a pig, squirming in the muck, and at the end, he is a monkey, screaming and swinging from limb to limb, his empty head untroubled by the truth. We have heard how Caligula made a Senator of his favorite horse. And we see that Rome has not changed. Has not Vespasian unchained his favorite monkey and made him General of Judea? [laughter] Friends of the 10th Legion, will you truly sacrifice your lives because a monkey wants to scamper up this mountain on a pile of your rotting corpses? – from Masada miniseries, 1981.

GGDM Commentary: I watched Masada on TV the first time it aired, I was 13 years old, and the singular scene that stuck in my mind was 'Vespasian's monkey.' I was just then becoming interested in military history beyond the American Civil War (which sparked my interest in 6th grade) and I remember that along with the movie, I got a lecture from my mother on the Jewish resistance to the Romans ('slavery' is discussed extensively in 3 Order).

Elements, pp. 176, 178, 182-183, 185

'Jewish diaspora,' Wikipedia Feature Quote, 1 Expansion, p. 877

'cultural nature of Jewish Revolts,' Boudicca's Revolt, 3 Commerce, pp. 1212-1213

'humans did this,' Invicta Feature Quote, 5 Diplomacy, p. 1161

Masada mini-series mentions in GGDM:

EN 10, 1 Constructural Elements, pp. 185-186

EN 5, 1 Colleges, pp. 469-470

Margulis, Lynn

Wholism, mythic personification of nature, large distributed systems, global warming climate change, nuclear winter, three trains coming down the track (compounding global crisis), Carl Sagan Venus-greenhouse theory, green anarchist, New Age and neo-Pagan religion:

Wholistic, 2 Diplomacy, p. 1121

[p. 119] “As detailed in Jim’s [James Lovelock] theory about the planetary system, Gaia is not an organism. Any organism must either eat or, by photosynthesis or chemosynthesis, produce its own food. All organisms produce waste. The second law of thermodynamics speaks clearly on this score: to maintain a body’s organization, energy must be lost, dissipated as heat. No organism feeds on its own waste. Gaia, the living Earth, far transcends any single organism or even any population. One organism’s waste is another organism’s food. Failing to distinguish anyone’s food from someone else’s waste, the Gaian system recycles matter on the global level. Gaia, the system, emerges from ten million or more connected living species that form its incessantly active body. Far from being fragile or consciously petulant, planetary life is highly resilient. As they unwittingly obey the second law of thermodynamics, all beings seek energy and food sources. All produce useless heat and chemical waste. This is their biological imperative. Each grows and, as it does, it pressures many others around it. The sum of planetary life, Gaia displays a physiology that we recognize as environmental regulation. Gaia itself is not an organism direction selected among many. It is an emergent property of interaction among organisms, the spherical planet on which they reside, and an energy source, the sun. Furthermore Gaia is an ancient phenomenon. Trillions of jostling, feeding, mating, exuding being compose her planetary system. Gaia is a tough bitch, it is not at all threatened by humans. Planetary life survived at least three billion years before humanity was even the dream of a lively ape with a yearning for a relatively hairless mate.”

[p. 119] “We need honesty. We need to be freed from our species-specific arrogance. No evidence exists what we are ‘chosen,’ the unique species for which all others were made. Nor are we the most important one because we are so numerous, powerful, and dangerous. Our tenacious illusion of special dispensation belies our true status as upright mammalian weeds.”

[p. 120] “In popular culture the confused idea of Gaia strikes mythological chords. Gaia resonates with our longing for significance in our short Earth-bound lives. Misstated Gaia supports latter-day Puritanism: feminist discourse on the dangers of ‘rape’ and destruction of the sunlit Earth. We have for centuries personified nature. The takeover of Gaia theory by science-haters and media-mongers is striking. The former blame science, only a way of knowing, for the excesses of technology and the latter use science to justify their crass television and magazine salesmanship. Although popularized, exaggerated, and maligned, Gaia theory does not just mean nature conservation or a return to the Goddess. Gaia is the regulated surface of the planet incessantly creating new environments and new organisms. But the planet is not human, nor does it belong to humans. No human culture, despite its inventiveness, can kill life on this planet, were it even to try. Less a single live entity than a huge set of interacting ecosystems, the Earth as Gaian regulatory physiology transcends all individual organisms. Humans are not the center of life, nor is any other single species. Humans are not even central to life. We are a recent, rapidly growing part of an enormous ancient whole.

Gaia is neither vicious nor nurturing in relation to humanity; it is a convenient name for an Earthwide phenomenon: the regulation of temperature, acidity/alkalinity, and gas composition. Gaia is the series of interacting ecosystems that compose a single huge ecosystem at the Earth’s surface. Period. ... Gaia incorporates the ecological crisis of her

‘personification of nature,’ *Mythopoeic Thinking*, 1 *Temporal Technology*, pp. 809-811

‘large distributed systems,’ Wikipedia quote, 2 *Culture*, top-middle p. 363

‘global warming is the natural consequence of technological civilization,’ *The Air that I Choke*, 3 *Taxation & Census*, pp. 318-319

‘three freight trains coming down the track,’ 3 *Entropy*, pp. 244-245

‘Venus runaway greenhouse effect,’ Carl Sagan quote, 3 *Taxation & Census*, pp. 320-321

See also, Ferris Jabr’s comments about Suzanne Simard’s plant root communication network, forestry theory, [this document](#)

Green Anarchist, New Age and Neo Pagan Religions:

‘reaction against modernity,’ *Anti-Semitism*, 3 *Con-*

components, responds brilliantly, and in her new necessity becomes the mother of invention.”

[p. 123] “I cannot stress strongly enough that Gaia is not a single organism. My Gaia is no vague, quaint notion of mother Earth who nurtures us. The Gaia hypothesis is science. The surface of the planet, Gaia theory posits, behaves as a physiological system in certain limited ways. The aspects that are physiologically controlled include surface temperature and atmospheric composition of reactive gases, including oxygen, and pH or acidity-alkalinity.

I suspect scientists will seek Gaian explanations for many phenomenon, such as the alteration of wet and dry climate cycles and the current distribution of gold, iron, phosphates, and other minerals. Gaia, meaning a body with controlled physiology in the celestial-planetary and biological sense, is the only name that can both united a disparate group of scientists and make their work accessible to the international public. Just as the human body is sharply bounded by skin, temperature difference, blood chemistry, and a calcium phosphate skeleton, so is Earth distinguished from its surroundings by its persistently anomalous atmosphere, its steady temperature, and its unusual limestone and granitic rocks. Lovelock compares the chemistry of Earth’s atmosphere to a sand castle found on the beach, or to a bird’s nest. They, too, are obvious products of life. The planet’s surface is not just physical, geological, or chemical, or even just geochemical. Rather, it is geophysiological: it displays the attributes of a living body composed of the aggregate of Earth’s incessantly interactive life.”

[p. 128] “Gaia, in all her symbiogenetic glory, is inherently expansive, subtle, aesthetic, ancient, and exquisitely resilient. No planetoid collisions or nuclear explosions have ever threatened Gaia as a whole. So far the only way in which we humans prove our dominance is by expansion. We remain brazen, crass, and recent, even as we become more numerous. Our toughness is a delusion. Have we the intelligence and discipline to resist our tendency to grow without limit? The planet will not permit our populations to continue to expand. Runaway populations of bacteria, locusts, roaches, mice, and grass always collapse. Their own wastes disgust as crowding and severe shortages ensue. Diseases, as opportunistically expanding populations of the ‘other,’ follow. They take their cues from destructive behaviors and social disintegration. Even herbivores, if desperate, become vicious predators and cannibals. Cows will hunt rabbits and eat their calves. Many hungry young mammals will vie to eat the meat of their runt littermates. Population overgrowth leads to stress, and stress depresses population overgrowth – an example of a Gaian-regulated cycle.

We people are just like our planetmates. We cannot put an end of nature, we can only pose a threat to ourselves. The notion that we can destroy all life, including bacteria thriving in the water tanks of nuclear power plants or boiling hot vents, is ludicrous.” – Lynn Margulis, *Symbiotic Planet: A New Look at Evolution* (1998)(available free on Google Books).¹⁷

GGDM Commentary: Dr. Margulis seems to have set herself up as ‘Darwin’s Bulldog’ for James Lovelace. I immediately noticed her writing style, she uses many short simple assertive sentences and strings them together into what seem to be long paragraphs. In

structural Elements, pp. 208-209

Green Anarchist from Earth, 1 Technology, p. 686

Western Esotericism Wikipedia quote, 1 Entropy, p. 218, and as the root of the ‘technomage’ in sci-fi, Majik, 3 Information, pp. 1361-1362

‘New Age/UFO Religions,’ What a Fool Believes, 5 Fallen to Earth, pp. 1583-1584

‘goddess New Age religions,’ EN 18, 1 Constructural Elements, pp. 187-188

‘New Age, neo-Pagan and UFO religions cannot escape the set pattern,’ Point of No Return, 4 Fallen to Earth, pp. 1564-1565

‘initiation to the mysteries,’ Dion Fortune Feature Quotes, 3 Kairotic Moments, pp. 1441, 1442

¹⁷ Dr. Margulis is the first wife of Carl Sagan and co-authored many books with their son, Dorian Sagan.

<p><i>the passages above, she seems to set herself against many prevailing ideas, including nuclear winter following global thermonuclear war, climate change from human-made global warming, and the idea that human intelligence is emergent and overwhelming the environment that fostered it. I could not help while transcribing this thinking of the line from Jurassic Park (2003): “Life finds a way” which is borne out by events in the movie.¹⁸ Jurassic Park probably owes a debt to Dr. Margulis.</i></p> <ul style="list-style-type: none"> • The majority of the planets we know of, and certainly most of the other planets and moons in our own solar system, never had life; I don’t think anyone would seriously dispute that point. All of the situations imagined in which humans could make all non-human life extinct, or cause a mass extinction (which we already are, see Sixth Mass Extinction excerpt, Taxation & Census), or even our own extinction, generally correspond to humans re-creating conditions on Earth that prevented or extinguished life on other planets as they formed, e.g., runaway greenhouse gases on Venus, or depletion of the upper atmosphere that allows Mars to be bombarded with lethal radiation and have giant dust storms that have wasted the planet’s water vapor into space (discussed in Martian Dust, 3 Taxation & Census, p. 319). Dr. Margulis seems to deny that humans are capable of creating those conditions on Earth’s planetary surface, most others disagree. Although I don’t think and highly doubt that Dr. Margulis was a ‘climate change denier,’ her arguments above seem somewhat congruent with theirs. <ul style="list-style-type: none"> ○ Charles C. Mann, who relates a conversation on with her on the street seems to refute that she was in any sort of environmental denial. <i>See quote this document.</i> <p><i>However, perhaps a bit of prescience without invoking any mystic forces, Dr. Margulis seems in the quote above to anticipate the current worldwide declining birth rate, and the precipitous drop in sperm count and the gradual continuing drop in testosterone levels (see right column →); see also, Tucker Carlson entry, this document.</i></p>	<p>Falling Sperm Count and Testosterone Levels:</p> <p>Testosterone Bubble, 3 Technology, pp. 722-723,</p> <p>‘sperm count fall,’ Moving Parts, 4 Taxation & Census, pp. 331-332</p> <p><i>Earlier age of menarche is a third population issue discussed in 4 Taxation & Census</i></p> <p>Nuclear Winter:</p> <p>Planet Narn, 3 Taxation & Census, pp. 316-317</p> <p>Boomer & Bang Bang, 4 Movement, pp. 872-873</p>
<p>Marx, Karl</p>	
<p><i>Military organization, alienation (and ultimately, WWI):</i></p> <p>“With the discovery of a new instrument of warfare, the firearm, the whole internal organization of the army was necessarily altered, the relations within which individuals compose an army and can work as an army were transformed, and the relation of different armies to another was likewise changed.” – Karl Marx [1891] 1902, 35, quoted by Frank Elwell, <u>Macro Social Theory</u> (2009), p. 28.</p> <p><i>See also, Nationalist Armies, 4 Colleges, p. 502, and ‘fall of Constantinople, break with the ancient world,’ Lynn Montross Feature Quote, 2 Eras, middle p. 773.</i></p>	<p>Lynn Montross quote re: Moltke and Naval Combat, 5 Combat, pp. 1008, 1009</p>
<p>McColgan, Alex (Astrum YouTube Channel)</p>	
<p><i>Sit n’ Spin strategy, Conquest by Entitlements, mining ships, resources available in system, mining 16 Psyche, unforeseen consequences, CET (Controlled Environment Technology) and self-sufficient colonies in GGDM, Pollution Potentials:</i></p>	<p>Mining Operations, Mining Ships, Sit-n-spin, 2 Taxation &</p>

¹⁸ Jurassic Park movie dialogue, Dr. Ian Malcom: “John, the kind of control you’re attempting simply is... it’s not possible. If there is one thing the history of evolution has taught us it’s that life will not be contained. Life breaks free, it expands to new territories and crashes through barriers, painfully, maybe even dangerously, but, uh... well, there it is.”

“As more countries and companies set their sights on space, it may make you wonder, what’s the end goal? Do we simply want to be a space-faring species? Exploring the solar system for the betterment of humanity? Or do people smell profit in space? While researching this video, I found out a lot of eye-opening reasons why mining in space, and especially on our Moon, might well be something we see happening in the next couple of decades. Why? Well, just wait until you find out what’s actually there to be mined.

The first substance is known as Helium-3. You may have heard of Helium-3 in sci-fi stories, as theories suggest it is the ideal substance for a clean type of nuclear reactor, with no radiation and no dangerous by-product. It also has uses in medicine and radiation detectors. However, it is really rare on Earth. It does occur naturally, and can be found in deposits of natural gas, for instance, but it’s generally not viable to extract, as even in natural gas, there are only about 100 parts per billion. So let’s say we had around 1 billion cubic meters of natural gas, you’d only be able to extract around 15 kg of Helium-3 from it. A lot of the time, that’s not economically viable. We can also produce Helium 3 as a by-product of the radioactive decay of tritium. The problem with that though, is that tritium is a crucial component of nuclear weapons, and so when the world slowed down the production of nuclear weapons, Helium-3 stockpiles also diminished. Assuming we don’t want more tritium in the world, it means we need to find another source of Helium-3, especially if technology improves enough for Helium-3 reactors to become a reality.

Fortunately, we have a world in orbit around Earth right now which has been bombarded by Helium-3 for billions of years thanks to the Sun. Earth’s magnetic field deflects Helium-3 travelling with the solar wind around the planet, whereas the Moon, with no magnetic field for production, simply absorbs it in the top layer of the ground, called regolith. We aren’t talking huge quantities, it has at most, 50 parts per billion, but because it’s all over the moon, not just in tiny pockets, it can be collected alongside any other mining operation. It could also be used to power reactors on the Moon itself, which would help a moon base be self-sufficient.

Some people think that Helium-3 mining on the moon will not be viable, however, China states that eventually mining Helium-3 is one of the primary goals of their Chinese Lunar Exploration Program. American, European, and Indian scientists have all stated it is something they will consider further, and Russia is conducting a feasibility study on this right now. Even private companies are eyeing up the possibility. Because the parts per billion of Helium-3 are relatively low, even in the Moon’s regolith, it would make sense that whoever is mining for Helium-3 would also be mining for something else in the regolith at the same time. But what else can be found in it? As it happens, the lunar regolith is packed with different minerals. ... There are plenty of metals to be found on the moon in large quantities, like iron, titanium, aluminum, silicon, calcium, and magnesium. Some of these metals are locked into hard-to-access minerals and oxides, however, separating the metals will also produce useful byproducts like oxygen and hydrogen. They are super basic, and not rare on Earth at all, but unlocking these elements on the Moon itself will allow a colony to be self-sustaining, as oxygen means breathable air, hydrogen can be converted to fuel, and combining the two will produce water. Unprocessed regolith could also prove useful as it could potentially be turned into ‘lunarcrete,’ useful for building infrastructure on the Moon without having to transport the materials from Earth. Glass could also easily be produced from lunar regolith. And ... while it’s not super ideal, some plants can grow in lunar regolith, helping any lunar base be self-sufficient in growing its own food, short of using hydroponics.

Census, pp. 308-309

Conquest by Entitlements, 5 Culture, p. 430

‘mining 16 Psyche asteroid,’ War of the Worlds, 4 Diplomacy, pp. 1144-1145

Pollution Potentials and Low-Carb Colonies, 3 Taxation & Census, p. 320

Self-Sufficient Colonies:

Passive Siegecraft, 3 The Sidereal Stage, pp. 125-126

Resources, 2 Taxation & Census, pp. 301-302

Specialized Colonies, 4 Expansion, pp. 925-926

Commerce Power, 1 Commerce, p. 1183

CET:

The Air that I Breathe, 3 Taxation & Census, p. 315

Everyone Has a Venus, 4 Taxation & Census, pp. 328-329

Wagon Train to the Stars and Building Up, 1

<p>But perhaps the most important resource are – ironically enough – metals known as ‘rare earths.’ Interestingly ‘rare earths’ ... are not super rare on Earth, however the difficulty in mining them is that they are have not really collected into big deposits. Rather they are dispersed through the Earth’s crust. This means that are exceptionally hard to min on Earth, and there are only a few countries worldwide that have deposits large enough to do anything about it. Even then, most countries don’t bother at all because of the massive environmental and human damages that come from the pollution of mining them. The only country that did not waver from these problems is China, as China has around 30% of the planet’s rare Earth supply, and because it is one of the only countries mining for them, they have a 95% control of the market. ... In any case, 95% control of the market puts China in a powerful position worldwide, especially seeing as these minerals are so valuable to our society, being components of various electronics and batteries. Because of the massive push recently to switch to electric vehicles with their huge battery packs, demand for these minerals will only increase, so it’s worthwhile considering where the minerals building these batteries come from. Are countries where somewhat sizable deposits like the U.S., Canada, Australia, and South Africa going to start digging up their backyard to extract them?</p> <p>Or rather than pollute the Earth further in our attempt to go green, is it actually more feasible to get these rare-Earths off the Moon instead? Rare-Earths aren’t any more common on the Moon and on Earth, however, some deposits have already been identified, and pollution on the Moon will certainly not have any of the devastating environmental and human consequences attached to doing it here. As demand for these elements inevitably goes up in the coming decades, it could well be that mining for them on the Moon becomes economically viable. And not only that, but control on the market means control of the market price and whichever country is in control will have a tremendous advantage. Will it be China, maintaining their position? Or will some of the other space-faring countries and companies want a piece of the pie?” – Alex McColgan (information from Patreon page), “What Valuable Resources Can Be Mined On The Moon?” Astrum YouTube Channel, March 10, 2021.</p> <p><i>GGDM Commentary: Notably, the companies that founded colonies in the New World and recruited, supplied and transported colonist were not doing it for the betterment of mankind; they did it for profit, for wealth and riches, from fees and sales of supplies and land, and the valuable resources they expected to buy from the colonist and sell in the old world. Any ‘betterment of mankind’ arguments or effects were incidental and secondary consequences.</i></p>	<p>Expansion, pp. 878-880</p> <p>The Landing and Spiffy Spaceman, 4 Expansion, pp. 920-921</p>
<p>McConnell, Mitch</p>	
<p><i>Legitimacy, consequences discussion:</i></p> <p>“Legitimacy is not the result of how they feel about it. You know, you can’t win them all, and elections have consequences. And what this administration and this Republican Senate has done is exercise the power that was given to us by the American people in a manner that is entirely within the rules of the Senate and the Constitution of the United States.” – Sen. Mitch McConnell, Senate Floor, October 26, 2020.</p> <p><i>GGDM Commentary: Actually no, I and the US military would disagree; otherwise, what is the point of ‘hearts and minds’ relations campaigns? What Mitch discusses here about legitimacy is narrow and mechanical.</i></p> <p><i>See also, Legitimacy & Authority, 3 Government Titles, p. 609.</i></p>	<p>Axioms of Consequences, 1 Disruption, pp. 257-258</p> <p>Glove Cleaner, 2 Government Titles, pp. 589-590</p>

Migration, navigation, ‘extra-sensory’ abilities in GGDM:

“Seeing our world through the eyes of a migratory bird would be a rather spooky experience. Something about their visual system allows them to ‘see’ our planet’s magnetic field, a clever trick of quantum physics, and biochemistry that helps them navigate vast distances. Now, for the first time ever, scientists from the University of Tokyo have directly observed a key reaction hypothesised to be behind birds’, and many other creatures’, talents for sensing the direction of the planet’s poles. Importantly, this is evidence of quantum physics directly affecting a biochemical reaction in a cell – something we’ve long hypothesised but haven’t seen in action before.

Using a tailor-made microscope sensitive to faint flashes of light, the team watched a culture of human cells containing a special light-sensitive material respond dynamically to changes in a magnetic field. The change the researchers observed in the lab match just what would be expected if a quirky quantum effect was responsible for the illuminating reaction. “We’ve not modified or added anything to these cells,” says biophysicist Jonathan Woodward. “We think we have extremely strong evidence that we’ve observed a purely quantum mechanical process affecting chemical activity at the cellular level.”

So how are cells, particularly human cells, capable of responding to magnetic fields? While there are several hypotheses out there, many researchers think the ability is due to a unique quantum reaction involving photoreceptors called cryptochromes. Cryptochromes are found in the cells of many species and are involved in regulating circadian rhythms. In species of migratory birds, dogs, and other species, they’re linked to the mysterious ability to sense magnetic fields. In fact, while most of us can’t see magnetic fields, our own cells definitely contain cryptochromes. And there’s evidence that even though it’s not conscious, humans are actually still capable of detecting Earth’s magnetism.

To see the reaction within cryptochromes in action, the researchers bathed a culture of human cells containing cryptochromes in blue light caused them to fluoresce weakly. As they glowed, the team swept magnetic fields of various frequencies repeatedly over the cells. They found that each time the magnetic field passed over the cells, their fluorescence dipped around 3.5 percent – enough to show a direct reaction.

So how can a magnetic field affect a photoreceptor? It all comes down to something called spin – an innate property of electrons. We already know that spin is significantly affected by magnetic fields. Arrange electrons in the right way around an atom, and collect enough of them together in one place, and the resulting mass of material can be made to move using nothing more than a weak magnetic field like the one that surrounds our planet.

This is all well and good if you want to make a needle for a navigational compass. But with no obvious signs of magnetically-sensitive chunks of material inside pigeon skulls, physicists have had to think smaller. In 1975, a Max Planck Institute researcher named Klaus Schulten developed a theory on how magnetic fields could influence chemical reactions. It involved something called a radical pair....” – Mike McRae, “Birds Have a Mysterious ‘Quantum Sense’. For The First Time, Scientists Saw It in Action,” ScienceAlert.com, January 8, 2021.

GGDM Commentary: *I admit that I first heard of and my interested in this subject was first piqued after watching the end of Episode 7, Season 1 of the 2019 Fox Network*

‘extra-sensory abilities in GGDM races,’ Farsight, 3 Information, pp. 1362-1363

Migration of birds is not discussed in GGDM, only the mass migration of humans is considered.

Interstellar navigation is not discussed in detail in GGDM, but is discussed in [this document](#), see Isaac Arthur, above.

<p><i>Group’s War of the Worlds TV series. Oddly, this ScienceAlert article was the only relevant Google search result for the subject, but since the series was first aired in 2019 and this article is from 2021, the information must have been out there previously. The series creators have hung their Season 1 finale on the ‘birds’ concept, also implying a connection to ‘non-conscious processing’ blindsight phenomenon observed in neurology. That aside, this is offered here as interesting material for GGDM play ranging from interstellar navigation ability to a possible excuse/mechanism for ‘extra-sensory’ abilities.</i></p>	
<p>Meacham, John</p>	
<p><i>This kind of goes to the pragmatic approach of history:</i></p> <p>“To record history doesn’t mean you are removed from it. I’d argue that it actually creates an even greater obligation than one might otherwise have to contribute where one can.” – John Meacham, 11th Hour with Brian Williams, MSNBC, August 21, 2020.</p> <p><i>See also, Ross Douthat top Feature Quote, 3 Kairotic Moments, p. 1438.</i></p>	<p>Pragmatic Ethics and Richard Rhodes quote, 3 Order, p. 551</p>
<p><i>Definitions of politics:</i></p> <p>“Politics is the art of the possible.” – John Meacham, 11th Hour with Brian Williams, MSNBC, August 21, 2020.</p> <p><i>GGDM Commentary: Politics is defined by what you think is its purpose (the same question was asked of diplomacy in 1 Diplomacy, p. 1095); in Taxation & Census it was defined as appropriation of resources, while in 5 Culture, it was clear that many think that politics is culture war. The two opposing visions tend to collide regularly, for example, in social safety nets or in 2021, the infrastructure bill proposed by the President – the GOP objects to some parts of the bill that they deem new social programs, while agreeing to the more traditional infrastructure spending on roads, bridges, and such.</i></p>	<p>Interstellar Politics, 1 Taxation & Census, p. 295</p> <p>Cultural War, 5 Culture, pp. 428-429 and ‘social safety nets,’ David Leonhardt Feature Quote, Social Safety Net, and The Bargain, pp. 424-428</p>
<p><i>This is interesting, in a pragmatic way:</i></p> <p>“To get personal at this late hour, I am a Southerner, I’m obviously a white Southerner. I was born after the Civil Rights movement. And I like to think I would have been on the right side of that, but I don’t know, I don’t know if I would have been. Here I have a choice. Do I want to be on the right side of what seems to me, just out of basic common sense, a stark choice ... So I don’t know what I would have done in that crisis, but I know what I did in this one.” – John Meacham, 11th Hour with Brian Williams, MSNBC, August 21, 2020.</p> <p><i>GGDM Commentary: John Meacham asks a very important question that we must all ask ourselves about any historical situation: If I lived at that time, would I have been on the right side of history? Who can be sure? Are you sure you would not have been in the crowd that abused Jesus as he carried the cross to be crucified? This is the core essence of pragmatic history and pragmatic ethics.</i></p>	<p>Richard Rhodes ‘pragmatic history,’ quote, Pragmatic Ethics, 3 Order, p. 551</p>
<p><i>Rhetoric, creation by appearance/word/thought, the ability of News Events (and Interpretations generally) to shape the narrative of the game, emergent storytelling, etc., all the tributaries that run together to form GGDM’ narrative:</i></p> <p>“What is remarkable about President Obama, and I had honestly kind of forgotten it, is how he can combine two of the great human realities: He can argue from reason with a kind of restrained passion. Usually people are either really passionate and emotional or they’re highly cerebral. This was a fascinating combination of those two tributaries, and</p>	<p>Rhetoric Proficiency, 3 Culture, p. 398</p> <p>Nature of News Events and Universal Legislator,</p>

<p>it formed an impressive rhetorical river. And it's rhetorical in the classical sense; rhetoric isn't supposed to mean just 'blah, blah, blah'; rhetoric is rooted in action, words are supposed to lead to action, and he's always believed in the power of language, he's always believed in the power of story. One of the things he'll always ask people who are considering running for office is 'what's your story'? If you are going to replace an existing story, you have to tell a different narrative. And the narrative he gave us in a very restrained somber speech totally commensurate with the moment – because this is kind of a restrained and somber moment – was a reminder that we are in fact, more than the sum of our parts.” – John Meacham, Morning Joe, MSNBC, August 20, 2020.</p> <p>“I thought if anything, Obama took an intelligent high road, a wise high road here, and just said what a lot of us think. And that is what great political oratory is about, is can you articulate what we are thinking?” – John Meacham, Morning Joe, MSNBC, August 20, 2020.</p> <p><i>See also, White Gold Wielder, 2 Dreamtime, pp. 153-154, Six Pieces of Parchment, 1 The Big Bang, p. 1, As Coo-Coo as a Swiss Clock, 1 Order, p. 524, God Whisperers, 1 Patents, p. 732.</i></p>	<p>2 Dreamtime, pp. 146, 149-150</p> <p>Patent Constancy, 3 Patents, p. 749</p> <p>Emergent Narrative, 3 Structural Elements, pp. 205-206</p>
<p><i>Nationhood Proficiency, Interstellar Government, the opposite of Inge's statement on nationhood:</i></p> <p>“St. Augustine defined a nation as a multitude of rational beings united by the common objects of their love.” – John Meacham, MSNBC, September 3, 2020 (also on Tweeted, June 19, 2018).</p> <p><i>Cf. “A nation is a society united by a delusion about its ancestry and by a common hatred of its neighbours.” – Dean William Ralph Inge, The End of an Age: and other essays (1948), p. 127 (5 Diplomacy, p. 1162).</i></p>	<p>Nationhood Proficiency, 3 Culture, pp. 393-394</p> <p>Noblesse Oblige, 4 Movement, pp. 871-872</p>
<p><i>Slavery, pragmatic history, impossibility of repudiation:</i></p> <p>“The way I've decided this, because I have written about incredibly flawed people – Franklin Roosevelt, Winston Churchill, Andrew Jackson, Thomas Jefferson – you know these were people who have significant, significant moral failings that were not just moral failings, that were massive political ones and they contributed to the most deleterious chapters of our national story. But my view is that you can't then just banish those people from the public sphere or push them off to the side, because that lets the rest of us off the hook. These were political people, these were makers of manners and morals, but they were also mirrors of manners and morals.</p> <p>And so, when you talk about Andrew Jackson, many, many Americans who are feeling awfully self-righteous about Andrew Jackson are living on land that his actions brought into the presiding regime sphere of influence. And what we have to do, I think, is not look up at them mindlessly and celebrate them, but we shouldn't look down on them condescendingly either, but look them in the eye, see what we can learn, and apply those lessons – the moral utility of history in my view is if the best people in the public lives of the nation in the past could get stuff so horribly wrong, what are we getting so horribly wrong right now?” – John Meacham (Vanderbilt University), “How Could a Slaveholder Write 'All Men Are Created Equal'?” Amapour & Company, June 26, 2020.</p> <p><i>See also, 'repudiation of history' hypocrisy discussions: Immoral History, 2 Disruption, p. 277, Cossacks, 4 Diplomacy, p. 1146, Habitability, 3 Taxation & Census, p. 315,</i></p>	<p>Morality, Encomienda, and Pragmatic Ethics and Richard Rhodes quote, 3 Order, pp. 548-552</p> <p>Cossacks, 4 Diplomacy, p. 1146</p> <p>Habitability, 3 Taxation & Census, p. 315</p>

<p><i>More Than a Feeling, 1 Temporal Technology, p. 808, Teleological Exercises, 1 Resolution, p. 1456 and EN 1, 3 Reformation, p. 1412.</i></p>	
<p>Melber, Ari</p>	
<p><i>The Bargain, definition of politics, Heinlein ‘makers, fakers, and takers’:</i> “So here’s the deal. When government relief means checks in your mailbox, dated right-wing attacks on ‘makers and takers’ don’t work the same way unless Republicans want to attack their own constituents as ‘takers.’ So, while a minority of Republican voters backed the Obama-Biden stimulus in 2009, as mentioned, today’s latest numbers show a majority back this one. Look at this, this is a big deal, 59% of Republicans back this Joe Biden 2021 stimulus. Now, as a matter of political math, that is more than just a little ‘bipartisan’; it means on this issue, President Biden has won over more republicans than Cruz or McConnell or the ex-President he vanquished, because even if freedom can mean nothing left to lose, Joe Biden is betting that most people would like freedom and a government that has their back during the worst health-crisis recession in a very long time.” – Ari Melber, The Beat with Ari Melber, MSNBC, March 3, 2021.</p>	<p>‘definition of politics,’ <i>Interstellar Politics</i>, 1 <i>Taxation & Census</i>, p. 295 <i>The Bargain</i>, 5 <i>Culture</i>, pp. 426-428</p>
<p>Merriam-Webster Online Dictionary</p>	
<p><i>Warship Era Progression, Uber Alles:</i> “A range of magnitude extending from some value to ten times that value.” – Merriam-Webster online dictionary at “Order of Magnitude,” November 8, 2020. <i>See also, Uber Alles, et seq., 2 Eras, p. 767.</i></p>	<p>Magnitude of Eras, 2 <i>Combat</i>, p. 952</p>
<p>Mitchell, Paul</p>	
<p><i>Extremism, supra-legitimacy:</i> “In my opinion, the extremes of both parties are dragging their parties, and this country off a cliff. The majority of Americans are in the middle, the majority of Americans want solutions to problems, want us to address them, and not see who can have a political win, not see who can grab political power for all its worth, and actually do something to solve the problems of the American people. ... and this past election simply has confirmed to me that it’s all about power first, and frankly is disgusting and demoralizing. ... Anyone who gets into politics has to be able to accept winning and losing with some level of grace and maturity.” – Rep. Paul Mitchell on CNN, December 14, 2020. <i>See also, supra-legitimacy: Type 3, 3 Beginnings, p. 42, The Earthly Entanglement, 2 Government Titles, pp. 586-587, and Meta-Aspect, 4 Culture, pp. 409-410. See “Mischievous of Party Spirit,” Joseph Addison top Feature Quote, 2 Disruption, p. 265 and ‘Peanuts football trick,’ Hans Fiene Feature Quote and ‘voters who want revenge, not facts,’ Tom Nichols quote, 5 Government Titles, pp. 637-638.</i></p>	<p>‘intolerant extremism,’ 4 <i>Order</i>, top p. 573 <i>Fanatics Not from Phil</i>, 4 <i>Culture</i>, pp. 415-416 ‘anti-vaxxers, weltanschauung,’ <i>Bob Moser Feature Quote and Selecting Bits</i>, 1 <i>Information</i>, pp. 1334-1335</p>
<p><i>Dualistic Systems:</i> “We are a republic of states. States have the ability to determine their election laws. ... Apparently Texas didn’t like it. Ah, ok, I wasn’t aware that we had to respond to Texas whenever we had an election in Michigan or any other state.” – Rep. Paul Mitchell on CNN, December 14, 2020.</p>	<p>Dualistic Structural Title, 2 <i>Government Titles</i>, pp. 596-597</p>

Modarresi, Sayed

Diplomacy, Terra Sancta, Symbolic Constructural Element (as a place or location):

“Now, the symbolism here cannot be overstated. The Pontiff departs the Vatican, where the vicar of Christ is buried [in St. Peter’s Basilica] to visit the ancient city of Najaf, where the vicar of Muhammad was buried. What makes Najaf so special is not the Islamic seminary, as important as that is, but that it’s the site of the majestic Mausoleum of Imam Ali, appointed heir and successor of the Prophet of Islam. To us, the Papal visit highlights the historical link between Peter [aka St. Peter, Simon, Peter Simon] on the one hand, and Imam Ali on the other, one prophetic successor with another.” – Sayed Modarresi, “Why the Pope’s Visit to Najaf is IMPORTANT,” Ahlulbayt TV YouTube Channel, March 6, 2021.

GGDM Commentary: Now, this one is interesting, but for different reasons than you’d think. He then goes on to claim that Noah and Adam are buried in Najaf and that it is also the location where Moses saw the burning bush and spoke to God... That aside, what is truly buried in all of this and the religious-text quoting prelude to it is a central, usually unstated, point of the millennia-long Christian-Islam feud: From his words, it is apparent that Islam considers Muhammad a peer, an equal, of Jesus, while my own lifetime experience of being born and raised in nominally-Christian Western secular culture, is that Christianity has never accepted this equivalency (for example, as Jesus is considered the ‘son of God’ while Muhammad is a ‘prophet’ and never claimed to be the ‘son of God’). Now, my point in this is not to argue for or against such equivalency (I really don’t care about it one way or the other), but to highlight the fundamental divide that has always lurked in the substratum of the conflict over Terra Sancta.

See also, Terra Sancta: ‘holy land is epicenter of peace and war,’ Zev Chafets Feature Quote and Terra Sancta, 1 Kairotic Moments, p. 1420, Wells of Initiation, 3 Kairotic Moments, p. 1441, ‘Terra Sancta on conquered planets’ Alienation, 3 Order, p. 560.

‘destruction of the Second Temple,’ Wikipedia Feature Quote, and Smuggled in a Coffin, 1 Constructural Elements, pp. 176, 178

Symbolic Constructural Element, 1 Constructural Elements, pp. 176-178

Montross, Lynn

Combat College, Power Activation failures, leadership:

“Time also proved that Ottoman land warfare had reached its zenith under Soliman the Magnificent, whose three successors were a drunkard, a lecher and a madman.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 230.

See also, Four Ms and Combat Formations, 4 Colleges, pp. 501, 503, ‘Janissaries, slaves became the masters,’ Lynn Montross bottom Feature Quote, 1 Colleges, p. 469, Fog of Lutzen, 4 Colleges, pp. 510-511.

‘Power activation failure,’ Power Off, *et seq.*, 2 Constructural Elements, pp. 193-195

Combat College, also relates directly to the Ambush discussion in 7 Combat:

“Hannibal had in mind an astonishingly bold plan which aimed to profit from the very numerical advantage of the enemy. First throwing out a screen of light troops to conceal his dispositions, he drew up a line of battle which could have been conceived only by a genius or a fool. The unique feature was a convex centre, composed of 25,000 Gallic and Iberian foot and bending outward toward the 70,000 legionaries of the Roman centre. The units at the apex were heaviest, the sides being built up in echelon and linked to the Libyan infantry of the wings.” – Lynn Montross, *War Through the Ages* (3rd Ed. 1960), p. 60.

Four Ms and Combat Formations, 4 Colleges, pp. 501, 503

In Open Space, 7 Combat, p. 1036

Mulder, Mauk

Wealthy elites networks and power control through corporation boards:

“The studies on macrostructural problems will cover subjects like the power of particular groups within the nation, such as retired army generals and politicians working in various sectors of trade and industry ... or the number of representatives of large banks on advisory boards of other companies.... In the Netherlands, Mokken et al. carried out an investigation on the latter subject after Frank Mertens (president of the Netherlands Catholic Trade Union at the time) presented his ‘200’ formula. He claimed that key positions in business and so ‘real power’ in Holland were occupied by some 200 persons, the same happy few.” – Mauk Mulder, The Daily Power Game (1977), p. vii.

See also, Martin Gilens and Benjamin I. Page and Zachary Davies Boren quotes, 5 Culture, p. 427.

‘linkage of American Corporation boards, wealthy elite,’ Ian Robertson bottom Feature Quote, 1 Corporations, p. 1251

Murry, Bill

This relates to trolls and the Diamond Problem (and all of my comments about those who refuse to see, will never be convinced – i.e. the discussion of criminals in 1 Order):

“It’s hard to win an argument with a smart person, but it’s damn near impossible to win an argument with a stupid person.” – Bill Murray.¹⁹

GGDM Commentary: *Or as one YouTube poster responded to the above, “It is hard to debate an idiot.” When I was young, there was a Dungeons & Dragons saying: “Drowned in running commentary, blinded by the light of truth, and impaled on the point of the argument, and they still don’t get it.” I think this humorous line was in a Dragon Magazine article about D&D Players.*

‘internet trolls,’ Elise Moreau Feature Quote and The Diamond Problem, 5 Diplomacy, pp. 1157-1159
Incarceration, 1 Order, p. 519

Musk, Elon

Ideological/Symbolic Constructural Elements, Romantic Narcissism, destruction of colony ship, SpaceX vs. Russian Space Program, Movement Power, FTL as the entry level to 1st Era Technology:

“I think particularly for Americans, America is a nation of explorers, people who came here from other parts of the world, they chose to give up the known in favor of the unknown. So I think exploration, like the United States, is a distillation of the human spirit of exploration and that’s why it appeals to Americans so much. You can see this when they say there was a shuttle tragedy, and seven people died and that’s terrible, but a lot of people die all the time. But why do we care so much? Because it was the dream of exploration that was dying along with those people, that’s why.

It sure is important to get the rules right and in terms of legislative and executive actions, you ever think of, say, like professional sports or something, you don’t have the rules right if the game isn’t set up properly; it’s not gonna be a good game. So it’s real important to get the rules right. I think it’s worth noting that I think still in the United States the rules are still better than anywhere else but you know, it’s very easy to put something in place which is an inhibitor to innovation without realizing it so in terms of

‘romantic narcissism,’ Alan Wolfe top Feature Quote and Hand-Wringing Aspect, 3 Colleges, p. 487
‘destruction of population on colony ship’ Vesta & Tellus, 2 Disruption, p. 274
FTL is the entry level interstellar technology:

¹⁹ I cannot determine if Bill Murray actually said this or not, or when. It is not inconsistent with other things he is alleged to have said or with his apparent character. The problem is that it was posted to an acknowledged Bill Murray parody Twitter Account on March 26, 2015. Whether this is the source of the alleged quote floating around the internet, I cannot determine. In fact, I don’t even understand the point of the parody Twitter account if you are not trying to fool anyone or gain anything by doing it. But the quote has certainly had relevance and currency in the last few years, especially 2020.

<p>the regulatory environment, it's always important to bear in mind that regulations are immortal and they never die unless somebody actually goes and kills him and then they get a lot of momentum [a Highlander movie reference?]. So a lot of times regulations can be put in place for all the right reasons, but then nobody goes back and gets rid of them afterwards when they no longer make sense.</p> <p>After making several trips to Russia, I came to the conclusion that actually my initial impression was wrong because my initial thought was, 'well, there's not enough will to explore and expand beyond Earth and have a Mars base' and that kind of thing. ... So, but if people think it's impossible or it's going to completely break the federal budget then they're not going to do it so after my third trip, I said, 'ok, well what we really need to do here is try to solve the space transport problem and I started SpaceX.'" – Elon Musk, comments at National Governor's Association meeting, Summer 2017.</p> <p><i>GGDM Commentary: I can only add from a GGDM point of view that 'setting it up right' was a struggle and emphasis of GGDM during the design – countless cycles of tweaks and changes and ripple effects. So I get it about not having a good game if the rules are not set up right!</i></p> <p><i>See also, Ideological and Symbolic Constructural Elements, 1 Constructural Elements, pp. 176, 179, Wagon Train to the Stars, 1 Expansion, pp. 878-879 and Movement and Expansion, 2 The Sidereal Stage, pp. 116.</i></p>	<p>Star-Driven, 7 Beginnings, p. 72</p> <p>Childhood's End, 1 Eras, pp. 754-755</p> <p>Magic Formula, 2 Eras, pp. 767-768</p> <p>SpaceX/FalconX discussions:</p> <p>Tim Fernholz and Jeffrey Kluger quotes, 1 Expansion, p. 886</p> <p>Predecessor Technologies, 3 Patents, pp. 751-752</p>
<p>Narrator (unknown/uncredited speakers)</p>	
<p><i>Columbian Exchange, Invasive Species, Mass Extinction, Pets</i></p> <p>"Cats, they're so cute, cuddly, playful, and they would absolutely murder you if given the opportunity. Beneath that wide-eyed cuddly veneer lies the heart of a cold-blooded calculating killer. Every year in the United States, cats kill billions of birds and small mammals. Sure they are only acting according to instinct, but they have been listed as one of the 100 worst invasive species on the planet and free-ranging cats on islands have been blamed for the global extinction of 33 different species. Though not as prolific as cats, dogs can certainly be killers too – close relatives of dogs, like the grey wolf, are among the most successful predators on the planet. Yet, despite their insatiable blood lust, cats and dogs are by far the most popular pets in the world [survey shows that the total number of cats and dogs in the US is greater than half the human population]. That's an insane amount of killers living among us, but they are so cuddly and lovable, but hold on a second, could there perhaps be a connection here? Is there something about vicious killers that makes them good pets?" – Narrator (uncredited, no introduction), "Why Do Vicious Killers Make Good Pets?" The Good Stuff YouTube Channel, September 8, 2017.</p> <p><i>GGDM Commentary: It is not thought generally that Native Americans had domesticated cats before the European arrival, but had domesticated dogs. Thus, cats are an 'invasive' species in the Americas, a result of the Columbian Exchange.</i></p> <p><i>Note that the narrator did not look or sound like any of the owners or staff who appear in other The Good Stuff videos, so I could not determine who the speaker might be in context of their known staff. The narrator however, had a good voice and seemed like a professional presenter; he was quite entertaining and kept a good pace and clearly announced his words without noticeable accent.</i></p>	<p>Bad Exchanges, 4 Expansion, pp. 924-925</p> <p>Sixth Mass Extinction Event Excerpt, Taxation & Census</p> <p>'mass extinction,' from bombardment and terraforming, Ben Guarino Feature Quote and Planet Narn, 3 Taxation & Census, pp. 315, 316-317</p> <p>'Pets' and 'invasive species':</p> <p>The Life of a Flea, 1 Information, p. 1334</p> <p>No Tribble at All, 2 Commerce, p. 1204</p>

<ul style="list-style-type: none"> • There is no name on The Good Stuff’s Patreon page either, it is simply signed “The Good Stuff Team.” 	
<p><i>Predators, Existential threat discussion in Diplomacy:</i></p> <p>“While I was quickly entranced by his cuddliness and charm, I couldn’t help but to get the feeling that the only reason he hasn’t tried to kill me yet is because I give him food and because I massively outweigh him. So is it possible that cat’s proclivity for violence is in some way connected to their likeability as pets?” – Narrator (uncredited, no introduction), “Why Do Vicious Killers Make Good Pets?” The Good Stuff YouTube Channel, September 8, 2017.</p> <p><i>See also, Appendix 8-16 T1 Food Drive and Appendix 8-16 T1 Universal Predator and ‘food dish predators’ EN 6, 5 Taxation & Census, p. 347.</i></p> <p><i>See also, ‘cat and bird cage story’ Between Mars & Venus, 3 Diplomacy, pp. 1126-1127.</i></p>	<p>‘existential threat,’ Alien Persons, 2 Diplomacy, p. 1110</p>
<p><i>Play as practice for life, simulation value:</i></p> <p>“If I wanted to get him [the cat] to play, I had to simulate the experience of hunting as if the toy itself is a living creature that he can patiently stalk waiting for just the right moment to attack, and there is a good reason for this behavior, cats are obligate carnivores, they need nutrients found in animal flesh to survive. ... It’s been theorized that play is a way for adult cats to satisfy their urge to hunt and for kittens to develop their paw-eye coordination, strengthen their muscles and practice their pouncing skills, which also happens to be very entertaining for their human counterparts.” – Narrator (uncredited, no introduction), “Why Do Vicious Killers Make Good Pets?” The Good Stuff YouTube Channel, September 8, 2017.</p> <p><i>GGDM Commentary: Humans should not eat dog or cat food, see EN 10, 1 Commerce, p. 1191.</i></p>	<p>No Transfer, No Ticket, 4 Fallen to Earth, pp. 1560-1561</p>
<p><i>Infant helplessness period:</i></p> <p>“This is an important survival tool, until a kitten is three-weeks old, they are unable to regulate their body temperature, so they curl up with their mom and siblings for warmth and safety. If a kitten is properly socialized and exposed to humans at a young age, they will see us as potential snuggling partners as well.” – Narrator (uncredited, no introduction), “Why Do Vicious Killers Make Good Pets?” The Good Stuff YouTube Channel, September 8, 2017.</p>	<p>Natural Assumptions, 4 Taxation & Census, pp. 327-328</p> <p>Kindergarten Experience, 1 Eras, pp. 764-765</p>
<p><i>Alloparenting</i></p> <p>“Other observable ... behaviors like rubbing up against your leg and ... head-butting ... is your cat’s way of marking you with its scent. This is called allorubbing; by combining its scent with yours, your cat is basically acknowledging that you are part of its social group and reinforcing the group bond and identity. ... Feral cats will naturally form tight colonies, and female cats in the colony will often work together helping to raise and nurse each other’s young.” – Narrator (uncredited, no introduction), “Why Do Vicious Killers Make Good Pets?” The Good Stuff YouTube Channel, September 8, 2017.</p>	<p>Ant Altruism, 3 Diplomacy, pp. 1136-1137</p>
<p><i>Group problem solving:</i></p> <p>“What is the importance of social groups for predatory animals? Well, it might actually have something to do with hunting. ... Cooperative hunting in the animal kingdom is actually quite rare and only occurs when the benefits of hunting in a group outweigh the</p>	<p>Mo-Jo, 2 Beginnings, pp. 34-35</p> <p>Judgment, 2 The Big Bang, p. 7</p>

<p>benefits of hunting alone. Wolves, lions, wild dogs, humans, and even dolphins, are cooperative hunters. Their success at hunting would not be possible without their advanced social skills and the close bond they share with other members of their group. So... does cooperative hunting require socialization which makes certain animals good pets? Well, there's a problem with this idea. While lions are cooperative hunters, most felines are not, cats can hunt and capture mice perfectly fine by themselves. Also, alligators and crocodiles sometimes hunt in groups and they are not exactly great pet material." – Narrator (uncredited, no introduction), "Why Do Vicious Killers Make Good Pets?" The Good Stuff YouTube Channel, September 8, 2017.</p> <p><i>GGDM Commentary: However, I have seen house cats cooperate in hunting a mouse, or so it seemed at the time, two adult female cats cornered a mouse that came in the back door and the first one who saw it went after the mouse while the other circled around the outside just in case the mouse got away. Was this cooperative behavior? Well, they didn't both go after the mouse and fight over who gets it, letting the mouse escape. There was some tacit agreement at least that one cat would get the mouse and if it got away, it was fair game for the other.</i></p>	<p>'music & group cohesion,' Pallab Ghosh quote, 3 Culture, p. 389</p> <p>Cline Gaming, 1 Wheel in the Sky, pp. 1482-1483</p> <p>'Testosterone Reduction,' Testosterone Bubble, 3 Technology, pp. 722-723</p>
<p>Origin of domestication, Neolithic Revolution (about 10,000 B.C.):</p> <p>"Instead of asking what makes cats and dogs good pets, we should be asking why are cats and dogs pets in the first place? ... DNA evidence suggests that [domestication of dogs] may have started as early as 40,000 years ago, long before the invention of writing and the end of the last Ice Age. One theory is that some packs of wolves began following around human hunting parties; the wolves that were more comfortable around humans found a convenient food supply in the remains of carcasses left behind by the hunters. Over time, some of these wolves could have begun participating in hunts alongside humans ... In fact, the disappearance of Neanderthals began around the same time as the domestication of dogs, it's possible that our early dog hunting companions gave us an evolutionary advantage allowing us to out-compete the Neanderthals... But what about cats? ... The first humans to tame wild cats were possibly the Natufians, who lived in the eastern Mediterranean around 10,000 years ago. The Natufians lived in a mostly sedentary society unlike their nomadic peers and are widely regarded as the inventors of agriculture. As the first agrarian society, it would have also been the first to contend with the enemies of agriculture, and grain in particular – mice. The wild ancestors of house cats probably moved into farm settlements to prey on the large mouse and rat populations. Ancient humans probably saw in cats an effective pest control system that also provided snuggles on occasion. So, dogs and cats are more than just pets, they are a huge part of the evolutionary history of our species, they helped us grow from nomadic hunter-gatherers to permanent settlers of agrarian society, and none of this would have been possible without their mastery of murder. Their cuteness and cuddliness probably helped too." – Narrator (uncredited, no introduction), "Why Do Vicious Killers Make Good Pets?" The Good Stuff YouTube Channel, September 8, 2017.</p> <p><i>GGDM Commentary: By comparison, horses were domesticated around 4,500 to 2,000 B.C, and cattle were domesticated around 10,500 years ago (around 8,500 B.C.). The earliest possible remains of domesticated chickens date from around 5,400 B.C., but possibly as late as 3,600 B.C. in China. As discussed in Interstellar Paleolithic Culture, 6 Diplomacy, pp. 1172-1173, there is always going to be a Paleolithic element to space opera (for example, in conflict avoidance ability, as described by Joseph Tainter, see quote in 3 Culture, p. 397) and the game can be as Paleolithic as the players want it to be; for example, Conversion and Naturalization could be viewed (if there is perceived to</i></p>	<p>'predators and culture,' Down at the Sunset Grill, 1 Culture, p. 354</p> <p>Transformations and Duo Decei Millenii, 1 Reformation, pp. 1380-1381</p> <p>'horse domestication,' Science Daily Feature Quote, 2 Reformation, top p. 1396</p> <p>'reproductive consciousness,' Domesticated Animals, 5 Taxation & Census, pp. 336-338</p> <p>Neanderthal Extinction:</p> <p>'will we follow the Neanderthals?' Somewhere a Truth, 5 Fallen to Earth, p. 1577</p>

<p><i>be a great evolutionary intelligence difference between species) as a form of ‘domestication’ and some species in the game may find others useful as ‘pets’ (however, the game posits that all species occupy the same ‘galactic shelf’ in terms of SQ which is the normal for space opera, even those that feature technologically-advanced aliens, see 5 Beginnings, p. 51 and 3 Information, p. 1361).</i></p> <ul style="list-style-type: none"> I did have to wonder though, after reading about the Natufians, if a racial memory of the Natufian culture was the source of the Garden of Eden and the first city, Enoch? I actually had pondered this some months before I watched Lance Geiger’s video about the historiography of Stonehenge, quoted in this document. If he is correct, then the possibility that I pondered becomes more likely than not. 	<p>‘Neanderthal Y-Chromosome is extinct,’ Brooks Hayes Feature Quote, 5 Beginnings, p. 57</p>
<p><i>Tiny interstellar empires, true size of the universe discussions:</i></p> <p>“Is there a border we will never cross? Are there places we will never reach no matter how hard we try? Turns out, there are. Even with science fiction technology, we are trapped in our pocket of the universe. We live in a quiet arm of the Milky Way, a spiral galaxy of average size about one hundred thousand light years across consisting of billions of stars, gas clouds, dark matter, black holes, neutron stars and planets, with a supermassive black hole in the galactic center. From afar our galaxy seems dense, but in reality it consists mostly of empty space. With our current technology sending a human to the closest star would take thousands of years. So, our galaxy is pretty big. The Milky Way is not alone though. Along with the Andromeda Galaxy and more than fifty dwarf galaxies, it’s part of the ‘local group,’ a region of space about ten million light years in diameter. It is one of hundreds of galaxy groups in the Laniakea Supercluster. Which, itself is only one of millions of superclusters that make up the observable universe. Now let’s assume for a moment that we have a glorious future. Humanity becomes a [Kardashev] Type 3 Civilization... In this best case scenario, how far could we possibly go? Well, the local group. It is the biggest structure that humanity will ever be a part of; while it is certainly huge ... we are limited to a hundred billionth of a percent of the observable universe. [the video then goes on to explain why we can never escape our local group] Still, with its trillion stars, the local group is certainly large enough for humanity. After all, we still haven’t figured out how to leave our own solar system and we have billions of years to explore our galaxy.” – Narrator, “How Far Can We Go? Limits of Humanity.” Kurzgesagt – In a Nutshell YouTube Channel (“Videos explaining things with optimistic nihilism. We are a small team who want to make science look beautiful. Because it is beautiful.”), May 12, 2016.</p> <ul style="list-style-type: none"> The Kurzgesagt Patreon page simply refers to “we” without any identifying information as to narrator, creators or owners. Additionally, I have noted some people on YouTube seem to dislike Kurzgesagt for reasons I have not yet understood. 	<p>Scale of the Universe:</p> <p>Stage Illusions, 1 The Sidereal Stage, pp. 107-108</p> <p>Colonizing Andromeda Galaxy and Let’s Do Some Calculations, 1 Movement, pp. 836, 837-838</p> <p>Realspace, 2 Expansion, pp. 901-902</p> <p>‘inviolable Galactic Space in GGDM,’ Looking Inward, 2 Expansion, p. 900</p>
<p><i>Dangerous Games Excerpt, Cultural War, Rhetoric:</i></p> <p>“Rock ‘n Roll was under attack in the 80s. As the music became more theatrical and provocative and MTV gave it a national platform, America’s youth screamed for more. It was obvious that pop music was experiencing a revolution it hadn’t seen since Elvis swiveled his hips on the Ed Sullivan Show. This scared the hell out of conservative Reagan era baby boomers so much, politicians and their wives, mostly their wives, attempted to clean up the music industry. ... On September 19, 1985, the United States Senate held a hearing where representatives from the Parents Music Resource Center,</p>	<p>Dangerous Games Excerpt, Prime Mover</p> <p>Boorish Behavior, 5 Beginnings, p. 59</p> <p>Tyranny in the Nursery, 3 Colleges, p. 491</p>

<p>also known as the PMRC, made of Senators Paula Hawkins, Al Gore and others, testified before the Senate Commerce, Science and Transportation Committee ...</p> <p>Their beef? They thought music with explicit lyrics were too accessible to their kids. <i>And no, they were not going to take it anymore.</i> They wanted record companies to label their albums with rating similar to how movies use the MPAA rating system. The rock community, made up of musicians and fans saw this as censorship and segregation. <i>And they thought they were so condescending, their gall is never ending.</i> That’s when Dee Snider stepped in, not only did he become the powdered face of rock ‘n roll, but its savior with a grace and intelligence that no one was expecting. ... Snider was invited by the Senate to the circus-like hearings to censor rock because, by the looks of him, they thought he’d embarrass himself. ... But when Snider opened his mouth, the Senate realized just how much they underestimated the singer. Dee’s wardrobe ... it wasn’t an accident, Dee had it all planned out. While John Denver and Frank Zappa appeared before the Senate subcommittee in suits and looked fairly put together, Snider went in the opposite direction. He strutted into the hearing in a ratty jean vest, a sleeveless Twisted Sister t-shirt, a studded belt, sunglasses and a head of puffy blond spiral curls. ... All three musicians delivered articulate speeches but, given his appearance, Snider’s well-presented and meticulous response was a surprise, proving that neither the PMRC nor the committee should expect an easy debate. ... Snider later said that he knew his message would have more merit if he kept true to his identity. Snider didn’t want to meet Congress half-way. He wanted them to make the effort and see beyond their preconceived and antiquated notions...</p> <p>So, how kind was time to Dee Snider and his accusers? ... As far as the PMRC’s rating system is concerned, an album with a parental advisory sticker on its cover usually meant more sales and higher chart positions for all offending bands. ... The sticker became a badge of honor. Dee Snider and his wife have been together for well over 40 years, married for most of them and have four children who each have gone on to enjoy successful and respectable careers in the entertainment industry. Meanwhile Al and Tipper Gore separated ... they’re still lazily married but they date other people now. As for the record industry that backed down so easily at the limp threats of the PMRC in Congress, it’s a shell of its former self. Physical albums have become novelties in a world driven by downloads. Yet, warning labels still adorn individual track listings and albums online.” – Narrator [pos. Greg Cipes, but not credited], “How Twisted Sister Outclassed Congress,” Weird History YouTube Channel, April 22, 2020.</p> <p><i>GGDM Commentary: This stunt backfired on the PMRC and Christian right movement because they tried to apply a cheesy, slap-dash solution to the problem without true understanding. This was one of the first outcomes, one of the first instances, of testing culture war as a political strategy, the same strategy that has dominated alongside identity politics, for the last 30 years and accomplished little.</i></p>	<p>Cultural War, 5 Culture, pp. 428-429</p>
<p><i>Special Operations, inter-position cooperation in research, monolithic Government Titles discussion:</i></p> <p>“In November 1998, the first module of the International Space Station was launched into orbit. Over the last two decades, it’s been home to hundreds of astronauts from nineteen different countries. This enormous collaboration between different nations shows just how much can be achieved when the world comes together. However, not every nation is allowed to take part in the ISS program. China has never taken part in the program and since 2011, they were officially banned from doing so. ... We’re also going to look at why the US lost trust in China’s space program and China’s future plans to</p>	<p>‘binding arrangement between sovereign authorities,’ The Singleton, 1 Government Titles, pp. 579-580</p>

<p>make their own space station. ... [discussion of the Cold War, space race and the Apollo-Soyuz mission] ... Fast forward 23 years and the largest space collaboration was about to begin, the International Space Station. Spearheaded by NASA, the space station involved fifteen nations and five different space agencies. Besides the technical challenge of developing and launching an entire space station, getting all of these countries to work together required an extreme amount of trust. At first, NASA was concerned that Russia would use the opportunity to transfer advanced technology for their own military use. But after the Columbia disaster grounded the Space Shuttle, NASA had no choice but to rely on Russia to transport astronauts to and from the space station. Despite the worldwide collaboration required to build the ISS, China was one of the largest not invited to join the International Space Station. At the time, the Chinese Space Administration was only five years old and the rest of the nations felt that China was simply not ready to make a meaningful contribution to the project. So, China plowed forward with their own space program – and in 2003, became the only nation other than the US and Russia to launch a human into space. As progress continued on the ISS, China states their desire to join the ISS as a new member. However, legislation introduced by U.S. Congress in 2011 eliminated the possibility of China joining the ISS.</p> <p>Although this may seem like a harsh decision, America’s distrust in China was not completely unfounded. In 2007, China deployed an anti-satellite weapon to destroy one of its own weather satellites. This received worldwide criticism for the dangerous amounts of space debris it caused. A decade later, two Chinese nationals were charged by the U.S. Department of Justice for allegedly hacking information from NASA’s Jet Propulsion Laboratory. Despite being banned from the ISS, China continues to rapidly advance their space program. In 2019, China became the first nation to successfully land a spacecraft on the far side of the moon. In 2011 they launched a space station known as Tian-gong 1, which was soon followed in 2016 by Tiangong 2. The final form of the Chinese space station will be one fifth of the size of the ISS and is expected to be completed by 2023. ...</p> <p>Whether they were rightfully excluded from the ISS or not, China has been successful in developing their own space program. Over the next few decades, they are poised to become an even bigger player within the space community.” – Narrator, “China’s Space Station Ban,” Primal Space YouTube Channel, February 11, 2020.</p> <ul style="list-style-type: none"> • Primal Space’s Patreon page contains no names, just “I.” 	<p>Dissonance, 2 Reformation, pp. 1392-1393</p> <p>Stealing and Sharing Patents in GGDM:</p> <p>Fuzzy Ops, 3 Special Operations, pp. 1306-1307</p> <p>Letters Patent, 3 Patents, pp. 748-749</p> <p>‘Research Pieces and Groups laid on the Diplomatic Space,’ Shared Spaces, 2 Diplomacy, pp. 1118-1119</p>
<p><i>In-game speed of time passage, Hegemonic Empires, Hegemonic Frontier Potential, loss of Esteem/Prestige in military defeat, Friendly/Naturalized/Converted colony revolt, Joanna the Mad, Battle of the Narrow Seas in 1602, economic effect of decisive naval defeat, RP cost of Power Activations and cargo ships function, supra-legitimacy, failure of Social/Estate Title:</i></p> <p>“Spain was, since the discovery of the New World, at the forefront of European politics. Under Charles I and Philippe II, Spain was the cultural, military and economic master of the Western world. Its empire stretched from California to Cape Horn and the immense riches of the Americas flowed back to Madrid. Spain’s Habsburg rulers alongside their relatives who ran the Holy Roman Empire dictated European politics for centuries. Yet this came to an end and Spain was replaced as a global power by the Dutch, the French and the English. The question is, why did this happen and when was this process complete?</p>	<p>Hegemonic Empires and Hegemonic Frontier Potentials, 4 Order, pp. 571-573</p> <p>Samurai Crabs and Esteem & Prestige, 3 Government Titles, pp. 610, 614</p> <p>‘Friendly Colony revolt,’ Asymmetric Conflict, 2 Order, p. 542</p>

It was under Charles I and Felipe II that Spain's power in Europe was at its height, yet it was during the later reign of Felipe II that things started to sour. The Spanish monarch was also known as the Catholic monarch and was dedicated to preserving and protecting the Church. Two things on this front forced Spain's attention. First was the Muslim Ottoman Empire to the south whom Spain wanted to keep out of Europe and this culminated in the 1571 Battle of Lepanto which, to put it mildly, was expensive. The second challenge to Spain was the Protestant Reformation which saw the Netherlands rebel against Spain, and also brought Felipe's kingdom into conflict with the English. All of these things were quite expensive, not least the failure of the Spanish Armada, which basically bankrupted Spain. However, Felipe did manage to inherit Portugal and its empire too which gave Spain a major boost.

Felipe II died in 1598, and was succeeded by his son, Felipe III, who would in 1618 bring Spain into the Thirty Years War against Protestant powers of Europe and France. Spain actually performed quite well during the war, but it was extremely costly. Also revolts broke out in Portugal and Catalonia which saw Felipe IV in 1640 effectively lose control of the former. In 1648, at the end of the war, Spain acknowledged Dutch independence and thus lost access to the richest lands in Europe and also now had to deal with another rival at sea. In 1658, Spain was defeated by France which effectively established Louis XIV as Europe's leading monarch and also saw Spain lose ... land. It's at this point we can safely say that Spain was no longer the foremost power of Europe.

Spain suffered more difficulties when the heavily disabled and heirless Charles II died in 1700. He had nominated Phillippe of Anjou, the grandson of Louis XIV as his heir. This was unacceptable to many of Europe's powers because it made Spain a permanent ally of France, and so, war. ... The War of Spanish Succession ended with Felipe taking up the throne on the condition that Spain and France never unite and also that Spain give [Italian, German, and Belgian] territories to the Austrian Hapsburgs. And despite all of this, Spain was still a great power, just a diminished one. In century following the War of Succession, the Spanish sought to reform their kingdom and the Empire with it. These reforms were especially during the reign of Charles III who opened the Empire's trade to other nations and introduced a much more direct form of governance. It was ...

It was ... Charles IV whose actions meant Spain would lose its status as a great power. He sided with Napoleon during the Napoleonic Wars, but was himself ousted from power in 1808 and succeeded by his son, Ferdinand VII. Napoleon wasn't ok with Ferdinand, and so wanted his brother Joseph Napoleon made Spanish king. Civil war broke out, Napoleon invaded, Joseph was made king and France pinched Catalonia. Revolts against King Joseph broke out across Spanish America and even after Napoleon had been defeated and Ferdinand restored, those who lived there felt that Spain could no longer provide wealth and security. Spain was essentially sidelined after the Napoleonic Wars and in the decades following lost most of her American colonies to revolutions. This was followed by yet more decades of at near constant civil strife and conflict within Spain itself. It was thus at this point, after the Napoleonic Wars, that Spain was no longer considered a great power and would thereafter remain on the sidelines of European politics." – Narrator, "Why did Spain Decline?" History Matters YouTube Channel, July 11, 2019.

GGDM Commentary: This five-paragraph rise and fall is being presented here as an example of the 'speed' of GGDM in-game time represented by Regular Turn Cycles, as well as an illustration of many concepts discussed in GGDM. See Buzzing Lightyears, et seq., 4 The Streams of Time, p. 101.

'Converted colony reversion,'
Converted Colony and Green Zone, 2 Order, pp. 539-540. 541-542

'Battle of the Narrow Seas in 1602,' For the Babylon Bobs, 6 Combat, pp. 1028-1029

'RP cost of Power Activations,' Box Office Receipts, 3 The Sidereal Stage, p. 123

'Social/Estate Title disruption,' Foreclosure of a Dream, 3 Government Titles, pp. 615-617

'function of Cargo Ships,' Gross Domestic Product, *et seq.*, 1 Construction, p. 662

Joanna the Mad in GGDM:

Unprintable Responses, 2 Dreamtime, pp. 150-151

Legitimacy, 3 Government Titles, pp. 608-609

Joanna & Albert, 2 Fallen to Earth, pp. 1524-1525

<ul style="list-style-type: none"> • History Matters Patreon page contains no names, just “I.” 	
<p><i>Disturbance Modifiers, VLF Bubble:</i></p> <p>“In the remote corner of our solar system, according to some experts, there is an extraordinary structure whose hypothetical existence raises great questions among astronomical experts. It is a kind of ‘hydrogen wall’ which lies at the edge of our home planetary system. Experts agree that this ‘galactic wall’ could be the physical end of our ancestral solar system. In detail, the area describes the region in which the emitted energy of our sun is no longer strong enough to penetrate the mass accumulated there. ... The rays emitted by our sun penetrate a space of many million kilometers ... however at some point even the powerful rays of the sun reach a spatial point at which its powers dry up. From then on, the solar system is no longer able to penetrate or push back the resident matter in the corresponding areas. This creates a visible boundary that represents the end of our solar system; on one side of this galactic boundary, the last traces of the solar wind can be observed, in the opposite area, interstellar matter, including hydrogen, is once again formed.</p> <p>The existence of such a galactic edge has been hotly debated in the scientific community for a long time. However, the technically limited means of the past ... did not allow us to prove the scientific thesis of the solar system boundary in a comprehensible way. The NASA space probe New Horizons passed through the region around Pluto about five years ago. Because New Horizons penetrated so deeply into the ‘foothills’ of our solar system, the hopes of the experts were nourished to finally reach the ominous boundary of our planetary system in the course of the mission. And indeed, the space craft succeeded in proving the existence of additional ultraviolet light in the most remote corners of our solar system. For the researchers, this observation supported the thesis that a galactic wall of hydrogen could have formed in the immediate vicinity.</p> <p>Already the Voyager probes, which NASA sent into space at the end of the 1970s, provided comparable data. While the information collected by the New Horizons gave rise to further hot speculation other astronomers urged caution and patience. Although the existence of the corresponding ultraviolet light is an indication not to be overlooked of the theory of the visible limit of our solar system, the data collected so far do not provide definitive proof.</p> <p>...Voyager 2, which has been exploring space for more than 40 years, succeeded about two years ago in reaching the area that could represent the ominous edge of our solar system in detail. The data that the time-honored spacecraft sent to Earth showed how breathtaking the border of our planetary system really is; according to the data, the area in question is said to be an area that resembles a galactic heat inferno. Thus, the region contains huge masses of scorching hot plasma; the temperatures recorded by Voyager 2 during its flight were more than 49,000 degrees Celsius. Fortunately, the space craft’s heat shields were strong enough to protect it from the devastating effects of these temperatures. The corresponding plasma is said to have reached the affected region via solar winds. However, Voyager 2’s stay in the fascinating area also caused a major technical complication, for example, NASA reported that the space probe, which is currently located almost 18 billion kilometers away from our blue home planet is trapped in the wall of red hot plasma. Nevertheless, the unmanned spacecraft is still able to collect useful data and then transmit it to Earth.” – Narrator (uncredited), “A NASA Space Probe Discovers a Huge Wall at the Edge of the Solar System!” TheSimplySpace YouTube Channel, March 6, 2021.</p>	<p>NASA press release regarding VLF effects on the Van Allen belt, bottom Feature Quote, 6 Beginnings, p. 66</p> <p>Disturbance, 2 Movement, pp. 846-847</p> <p>‘hazard rolls when exploring,’ Then Never Comes, 3 Expansion, pp. 907-908</p>

GGDM Commentary: The tone and language used in this video are dumbed down and filled with words like 'ominous' and uses Earth terms like 'foothills.' This is consistent with the channel title on which the video is posted, Simply Space. But still, this is offered here in relation to GGDM as a possible 'real world' reason for the Disturbance Modifiers in GGDM movement and Hazard Rolls in GGDM scouting, since we do not know and GGDM does not specify exactly how a Stardrive operates (because it cannot), it is possible for such a spherical 'wall' to provide a bumpy entry into any solar system from any direction and going FTL or decelerating from FTL could make the bumpy ride lethal.

- The concept reminded me of the VLF bubble that is pushing the Van Allen belt outward from the Earth.

Nietzsche, Friedrich

Interpretations vs. Facts, Nietzsche, Social Constructionism:

“Against that positivism which stops before phenomena, saying ‘there are only facts,’ I should say: no, it is precisely facts that do not exist, only interpretations.” – Friedrich Nietzsche, Notebooks, Summer 1886 – Fall 1887.

GGDM Commentary: The purpose of this entry is not to argue about Nietzsche, for one, I haven't the expertise. A Philosophy Stack Exchange user suggested this is similar to Kant's 'we can't know the noumenon, we only know the phenomena.' Ok?

No, instead, part of this quote was offered in the Wikipedia article on Social Constructionism, and it then occurred to me that first, GGDM contains elements of social constructionism (e.g., interpretations, Constructural Elements even!) and might be mistaken for a work in social constructionism, and second, that if anyone in France ever read it, it is possible that GGDM might be slightly more popular in France than in the Anglo-sphere (cross-culture popularity with local obscurity is not an unknown phenomenon in popular music, art, performance, and literary fiction).

I do not consider GGDM a social constructionist work, though it has elements which I arrived at either by my own thinking or by absorption from late Cold War and millennial cultural milieu. I stake my territory out in Spaces, et seq., 4 Beginnings, where I state that reality to humans is a compromise between the objective (empirical) and subjective (mental, cultural) realities, and this is the reason for Galactic Space and Public Space duality representing civilization in the game.

Further, in Flavors of Fact and Five Types of Fact, 1 Dreamtime, while introducing Interpretations into the game, I simultaneously reinforce empirical fact and offer a category breakdown of the spectrum of facts that straddles between empirical, repeatable facts and facts which are simply facts because they are agreed upon. This is precisely consistent with the stance taken in 4 Beginnings and the duality carries through the rest of the game, where positions are defined by hard, empirical, objective reality of their place in Galactic Space and just as much by what is on the Public Space representing the collective culture, consciousness of civilization.

See also, Nietzsche quotes and discussion in GGDM: 'alienated from the present,' Nietzsche Feature Quote, 1 Constructural Elements, p. 181, 'struggle of opinions,' Nietzsche end Feature Quote, 1 Commerce, p. 1190, 'Nietzsche's warning about atheism,' Michael Robbins Feature Quote, 1 Technology, p. 696, 'Nazis cherry picked Nietzsche,' Cartoon World, 1 Diplomacy, pp. 1106-1107, 'Douglas Adams aligns with Nietzsche re

Spaces, et seq., 4 Beginnings, pp. 46-47

Flavors of Fact and Five Types of Fact, 1 Dreamtime, pp. 134-137

<p><i>atheism, 'One Fewer God, 1 Fallen to Earth, pp. 1502-1504 and mention of Nietzsche's 'master-slave morality,' 3 Order, middle p. 548.</i></p>	
<p>“Noah” (probably Noah Michael Levine, Voice Actor)</p>	
<p><i>Distance is measured in time, Temporal Special Operations, Temporal Ships, 'arrow of time' and 'causality,' afterlife and religion, time dilation discussions and astronaut Gordon Cooper, Derrida Metaphysics of Presence, John Archibald Wheeler, Humanity in a Box:</i></p> <p>“We spend a lot of our lives looking forward to, and planning for ... the future. A mystical far off place that often takes up more of our energy than even the present does. But is the future ever really there?</p> <p>In general, most people are eternalists. Most mainstream representations of time are eternalist in nature; they follow the fairly uncomplicated notion of eternalism, which says that the past, present and future are all separate parts of time and each has its own unique traits. It's an intuitive approach. We know things have happened, are happening, and will happen, so presumably there is a past, present, and future to speak of. But there are some theories and philosophical approaches that turn this on its head.</p> <p>As humanity has consistently found across history, it's unusually difficult to talk about time and how it functions. Eternalism, however, is also the philosophy behind the Block Universe Theory, arguably one of the simpler models out there. It's rooted in Albert Einstein's work defining spacetime as being made up of four dimensions: Three spatial and one temporal. In the Block Universe model, we have points across space and time that all technically exist always ... it's just that we can't get to all those other points in time (besides the present). This is a problem though, because how can we possibly prove that all points in time – particularly future points in time – always exist? A number of physicist have therefore grown to be unsatisfied with eternalism and the Block Universe as a valid explanation.</p> <p>And a number of alternative models have emerged, many of which appear pretty weird at first, but could make even more sense. At the heart of the problem, physicists are grappling with the fact that while we can technically move in any direction in space that we want to, we can only go forwards in time. Bit by bit, never backwards. We can only ever perceive the present moment or remember past moments (moments which, at the time were also in the present). This conundrum has led to the development of the Growing Block Universe Theory instead.</p> <p>The Growing Block Theory says that spacetime is always growing as time passes, with new slices being added as the present continues and then slips into the past forever. Crucially, because in the Growing Block the slices of the future haven't been created yet (and will only be created when they become the present), the future doesn't actually exist: It's emerging with every passing second but we can't say at any one moment that the future is already here. It's as though we are a runaway train but the track is only being laid as soon as we pass over it.</p> <p>The Growing Block Universe has grown more and more popular in recent years, but it still does have some problems of its own. It explains the past fairly well, arguing that we have clear enough proof the past exists because of causation, where past events influence and directly affect the present. But its depiction of the present can be questioned; we certainly know the present exists because it's the state we perpetually occupy, but how exactly do we define the present moment? And then how do we measure these so called</p>	<p>Temporal Ship, <i>et seq.</i>, 2 Temporal Technology, pp. 817-818</p> <p>‘temporal Special Operations,’ Time Safari, Inc., 1 Special Operations, pp. 1268-1269</p> <p>‘distance is time,’ Roger Caras “time is our prime yardstick” quote, Groundhogs and Time & Space, 2 Movement, pp. 848-849</p> <p>Arrow of Time:</p> <p>‘arrow of time same for all races in the game,’ Temporal Constructural Element, 1 Constructural Elements, pp. 173-174</p> <p>‘cracked causality chaos prohibited,’ The Door to that When is Closed and Un-rung, 1 Temporal Technology, pp. 804-806</p> <p>Time Dilation Discussions:</p> <p>‘Mercury-Atlas 9 Flight and NASA Twins Study,’ Clock Speed, 1</p>

slices of spacetime? Is the present a second? A minute? An entire day? Or is it far smaller than any of those?

The smallest unit of time ever recorded is a zeptosecond, defined as being a trillionth of a billionth of a second. Could the present be this miniscule or smaller? So small that despite it being our constant reality, we can't actually perceive it? Unfortunately, this is a question that doesn't have an answer ... but if we were to consider ourselves as living just zetosecond to zeptosecond, then the present suddenly becomes an extremely fragile thing.

But maybe you are not convinced by either the Block Universe or the Growing Block Universe theories? In that case, you may prefer presentism. For a presentist, we only ever perceive and exist in the present: Every single moment you have ever experienced has been in the present ... so therefore, that's the only thing, the only aspect of time, we can ever truly recognize. Presentism goes further than Growing Block Theory though, because it bluntly declares that the past doesn't exist either. Yes, this in the face of archeological and historical evidence that the past is real ... but to the presentist, because the dinosaurs don't exist now, they don't exist at all. Presentism hasn't taken off quite like the Growing Block Universe has done, however, mostly because this unusual belief doesn't stand up to even light scrutiny from other temporal philosophers. No matter how we perceive time, we know that dinosaurs existed, or that yesterday happened, and presentism can't account for that.

Regardless of which of these beliefs you personally subscribe to, or if you believe something else entirely about the nature of time, we do at least have some scientific dogma to help us understand the strange ways in which time can behave. We can again look at Einstein's work, for example, to show that the present moment isn't actually the same for everyone. If you are travelling, you experience the passage of time differently than someone standing still – depending on how quickly you're moving. This aspect of special relativity is known as time dilation, and it's vital to consider when it comes to our future plans for space travel. Time dilation says the faster you travel through space, the slower you travel in time, relative to a stationary object. So if you travel through **space fast enough and then return to Earth, less time could have passed for you than for everyone else on this planet. You (and everyone else still exist in the present, but you reach this present moment at different speeds ... which doesn't seem like it should be possible, but it's a reality for many astronauts returning from the ISS; a phenomenon otherwise known as the 'loss of simultaneity.'**

This blurring of the boundaries isn't something that will affect anybody in their day-to-day lives, but it does pose a pretty sizable problem for both the presentist and the Growing Block theorists. **If two sets of people can reach the same moment at different speeds, then one must have been in front of the other ...** all of which seems to scientifically prove that the future does, in fact, exist. A less scientific example of the loss of simultaneity is simply that we all perceive time in different ways on different days; time seems to fly when we're enjoying ourselves, but if we are waiting for something, it can seem to take forever. For two people, at the same moment, time can feel as though it's passing differently, and the future can feel as though it's near or far. Is time actually passing at a different rate here? Is it far more fluid than most models would have us believe? Or perhaps it's that those slices of the present, the ones constantly added in the Growing Block Universe, are in some way, not uniform? Perhaps we each experience different sized slices of spacetime, dictated by any number of variable, like mood, or past experience, or age.

The Streams of Time, pp. 75-76

'end-running time dilation in sci-fi,' Starship Jefferson and Assumptions of Light, 1 Star-drive, pp. 781-782

'temporal technology is implied in FTL,' Thumbing Our Nose at Einstein, 1 Temporal Technology, p. 802

'spinning black hole in Interstellar,' EN 4, 2 Eras, pp. 777-778

Afterlife as a function of Human Time:

'two models of birth and death,' Point of No Return, 4 Fallen to Earth, pp. 1454-1566

'fundamental problem of Abrahamic religion,' Sapience, 1 Beginnings, pp. 28-29

'Hayflick limit is the reason for afterlife,' Senescence, 4 Taxation & Census, p. 328

'leaping the barrier of our own mortality,' The Insistence of

Again, at the moment, we can't possibly quantify how these units take shape, but to take the problem of time to its extreme, there are places in the universe where doesn't even seem to exist at all: inside black holes. Black holes don't just distort the space around them, they also distort time itself .. all the way down to their singularity. According to some theories, if you were to fall into a singularity, you would witness the entire history of that specific point in space and time. The future would be laid out for you, potentially all the way up to until the end of the universe. Sure, if you ever did find yourself in this position, you'd never be able to escape to tell anyone about it. And you wouldn't need to see the past or the future to know that you, yourself, were already dead. But from a purely hypothetical point of view, the experience would once again imply that the future does exist." – "Narration by Noah" (the thumbnail pic looks like Noah Michael Levine and Unveiled is known to hire professional narrators), "Does the Future Exist? | Growing Block Theory," Unveiled YouTube Channel, December 16, 2020.

- Cf. "The laws of physics don't specify an arrow of time – they don't distinguish the past from the future. The equations we use to describe how things evolve forward in time also perfectly describe their evolution backwards in time. So, the brain is a thing and it's ruled by the laws of physics – why does the brain and the conscious experience that emerges from it, see the arrow of time so clearly? In other words, why do we remember that past and not the future?" – Matthew O'Dowd, "Why Do You Remember The Past But Not The Future?" PBS Space Time YouTube Channel, December 8, 2020.

GGDM Commentary: "Growing Block Theory" reminds me of a strange episode of some 1980s program (could it have been the remade Twilight Zone?) where a woman slipped through time cracks and discovered that every second was being constructed by a construction crew who then cleaned-up and left before that second became the present. Growing Block Theory seems to align with a sort of Many Worlds Theory implying that the line of blocks taken are dictated by the decisions we make (Sabine Hossenfelder among many other scientist does not like Many Worlds Theory). Within GGDM play, the Growing Block Theory would preclude any temporal operations into the 'future' (and precognition) as the 'future' doesn't exist. If the Concierge or players don't want time operations in the game, or precognition, then this could provide the excuse, I am not sure how else it might affect the game.

Also, as noted throughout GGDM, perception and interpretation of time not only belongs to individuals, but to civilizations, it is a reformational element that is fundamental to modernity, for example. Eternalism is built into religion, in the birth, death, afterlife, creation and end of the world cycles, would humans be happy if they thought they lived in a universe where the future doesn't actually exist? It would be devastating if you believe in destinies (since destiny, prophecy, and precognition implies a fixed future nexus point to which all presents bend), but on the other hand, would we feel liberated? Or are we mentally imprisoned and don't know it.

On the Ides of March 2021, I suddenly realized that my most recent game design, LEGACIES! A GGDM 'civilization custodians' Game is consistent with the Growing Block Theory; the 'list generation' mechanic and the way timelines are treated is consistent with a Growing Block approach though I was not thinking of it at the time. Serendipity!

Memory, 3 Temporal Technology, pp. 830-832

Human Time Perception Discussions:

'defining time,' Aristotle, Heidegger and Derrida top Feature Quotes and Metaphysics of Presence, 1 The Streams of Time, pp. 74-75

'time and existence,' John Archibald Wheeler Feature Quote and Just Don't Call Me Late for Dinner, Time-sense, and Humanity in a Box, 3 Reformation, pp. 1403-1408

'human forever,' Tribal Minds, 1 Temporal Technology, pp. 813-814 and A Dying Age, 2 Eras, pp. 774-775

Absurdities:

'afterlife but no pre-life,' 5 Taxation & Census, p. 338,

'deserved to be born absurdity,' 3 Taxation & Census, p. 317

<ul style="list-style-type: none"> • YouTube science videos tend to go in waves or fads, where there is one video on a subject, there is another and another, across the usual science education channels. For example, PBS Space Time with Matt O’Dowd has a similar video, “Do the Past and Future Exist?” dated October 13, 2020, about three months before Unveiled’s video (maybe there’s a causal connection?). 	
<p><i>Transhumanism, Post-humanity, teleology in evolution and biological sciences, species, genetic drift, technological manipulation of populations, seeding space, cyborgs, senescence, lifespan (Hayflick limit) and immortality discussions:</i></p> <p>“In life, the universe and everything, the march of progress goes on and on. But, where will it stop for humankind? And what will be look like when we get to the end? ...</p> <p>But here’s the thing ... If some kind of world-ending, life-obliterating event happened today, then this is our final form. If something happened to instantly wipe out all humans on Earth, including those few inside the International Space Station – something like vacuum decay, for example – the right now would be the endpoint for our species.</p> <p>Evolutionary science doesn’t usually concern itself with the idea of a final form. That’s because it’s primarily about analyzing past life to decipher how present life came to be. What evolution doesn’t do is predict the future. We can find hints about what might unfold in the next one hundred years, or one thousand, yes ... but without developing a means to actually see and experience the future before it has happened, we’ll never know for sure.</p> <p>Evolution is largely shaped by how the environment changes around us, which means that so much of it is beyond our control. Which why – from an evolutionary science point of view – we can only say with certainty that our final form will be whatever state we’re in when the last of us are killed off; when our environment finally destroys us, when we go extinct. It’s not a planned or predetermined point in time though, it’s not as though evolution has a final form in mind, and it’s diligently working toward that ideal. Humans could well continue to evolve indefinitely, particularly if we do make it off of earth and to the relative safety of being a multi-planet species. Alternatively, <i>Homo sapiens</i> could evolve and branch out into a number of different new species ... and our own final form will simply be whenever our current species disappears....</p> <p>And while it is true that evolution doesn’t have a final form that it’s aiming for, in recent years humankind has begun to take control. Through technology, we’re beginning to shape our own development...and perhaps even to dictate our own destiny. According to some theories, our plans to spread out across the solar system could prove to be one way in which we affect our own evolutionary path. If our plans for Mars go ahead, for example, the first humans that land on the Red Planet will still be the same as everybody else back home, here on Earth. But nobody back on Earth will have ever had to adapt to such a dramatic environmental change as this one; for those first Mars settlers, whatever effects they do (or don’t) experience – like changes in gravity and atmosphere – will be unprecedented.</p> <p>So while it is impossible to predict specific changes with certainty, we could see what’s known as accelerated speciation take hold. Broadly speaking, speciation is the emergence of new and distinct species via evolution. But in this case, the driving force won’t have been nature just running its course, it will have been human action: The human decision to travel to (and live on) Mars could prove to alter our gene line forever. For the evolutionary scientist, Dr. Scott Solomon, writing on Nautilus [Magazine] in 2016, a</p>	<p>‘preventing extinction,’ Seeding Space, 1 Expansion, p. 877</p> <p>‘no predictive theory of biology,’ Carl Sagan Feature Quote, 3 Technology, p. 723</p> <p>‘Hayflick Limit/immortality,’ Anihilation Feature Quote and Senescence, 4 Taxation & Census, pp. 327-328</p> <p>Genetic Drift:</p> <p>Frontier Drift, 3 Entropy, p. 246</p> <p>Race and Ethnicity, 5 Beginnings, p. 52</p> <p>‘human lifespan,’ Technological Senescence and EN 18, 5 Taxation & Census, pp. 343-344, 350</p> <p>Cyborgs/Robots:</p> <p>‘cannot build population,’ View from a Height and The Fine Print, 1 Construction, p. 660-661</p> <p>‘population improvements are subsumed under</p>

move from Earth to Mars would likely ‘speed up the process’ of speciation. For Solomon, it could mean changes which usually require tens of thousands of years to happen would take place in ‘just a few hundred generations [or] perhaps as little as six thousand years.’ From a purely evolutionary standpoint, this hypothetically new sub-species of human could never count as the final form of *Homo sapiens*, specifically because it wouldn’t be *Homo sapiens*. ...

[discusses human immortality through scientific progress] Would an eternal human also represent the highest level of advancement that humanity could achieve? Perhaps... but for so long as we remain a carbon-based, biological creature, it could still be argued that we would still be flawed and vulnerable. We may well have halted the aging process and unlocked eternal youth, but we could still be killed at any moment. We still wouldn’t be imperious to an asteroid strike, for example. ... To withstand the worst possible physical scenarios in front of us, then, we may need to transcend, to become post-biological. This is a wildly popular theme in modern science fiction; with the AI singularity seemingly just around the corner, the idea of machines replacing people has been at the heart of countless books and movies. It could be that we transform our bodies via artificial means so that we’re not only immortal but also indestructible. Or it could be that we leave our bodies entirely in favor of mind-uploading our consciousness and collective knowledge. The chief philosophical question here is would we still count as humans by this point?” – Noah (“Narration by Noah”), “What If Humans Achieved Final Form?” Unveiled YouTube Channel, December 12, 2020.

GGDM Commentary: He coyly answers the question: We’d be extinct. Because our last form before extinction is by definition, our final form.

Dr. Scott Solomon teaches at Rice University (<https://solomon.rice.edu/>). This Unveiled video expands upon the ‘transhuman’ themes running through GGDM; the only problem I have with it is the underlying concept, assumption of ‘progress’ – not all change is ‘progress’ and ‘progress’ is rather subjective, as discussed in Progress, 1 Eras, p. 759 and The Bargain, 5 Culture, pp. 426-428. The famed Amish and Mennonite farming populations don’t consider ‘technology’ progress per se, though they have become somewhat fond of modern conveniences – for example, FM radios on their horse buggies riding along the shoulder of the highway. The Unveiled video dances somewhat around the concept by suggesting that certain human populations may choose not to embrace genetic or cybernetic enhancement and also asks at what point do the changes add up to no longer being human?

- You want to get rid of humanity? Go back 66 million years and install an asteroid deflection system so that the asteroid that killed the dinosaurs never hits Yucatan. See Deflection Dilemma, 2 Construction, pp. 669-670, ‘dinosaur extinction,’ Ben Guarino Feature Quote, 3 Taxation & Census, pp. 314-315 and ‘asteroids’ discussion, 2 Combat, middle p. 963. Nexus. Point.

See also, Teleology Discussions: ‘Teleology is like a mistress to a biologist,’ J.D. Haldane Feature Quote, Patently Off Limits, et seq., and Patent Defect, 3 Patents, pp. 750-752, ‘teleology in religion,’ Point of No Return, 4 Fallen to Earth, pp. 1564-1566, ‘teleology as a necessary part of fiction,’ Teleological Exercises, 1 Resolution, p. 1456, ‘death and teleology,’ All Things Must Pass, 1 Order, p. 516, Empirical Mythology, et seq., 1 Technology, pp. 691-691 and Bianca Britton ‘lifespan’ quote, 1 The Streams of Time, p. 76.

the Industry Patent,’ Cyberia, 2 Taxation & Census, p. 311

Brave New World, 5 Taxation & Census, pp. 343

<ul style="list-style-type: none"> • “The big bang is our modern scientific creation myth.” – Carl Sagan, <i>Cosmos</i>, Episode 10. 	
<p><i>Extended Kardashev Scale, universe as a simulation, Nick Bostrom, megastructures, rationalizing advanced technological entities as gods to replace creation myths, afterlife, David Hume’s ‘botched creation’ argument:</i></p> <p>“What if we told you that none of it is real? This video, your comments, your computer, you – it’s all an elaborate illusion created on a higher plan! ... On extended versions of the Kardashev Scale, a Type 5 civilization is one which has mastered the full energy potential of the multiverse – not just a galaxy or even the universe – the multi-verse. Multiple universes rest in the palm of its god-like hand, and the all supreme Type 5 being can bend and shape them to its will. With total control over many worlds, multiple dimensions and myriad possibilities – the list of things it could do with its power are endless. But probably the one that most interests us lowly Earthlings is the potential it would have to build and run countless simulations. ... The idea that this world, this life, this universe isn’t real and is merely a well-rendered, convincing construction, presided over by some higher power. In this video, we’re imagining that that higher power is a Kardashev Type 5 entity.</p> <p>So what would that mean? First and foremost, in terms of our everyday lives, it wouldn’t mean much at all – until such time as either the simulation is revealed to us, or our Type 5 overlord changes the rules. The classic comeback to anyone claiming that everything we know is simulated is ‘so what?’ What difference does it really make to us so long we continue to feel as though everything we believe to be real actually is real? ... Again, yes, unless there ever comes a moment when the true nature of reality is shown to us; this moment is usually referred to in movies as a glitch in the matrix. It’s when something happens that should be physically impossible – maybe buildings evaporate, gravity fails or oceans instantly turn into ice cream. From that point forward, humankind could descend into chaos, with people unable to ever again trust their own thoughts. For some, the revelation still wouldn’t drastically alter their day-to-day mindset – but for others the knowledge that nothing is real would be way too much to take in.</p> <p>But why would, or could, this happen under the watch of a Type 5 civilization specifically? A key facet of the proposed fifth level of the Kardashev Scale is that they exist outside of our universe; outside of time even. They can see and understand all of the seemingly infinite details that make up our reality. A universe to them is a little like a city to us, it’s the sum of a great number of parts, yes, but it can also be changed at any time. Think of how we’ve treated cities in the past – we’ve made the bigger, improved their technology and destroyed them in getting to this point. Some cities of history are now no more than ruins, while some of the cities of the future we’ve yet to even begin to build. For a Type 5 power, the same would true of whole universes, so the first thing to hope is that if all of this is a Type 5 simulation, then we best not be heading toward destruction ourselves anytime soon. Not that there would be much we could do about that.</p> <p>In this world, destruction of universes roughly equates of deletion of universes and that’s because simulated realities are usually imagined as though they’re ultra-efficient, digital or something better than digital codes. Arguably the first stage at which reality sims even become possible for a species is when it masters stellar megastructures – particularly Matrioshka Brains. M-Brains are giant, star-sized computers offering a star system’s worth of computational power. According to the Kardashev Scale, they should also be available at lower levels, including Type 3 and 4, but it’s only at Type 5, when a</p>	<p>Hologram Universe, 1 Information, pp. 1327-1328</p> <p>Technological Device and Enigma, 2 Patents, pp. 741-743</p> <p>‘David Hume’s botched creation,’ Pangloss Doesn’t Visit Often and On The Other Hand, 1 Fallen to Earth, pp. 1495-1496</p> <p>Afterlife as a function of Human Time:</p> <p>‘two models of birth and death,’ Point of No Return, 4 Fallen to Earth, pp. 1564-1566</p> <p>‘fundamental problem of Abrahamic religion,’ Sapience, 1 Beginnings, pp. 28-29</p> <p>‘Hayflick limit is the reason for afterlife,’ Senescence, 4 Taxation & Census, p. 328</p> <p>‘leaping the barrier of our own mortality,’ The Insistence of Memory, 3 Temporal Technology, pp. 830-832</p>

civilization gains knowledge of the multi-verse – so it’s only then that they could apply M-Brain type technology to the creation of whole simulated universes.

So let’s put ourselves in their shoes for a moment. One day, roughly 13.8 billion years ago – according to how humans understand time at least – we created the universe. Using our hugely advanced Type 5 technological know-how, we brought into being all of the planets, stars and galaxies. Maybe we planned for life to appear on Earth, maybe it just happened that way – ultimately it doesn’t really matter. Universal consciousness is another key attribute to a Type 5 and so this universe will naturally have been a joint, universal effort. And perhaps we were pleased with our creation, proud of it. Maybe for a period of time afterwards, it stood as the greatest universe ever to be simulated. But times change.

GGDM Commentary: Robert Heinlein seems to have had some idea of this in the 1980s when he published Job: A Comedy of Justice where it turns out that God is a hack artist answerable to a bureaucracy and is ‘fined’ for calling the Rapture, and forced to restore the Earth at his cost.

Between the dawn of this universe and this moment right now, a lot has happened, but we humans can only ever understand that to mean that a lot has happened inside this universe. From our perspective, stars have formed and died, black holes have moved across space, and Earth has tried its best to connect with other planets. From a Type 5 perspective, though, all of that may have gone unnoticed. It may be totally unimportant. In the meantime, any number of other universes may have been created. And many may be better or more noteworthy than this one is, usually when we consider simulation theory, we assume that whomever created us is still intent on watching us – but with a Type 5 being, that probably isn’t the case. We’d be just one data point to them, within an endless stream of data. And very likely long forgotten....

Well in this heightened version of reality our Type 5 controllers double up as gods in our minds; they’re non-human higher powers that we’re never likely to physically meet during our lifetimes. Instead, we might hope (or have faith) that we will meet them in the afterlife, but until then, we can only vaguely claim that Type 5 moves in mysterious ways – whenever something in this life doesn’t match with expectation.” – “Narration by Noah” (the thumbnail pic looks like Noah Michael Levine and Unveiled is known to hire professional narrators), “What If We’re Living in a Type Five Simulation?” Unveiled YouTube Channel, March 31, 2021.

GGDM Commentary: Well ... GGDM is a simulation of our own civilization and humanity. And anything we could imagine is based on our experience and what we think we might do if we had that kind of power. Which brings us right back to where we started – we are probably dead wrong about Type 5 entities. But this is good material for GGDM participants to ponder and use.

- Matrioshka Brain is a megastructure based on a Dyson Sphere (and related to the Jupiter Brain); the idea expressed in the video that it would be used to run simulation universes has been used by several science fiction authors already, as listed in the Wikipedia article on the same subject.

Kardashev Scale:

Scaling Eras, 1 Eras, pp. 755-756

Math Exercises, 4 Taxation & Census, pp. 326-327

“Abusing the Kardashev Scale” TV Tropes Feature Quote, 2 Technology, top p. 701

‘heatsink discussion’ Dayworld, 3 Taxation & Census, pp. 315-316

Neutral Emergence, 3 Fallen to Earth, p. 1537

Noah, Trevor

Funny, goes with laws are like sausages:

<p>“Sometimes it seems like the laws were written by the same people who designed the Death Star.” – Trevor Noah, The Daily Social Distancing Show, August 27, 2020.</p> <p><i>Cf. “Laws are like sausages. It’s is best not to see them being made.” – attributed to Otto von Bismarck. However, there are many variations.</i></p>	
<p>Nordlinger, Jay</p>	
<p><i>Negativity bias, also goes with Chris Cillizza quote about ‘running against’:</i></p> <p>“What will unite Republicans and conservatives? Maybe a Democratic presidency. People like to have something to be against, and so that distracts from what they may be for, because they are all for all sorts of different things. So it’s easy for Republicans and conservatives at large to be anti-Biden, anti-Democratic with a big D.” – Jay Nordlinger (National Review), Morning Joe, MSNBC, September 25, 2020.</p> <p><i>Cf. “The problem with that approach, of course, is that being against what the last guy did isn’t a proactive set of policy solutions. Unlike in a campaign – in which saying, essentially, ‘I’ll do the opposite of what the last guy did’ – where running against something often works better than running for something, governing is a very different animal.” – Chris Cillizza, CNN Editor at Large, October 13, 2017 (6 Government Titles, p. 649).</i></p>	<p>‘negativity bias,’ Jill Gabrielle Klein Feature Quote, 6 Government Titles, bottom p. 649, EN 1, p. 658</p>
<p>O’Dowd, Matthew</p>	
<p><i>Terraforming, Controlled Environment Technology (CET), habitability class, Carl Sagan, Martian Dust Storms, scale appreciation:</i></p> <p>“Humanity’s future is glorious. As we master space travel, we’ll hop from one cold dead world to the next, terraforming as we go. Life will blossom in our path and eventually the galaxy will shimmer with beautiful Earth-like orbs. I mean ... maybe. Sounds a little science-fictiony. But it wouldn’t sound so far-fetched if we proved we could do it at least once. If we successfully terraformed Mars. We already have to the technology to bring humans to Mars and to set up small settlements – or at least we could do within a generation. But those settlements will need to be cocooned, shielded against the deadly cold, the intense radiation, and the fatal lack of atmospheric pressure. Surely if we want to thrive on Mars – to turn it into our second home – these settlers, or their descendants, will need to be able to open the airlocks, shed the spacesuits, and step out onto a survivable surface. We’ll need to terraform Mars as our first step to terraforming the galaxy.</p> <p>But what would it really take? ... In the end it’s a question of atmosphere. Mars’ current atmospheric pressure is 0.6% that of Earth – and that means circulatory shutdown within a minute for an unprotected human. But it also means almost no greenhouse effect. Light from the Sun, which is already fainter due to Mars’ distance – is radiated directly back out into space. On Earth, that same light first bounces around in our thick atmosphere, heating it up. At an average of -60 Celsius, water freezes on Mars. But even if the planet were warmer, liquid water would still be impossible in that thin atmosphere – it sublimates directly from ice to gas. And of course, Earth’s atmosphere protects us from harmful cosmic rays and the most dangerous ultraviolet radiation from the Sun. All of that bad stuff has a direct path to the Martian surface.</p> <p>So the most important step in terraforming Mars is to give it an atmosphere – ideally as close to Earth’s as possible. In the imagination of sci-fi writers, all we need to do is unlock the planet’s latent potential. After all, Mars was once a warmer, watery planet with a much thicker atmosphere. I mean, that’s conclusive – our rovers and orbiters have</p>	<p>Habitability, <i>et seq.</i>, Planet Narn, and Martian Dust, 3 Taxation & Census, pp. 315, 316-317, 319-320</p> <p>Everyone Has a Venus, 4 Taxation & Census, pp. 328-329</p> <p>Magnitude of Mars, 4 Expansion, pp. 926-927</p> <p>CET:</p> <p>‘CET is not terraforming technology,’ Wagon Train to the Stars, 1 Expansion, pp. 878-879</p> <p>The Landing, 4 Expansion, p. 920</p>

found incontrovertible evidence of an ancient watery surface. The hope then, is that this water and the atmosphere that once supported it is now all locked in the planet's crust and ice caps. We just need to release it. Surely we can just nuke the poles, melt enough carbon dioxide and water vapor to kickstart a feedback cycle of greenhouse warming and that'll release more gases ... and voila! Earth 2.0.

Ok, not so fast. There's a real risk that Mars actually lost its atmosphere to space, rather than absorbed it into the surface. The issue is that the planet is relatively puny. At 11% the mass of Earth, it has a weaker gravitational field that grips less tightly to an atmosphere. And that small size means that the Martian core cooled down more quickly than Earth's core, solidifying long ago, and shutting down its global magnetic field. Earth's magnetic field protects us from the Solar Wind ... the unprotected and loosely-bound Martian atmosphere may have been slowly shaved away by that wind over billions of years. And in fact, that is exactly what happened. The ablation of what is left of the Martian atmosphere has now been directly observed by NASA's MAVEN spacecraft ... and the lack of atmospheric material in the crust has been confirmed pretty conclusively by observations of the Martian surface. [Discussion of 2018 Nature Astronomy article studying the feasibility of releasing CO₂ from the ground to create a Martian atmosphere] Unfortunately they [Bruce Jakosky and Christopher Edwards] conclude that no near-future technology could hope to kickstart the recovery of any useful atmosphere.

...After all, these researchers only ruled out near future technology. What about medium future? Far future? So there are three broad sources for CO₂ on Mars. First, there's the south polar icecap – which consists of water ice several kilometers deep, interspersed with thick layers of CO₂ ice – discovered by radar soundings with the Mars Reconnaissance Orbiter. If all of the polar CO₂ were released, it could maybe double the current amount of CO₂ in the atmosphere, which is a factor of around 100 times too low to make a difference. And by the way, that CO₂ couldn't be released with nukes along – it's too deep. Sorry Elon. The second accessible source is CO₂ absorbed into the surface dust – the regolith- up to 100m deep. Unlike for example, Earth's permafrost, this stuff wouldn't just melt under global warming, it would shift in its equilibrium over 10,000 years to release a small fraction of CO₂. At any rate, even if we managed to heat the entire regolith across the entire Martian surface, we'd only get 4% of the Earth's atmospheric pressure. The final CO₂ source is carbonate minerals in the crust. These carbonates would need to be mined and processed by heating to around 300 Celsius. But complete strip mining of even the largest carbonate surface deposits on Mars probably gets you less carbon than melting the polar ice caps.

So much for near future accessible carbon. But those carbonate minerals probably exist in much larger quantities deep beneath the surface. And that's really our only hope to find enough CO₂ – or really any native Martian material – to replenish the atmosphere. [assuming there is accessible limestone under the surface] We need about 10,000 kg of material per square meter to duplicate Earth's atmospheric pressure. Seriously, that's how much atmosphere is above your head right now. ... High density limestone is 2,500 kg/m³ and yields about 44% of its mass in CO₂ when heated or exposed to acid. So, to get ten tons of CO₂ for every square meter on the surface of Mars, you'd have to dig down over 10 meters across the entire planet! [assuming a layer of limestone exists, which it doesn't] That's a few quadrillion tons of rock.

In reality, of course, we'd need to first locate and then dig down some kilometers before we could access most of the carbonates. Extracting such a quantity from depth is hard

The Air that I Breathe, 3 Taxation & Census, p. 315

enough, but let's think about processing it. We can either heat the carbonates to hundreds of degrees Celsius or use acid to dissolve out the CO₂. We'd need to process around 20% of all Martian water via electrolysis to get that acid. The electrolysis path might be better because it would give us oxygen as a byproduct of making that acid. The energy cost in both cases is similar, though – several septillion joules. Several thousand times the total annual energy consumption of the entire Earth. That's definitely sounding far, far future. But not quite impossible.

Finally, we have a picture of what terraforming Mars would actually look like. Let's say we want to finish this work in a single generation? We'd need to cover much of the surface of Mars in solar cells made from abundant silicon in the crust, or build ten or so million gigawatt fusion power plants. There is really no other viable energy source. We need to channel this energy deep into the crust to power vast hordes of robotic minders/processing plants, meanwhile pumping water from the icecaps across the entire globe. This could get us a carbon dioxide-oxygen atmosphere in a few decades, or even centuries or millennia if you scale down the power supply to something less insane.” – Matthew O'Dowd, “Could We Terraform Mars?” PBS Space Time YouTube Channel, September 16, 2019.

GGDM Commentary: Scale is an underlying theme of GGDM's discussion of civilization; Prof. O'Dowd's discussion is another example of scale, this time applied to appreciation of the Earth and to terraforming a planet which is mentioned here and there in GGDM as a science-fiction trope. Really, he is talking about the capabilities of a Kardashev Type 2 Civilization just to terraform Mars. Unless we can find a shortcut, that is.

Quantum entanglement, life-consciousness, quantum mysticism:

“We often think of quantum mechanics as only affecting only the smallest scales of reality, with classical reality taking over at some intermediate level. But in his 1944 book, What is Life?, the quantum physicist Erwin Schrödinger suggested that ‘incredibly small groups of atoms, much too small to display exact statistical laws, do play a dominating role in the very orderly and lawful events within a living organism.’ Schrödinger was a visionary – and perhaps very specifically in this case. Because it turns out we might need all the weirdness of quantum mechanics to explain birds.

So, is this true quantum biology? Earlier this year, Peter Hore, a physical chemist at Oxford co-authored a paper that seems to answer that. The team's calculation showed that only a full quantum description of the process could produce the required sensitivity to magnetic fields. If for example, the valence electrons were just interacting due to their magnetic fields, so called spin-spin interactions, rather than true entangled states – their spin state wouldn't be sensitive enough to detect Earth's field. So, Erwin Schrödinger's ideas about quantum mechanics influencing living organisms may be right. And quantum magnetoreception in birds isn't the only example of what we call quantum biology. We know for sure that it happens in some cases – like the quantum tunneling that drives enzyme catalysis. There are other contentious but intriguing cases – like the idea that long range quantum coherence may drive photosynthesis. And there are some highly contentious ideas – like quantum entanglement in the brain's microtubule proteins as a key ingredient in human consciousness.

The quantum magnetoreception of the avian compass sits somewhere in the middle, not yet proved, but more and more favored. Klaus Schelten's microtubulals must have been working overtime to hit on such a brilliant insight. Now, he may be proved wrong, but

‘quantum mysticism,’ Neither Nor, 2 Expansion, pp. 895-896 and Sunrise, 5 Fallen to Earth, pp. 1585-1586

Quantum mysticism is the prodigy of 1920s ‘nuclear mysticism,’ EN 5, 2 Expansion, p. 903

‘life consciousness,’ Life, Looking and Luck, 2 Expansion, pp. 896-897

See also, Mike McRae article quote, this document

Quantum Entanglement:

<p>it's a beautiful idea: pigeons and geese and albatrosses, swallows – European especially – birds of many a feather using quantum physics to flock together to navigate the hidden lines of a geomagnetic space-time.” – Matthew O’Dowd, “Navigating with Quantum Entanglement,” PBS Space Time YouTube Channel, December 22, 2020.</p> <p><i>GGDM Commentary: Not taking credit for any microtubial brilliance, but I dared to suggest – not in any way comparable to what Matthew O’Dowd discusses – that life is connected to quantum mechanics, quantum entanglement, regardless of the rejection of human agency in wave collapse in the famous double slit experiment (which science now derisively calls ‘quantum mysticism’ despite the fact that Neils Bohr originally suggested it). In 2 Expansion, I suggested that life must always be looking to its own existence and that is more or less the definition of life – in this, I was perhaps thinking of the automated, non-conscious processes like breathing, gestation, etc. but the idea expressed in 2 Expansion is somewhere in the ball park, or at least the same galaxy.</i></p> <ul style="list-style-type: none"> • Why did the chicken cross the road? Because the quantum tunnel was closed for repairs. ☺ Actually, the chicken both crossed and didn’t cross until you looked. 	<p>Speed of Bad News, 4 Movement, p. 873</p> <p>Life, Looking and Luck, and ENs 6 and 12, 2 Expansion, pp. 896-897, 903-905, and 905-906</p> <p>Sarah Kaplan Feature Quote, 1 Eras, p. 761</p> <p>Unsolved Problems in Physics Wikipedia quote, 1 Entropy, p. 224</p>
<p><i>Interstellar Navigation in GGDM and sci-fi, measuring distance in Galactic Space, detection capabilities in GGDM, ‘FTL Missile’ rule in Movement:</i></p> <p>“I have good news and bad news. Bad news first: two years ago we reported on the Crisis in Cosmology. Since then, it’s only gotten worse. And actually, the good news is also that the crisis in cosmology has actually gotten worse, which means we may be onto something! The most exciting thing for any scientist is when something they thought they knew turns out to be wrong. So it’s no wonder that many cosmologists are starting to get excited by what has become known as the Hubble tension, or the crisis in cosmology. The ‘crisis’ is the fact that we have two extremely careful, increasingly precise measurements of how fast the universe is expanding which should agree with each other, and yet they don’t.</p> <p>We first reported on the growing hints of this tension two years ago. Back then, we expected that the new, refined measurements would bring the numbers into agreement. So far, that’s not been the case. But just recently one of these methods received a massive refinement due to the Gaia mission and its unprecedented survey of a billion stars in the Milky Way. And guess what, the tension is now even tenser, so is it time to rethink all of cosmology?</p> <p>... So you may have heard that the universe is expanding. Space on the largest scales is stretching, throwing galaxies apart from each other. ... Long story short, when a distant galaxy’s light travels to us through the expanding universe, it gets stretched out – it’s wavelength increases. If we also know that light traveled – the distance to the galaxy – then we can figure out the rate at which space is expanding – at least along the path of that galaxy. Combine the redshifts and distances of many, many galaxies and you have the expansion rate of the universe, typically expressed as Hubble’s constant after Edwin Hubble, the guy who first properly measured it back in 1929 [my grandmother was 3 years old in 1929].</p> <p>By comparison, getting the distances to a galaxy is much, much trickier than getting the redshifts; it depends on a long chain of distance measurements that we call the Cosmic Distance Ladder. First you measure the distance to objects in the solar system – then use those to measure distances to nearby stars, then more distant stars, then nearby galaxies,</p>	<p>‘assigning distances in Galactic Space,’ Buzzing Lightyear and A Story that Goes the Distance, 4 The Streams of Time, pp. 101-102, and ‘Dragonfly 44 dark matter galaxy,’ p. 102</p> <p>‘interstellar travel in GGDM,’ The FTL Missile, 2 Movement, pp. 849-850 and ‘crashing about the asteroids,’ James Blish top Feature Quote, p. 844</p> <p>Empirical Mythology, 1 Technology, pp. 691-692</p> <p><i>See also, Isaac Arthur “Interstellar Navigation” this document</i></p>

then distant galaxies, etc. If one of those distance measures is wrong, then all subsequent rungs of the distance ladder are off. Hubble's distance measurements were based on a method pioneered by Henrietta Swan-Leavitt. She developed one of the first so-called standard candles. These are objects whose true brightness or luminosity can be known; knowing the true luminosity of an object means you can figure out its distance just by observing how its brightness has been dimmed by that distance. Swan-Leavitt realized that a type of pulsating star known as a Cepheid variable has a rate of pulsation that depends on its luminosity. Measure the pulsation rate and you know its true brightness, and so you can find its distance. And if the Cepheid is in another galaxy, you have the distance to that galaxy also.

Cepheid variables are great standard candles, but they're just stars, they are too faint to see beyond a certain distance. In the 1990s two teams of astronomers employed a new type of standard candle, the incredibly bright 'type 1a' supernovae that result when a white dwarf star explodes after cannibalizing its binary partner. Using these supernovae to get distances to galaxies halfway across the universe, they found something totally unexpected – not only is the universe expanding, but that expansion is accelerating. And so dark energy was discovered, a mysterious and ubiquitous energy that grows as the universe grows, speeding up its expansion. Dark energy very likely holds deep, deep clues about the fundamentals of reality; with its discover, it became very important to perfect our measurements of the expansion rate – both to confirm dark energy's existence and to learn of its true nature.”

GGDM Commentary: More evidence of another 'botched creation' as David Hume suggested. The short version of this is that future generations – I mean far-future generations if any fiber of humanity is around to witness it, is being screwed over now billions of years before they are born or come into existence in this universe. It's like being born inside a balloon that is mysteriously filling with marbles and expanding – you are not getting any more air with the extra space, and at some point you are going to 'lose your marbles' wondering why and then eventually die.

“And this is where our story splits. There are, broadly, two approaches to improving that measurement. One is to double down on the old method – find more type 1a supernovae and improve those distance measures. The other is to find a totally independent measurement of the expansion rate. A good reason to do that is that the supernovae method is a pretty high rung on the Cosmic Distance Ladder – which means that if any rung below it is broken, the method fails. So, different teams of astronomers pursued both approaches – and this is where the crisis emerged. One alternative method for getting the expansion rate is to study the oldest light in the universe – the cosmic microwave background. This light was released only a few hundred thousand years after the Big Bang and carries with it vast information about the universe's early state. ...

The Planck team calculated a Hubble constant of 67.6 km/s/Mpc [Mpc is megaparsec] – let's not worry about the weird units right now. But they also claim an uncertainty of about half a percent (+/- 0.3 km/s/Mpc), making it the most precise measurement of the expansion rate ever made. Meanwhile, Adam Reiss, one of the Nobel-winning discoverers of dark energy has doubled down on the supernovae method. A couple of years ago his team published a new Hubble constant of 73.5, +/- 1.5 km/s/Mpc. That's in the same ballpark, but far enough off to raise many, many eyebrows. One possible explanation for the difference is that the nature of dark energy has changed over time; the Planck team's Hubble constant assumes that dark energy has had a constant density for the entire age of the universe. That's what you'd expect for the simplest models of what dark energy

GGDM Detection Abilities:

ABBA Arrival, Private Eyes, and Taking It All Down, 2 Information, pp. 1340-1341, 1342-1343

Riding the T, 3 Temporal Technology, p. 828-829

Battle of Churchill Sol B, 2 Carriers & Fighters, pp. 1061-1062

might be, but if dark energy has changed over time, it could explain the discrepancy and indicate the dark energy is even weirder than we thought.

It's hard to overstate how huge a discovery that would be, so you can see how it might be nice to find out one way or the other if the difference between the Planck and supernovae results is real. Most people still think that there are unknown errors that are affecting one or both; for example, the Cosmological Distance Ladder could have a broken rung. The supernovae standard candles are calibrated based on distances from our good-ole Cepheid variables in galaxies where both are observed. But those distant Cepheids are in turn calibrated based on Cepheids in our own galaxy, for which we can get distance by a method that's much more reliable. That method is called Stellar Parallax...

...And so it was in 1912 that Henrietta Swan-Leavitt used parallax measurements of Cepheids in the Milky Way to turn those stars into standard candles and so founded our distance ladder, which ultimately led to the discovery of dark energy. But this feels like a bit of a house of cards – the ladder was entirely dependence on the relatively few Cepheids that are close enough for parallax measurement. Things started to get better when we put telescopes in space – above the blurring effect of Earth's atmosphere, it's possible to make better position measurements. ... but to really nail down the lowest rung of the distance ladder, we need a lot more Cepheid parallaxes to much greater distances and that's what ESA's Gaia mission has given us. Parked in orbit just past the moon [at L2], Gaia scans the sky year after year, mapping the structure and motion of a good fraction of the Milky Way galaxy. Gaia is making the most accurate catalog yet of parallax measurements, for the nearest brightest stars, it's 200 times more accurate than any previous measurement.

... So what do you think, do the supernovae and Planck results agree? Not in the least. The Gaia-based Hubble constant of 73.2 km/s/Mpc seems to confirm the previous type 1a supernovae result, now with more surety about the distance ladder it's based on. ...” – Matt O'Dowd, “The NEW Crisis in Cosmology,” PBS Space Time YouTube Channel, March 16, 2021.

- Matt O'Dowd recommended in relation to his video, Sabine Hossenfelder's “Do we travel through time at the speed of light?”

GGDM Commentary: More seriously, to the point of GGDM ... This discussion inadvertently relates to Isaac Arthur's “Interstellar Navigation” discussion, [this document](#), reinforcing the location-precision problem that few in even science fiction have considered; when you are blasting off at FTL speed, you better damned well know precisely – within a mile – of where you are going to end up and you better know where the target will be when you get there. Do you risk life and ship on the Cosmic Distance Ladder? We currently do not have anywhere near that accuracy in star locations, especially where a small error of .1% at take-off can land you hundreds of light years from the target on arrival! This then suggests that GGDM's assumptions about detection capabilities of advanced FTL starfaring civilizations must be correct, as detection capability goes hand in hand with FTL travel.

- This ‘crises’ thing has been rolling along for a couple of years; January 24, 2019 PBS Space Time posted a video on YouTube called “The Crisis in Cosmology” (notice the difference in titles?). November 20, 2019, Dr. Becky Smethurst (Night Sky News, Oxford University at Christ Church) posted a video titled, “The current crisis in Cosmology – it just got a lot worse,” followed by an update on February 25, 2021, “How we plan to solve the ‘Crisis in Cosmology.’” Other

<p>contenders have posted similar-themed videos, ParallaxNick on July 4, 2020, PSW Science on November 8, 2020, and LPP Fusion posted a video on January 21, 2020 (and turned it into a whole series of videos) and farther down the search list there were at least five other videos from different channels in 2020. So like all other competing news and opinion media, it comes down to a choice of who you trust, who you like to watch and are used to watching (a lesson we have learned so painfully in the last decade).</p>	
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O’Neill, Therese and Peter Howell

Jerk-ass characters (trope), jagoff (Pittsburgh-ese):

“3. Jerk (n), ‘A tedious and ineffectual person.’

Steam engines were awesome – way better than sailing around Cape Horn if you needed to get from New York to California. But, since they ran on steam, they needed to be re-filled with water ridiculously often. ‘Water-stops’ were built all along the railroad lines. These were just water towers, with hanging chains that the boiler man would ‘jerk’ to start the water flowing. Towns sprang up around many of these water-stops. Some thrived, and some were just jerk-water towns, populated with ‘jerks.’” – Therese O’Neill, “The Origins of 10 Great Insults,” MentalFloss, February 27, 2013 (citing to The Barnhart Dictionary of Etymology and The Online Etymology Dictionary).

“For some time in the US, the fastest way across the country for goods and people was by steam train. These required regularly spaced water stops. You’ve probably seen pictures of them: A big water tank with a spigot hanging out over the tracks. The train could pull up with its water inlet under the spigot and the engineer could ‘jerk’ the valve chain to fill the tank. Small ‘jerkwater’ towns often cropped up around these stops. The parochial and inconsequential people in these towns were sometimes given the pejorative ‘jerkwaters,’ later shortened to ‘jerks.’” – Peter Howell (Quora User), 2019.

GGDM Commentary: Hmm... not quite what you think of when you call someone that name? Well, we all know what we think it means when we call someone a jerk, and etymonline.com at “jerk” adds that little extra ‘alternative’ connection (with citations!) to “jerk-off”:

jerk (n.2)

“tedious and ineffectual person,” 1935, American English carnival slang, of uncertain origin. Perhaps from jerkwater “petty, inferior, insignificant” [Barnhart, OED]; alternatively from, or influenced by, verbal phrase jerk off “masturbate” [Rawson]. The lyric in “Big Rock Candy Mountain,” sometimes offered as evidence of earlier use, apparently is “Where they hung the Turk [not jerk] that invented work.” (author uncredited, undated entry)

Taken on the whole, it’s not ummm... a hard pull to see where ‘jerk-off’ originated... ☺

‘jerkass character trope,’ EN 5, 3 Special Operations, p. 1325

‘H. reciprocans vs. jerk customer,’ EN 7, 6 Diplomacy, p. 1179

‘meaning of jagoff,’ Michael Miner quote, EN 5, 2 Dreamtime, pp. 155-156

OfficiallyDevin (Narrator for Kings & Generals YouTube Channel)

Hegemonic Empires, Legacy:

“Alexander the Great was a prolific conqueror, who in only 13 years, managed to destroy one of the greatest empires of antiquity and expand Hellenic power and influence throughout the known world, even as far as India. Alexander’s legacy cannot be understated as it reaches far beyond his military achievements – some of the cities he founded

Hegemonic Empires and Spheres of Influence, 4 Order, pp. 571-573, 575-576

<p>survive to this day, and after him, diverse and distant parts of the world became economically and culturally intertwined.” – Narrator, “Alexander the Great in Quran and Middle Eastern Myths,” Kings & Generals YouTube Channel, December 8, 2020 (“The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin.” – Wikitubia article, “Kings and Generals,” December 10, 2020)</p> <p><i>See also, ‘silk road’ discussions: Double Your Troubles, 1 Disruption, pp. 259-261, Black Market, 3 Commerce, pp. 1211-1212, and The Core of Christianity, 1 Kairotic Moments, pp. 1423-1424.</i></p>	<p>The Insistence of Memory, 3 Temporal Technology, pp. 830-832</p>
<p><i>Existential Void link to classic religion, story pattern/parts of a story (three acts, etc.):</i></p> <p>“Seemingly, most Medieval writers follow the same template when it comes to Alexander [the Great]. In the first part of the stories, he is always represented as a great warrior who conquers the entire world, while in the second part, Alexander always recognizes the morality of the emptiness of all human endeavors and ambitions, subsequently becoming a humble and pious man.” – Narrator, “Alexander the Great in Quran and Middle Eastern Myths,” Kings & Generals YouTube Channel, December 8, 2020 (“The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin.” – Wikitubia article, “Kings and Generals,” December 10, 2020).</p> <p><i>See also, story arc, story elements discussions: Arc Covenant and Inspiration, 1 Entropy, pp. 218-219, 230; in science fiction, space opera: Circumambulation, 1 Expansion, p. 875, Breezes of the Heavens, 1 Stardrive, pp. 779-780, (relating science fiction to fantasy, fantasy to religion) Gap Into, 1 Movement, pp. 841-842.</i></p> <p><i>See additional Existential Void discussions: What Does Religion Say About the Afterlife and Existential Void?, 4 Fallen to Earth, pp. 1556-1557, The Ontological Terrorism of GGDM, 3 Fallen to Earth, pp. 1529-1530, The Other Hole in Your Head, 1 Order, pp. 520-521, In the Mirror, 1 Meta Me, 2 Constructural Elements, pp. 195-196, Deep Learning the Singularity, 2 Technology, p. 706, Something Sublime, 3 Culture, p. 380, and Leap Into the Void, 3 Kairotic Moments, pp. 1448-1449. The preceding list is not exhaustive or complete...</i></p>	<p>Key to the Singularity and Humans Need Meaning, 1 Beginnings, pp. 22, 23-24</p> <p>Meta-Aspect and Be Fruitful, 4 Culture, pp. 409-411</p> <p>Empirical Mythology, 1 Technology, pp. 691-692</p>
<p><i>Spheres of Influence & Sino-Roman contact, First Contact, the Silk Road, Logistics, Naturalization/assimilation, forced Balkanization, Prester John, Scouting, Huns, resettlement, xeno-political or cultural (2 Information) discussions:</i></p> <p>“Ancient Greece and Ancient China. Two societies we consider to have been separated from one another through both their respective histories. What if we told you that at one point, the Ancient Greeks and Chinese had interacted? And that they fought a war? A war over horses that led to the opening of the Silk Road? ... The farthest east of these cities [founded by Alexander the Great] was in the Ferghana Valley, modern day Tajikistan, and named Alexandra Eschate [Alexandria “East Gate”]. This marks the beginning of a Greek presence in Central Asia that would last nearly 300 years... The Greeks of the East, known as Greco-Bactrians, declared their independence from the Seleucid dynasty of Anatolia and formed the Greco-Bactrian Kingdom, with Alexandria Eschate being its northernmost outpost. ... [fast forward 100 years] China, ruled by the Han dynasty, was one of the richest and most powerful empires of the world. ... On the northern frontier of the Han Empire resided the Xiongnu, a fierce confederacy of nomadic steppe-warrior peoples believed to be the predecessors of the ... Huns. They had been a thorn in the side of Han China for centuries, raiding and pillaging ... as well as exacting large amounts of tribute. As the Imperial Court shifted more in favor of total war with the Xiongnu, Emperor Han Wudi realized he would need allies ... He sent a diplomat Zhang Qian, to the</p>	<p>Spheres of Influence, 4 Order, pp. 575-576</p> <p>A Bump in the Night, <i>et seq.</i>, 1 Diplomacy, p. 1099</p> <p>An Accommodation and Naturalization, 3 Order, pp. 556-558</p> <p>Huns on the Rosstrum, 1 Expansion, pp. 881-883</p> <p>(continued next page)</p>

west. Zhang Qian's travels would later become legendary to the Chinese. [After ten years of captivity, and failing to recruit allies with the Yuezhi who had been displaced to the Tarim Basin by the Xiongnu] During his time in Ferghana searching for the Yuezhi, Qian came across a city he called Erquin and noted several qualities about the people living there he called the Dayuan or "Great Ionians." ... He also visited the cities in Bactria where he was impressed by their complex urban lifestyle and shrewd skill in trade and commerce. ...

The people whom Zhang Qian encountered in Ferghana and Bactria were the descendants of the Greek settlers transplanted into the region by Alexander the Great, over 200 years earlier, but by 130 B.C., the golden age of the Greeks in Asia was ending. While their cities endured, they had been conquered by the very same Yuezhi people Zhang Qian wished to forge an alliance with... paying them tribute. ... Although he had failed to make any alliances, he returned with detailed information about the civilizations on the edge of the Chinese world, including the Greeks in Alexandria Eschate. ... Zhang Qian's accounts would be the first major documented contact between Chinese civilization and a European culture. ..."

[Most of the latter half of the video describes two massive Chinese expeditions across the desert (the War of the Heavenly Horses, a logistical nightmare march, in 104 and 102 B.C.), resulting in tens of thousands of Chinese casualties from battle and exposure to reach the Tarim Basin and eventually Alexandria Eschate and the Greco-Bactrian Kingdom, and the eventual conquest of the Tarim Basin and Alexandria Eschate in 102 BC, all to simply obtain the horses they had which were returned to China to be bred and used in wars against the Xiongnu. The Han had previously sent envoys to try to buy the horses, but the envoys were killed in Alexandria Eschate, thus prompting the Chinese invasion. The result was the formation of the Han Protectorate of the West. Continuing...]

"More importantly, this critical interaction between the Greeks and the Chinese 2,000 years ago was likely the seminal event that opened up the Silk Road. ... This connected the Eastern and Western worlds and made trade from Europe to China all the more possible. ... Greek culture in the East would eventually be assimilated out of existence, but not before it made its mark upon the cultures of the region ... Many Greeks in India, Bactria and Ferghana converted to Buddhism. The Greeks contributed their own philosophies and culture to the faith. ... It is even believed that Greek philosophies had a major impact in the development of a new sect of Buddhism – Mahayana Buddhism." – Narrator, "The Greco-Chinese War Over the Heavenly Horses," Kings & Generals YouTube Channel, December 6, 2018 ("The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin." – Wikitubia article, "Kings and Generals," December 10, 2020).

"With the Tarim Basin now subject to Chinese Rule, Han sent envoys in charge of state expeditions even farther west, eventually nearing the frontiers of another great empire, the Parthian Empire. Two generations followed consolidating Chinese control and influence in the Tarim Basin. [Description of Chinese military and agricultural colonization of the oasis cities of the Tarim Basin using Chinese technology and techniques to improve the land, attracting urbanization, wealth, trade caravans and cultural intermingling] In 56 B.C., a Xiongnu warlord known as Zhizhi seized the throne from his brother Huhanye, who subsequently appealed to the Han Chinese for assistance, offering to pledge loyalty to China ... He received a large amounts of gold, silk and grain and used this material advantage to obtain support from the steppe tribes and reclaim authority in

Resettlement:

Immoral History and Forced Balkanization, 2 Disruption, pp. 273, 277

Survival & Ethical Dilemmas, 4 Expansion, p. 923

'xenocultural information,' Information Operations, 2 Information, p. 1349

Assimilation:

Fate of the Samnites, 2 Order, pp. 543-544

Beyond the Pale, 3 Reformation, p. 1400

Prester John, 2 Dreamtime, pp. 154-155

Silk Road:

'the Black Death,' Double Your Troubles, 1 Disruption, pp. 259-260

Black Market, 3 Commerce, pp. 1211-1212

The Core of Christianity, 1 Kairoitic Moments, pp. 1423-1424

Mongolia. Faced with imminent defeat, Zhizhi and a large band of followers fled into the distant west, eager to occupy lands far from the reach of both his brother and the Han Empire. By 40 B.C. [Julius Caesar was assassinated in 44 B.C.] the exiled Xiongnu faction settled in quite a troublesome spot for the Chinese, on steppe grasslands several hundred miles north of Sogdia on the shores of Lake Balkhash, located in modern Kazakhstan. Zhizhi's nomads then made an alliance with the Kangju Sogdians, who were reportedly capable of fielding a force of 80,000 skilled archers. Their involvement with the rebellious nomads was a burgeoning threat to Chinese interests in Central Asia. ... from this base [the Chanyu Fortress] the Xiongnu began to extend their authority into Transoxiana. ... When Protector General Gan Yen-Shou learned of the Xiongnu incursions he decided not to react due to the unprecedented remoteness of the territories in question. [note that three generations earlier, tens of thousands of Chinese had perished in the desert just to capture horses!] However, when he became ill, Gan's deputy Chen Tang seized the opportunity and prepared to launch an expedition against them instead. [40,000 troops are led on an unauthorized expedition and Gan Yen-Shou has no choice but to sanction it] As the Han column traveled along its route [to Kashgar], it was attacked by a large force of Kangju raiders, fighting in alliance with the rebel Xiongnu. ...

When the Chinese eventually reached Chanyu Fortress, Zhizhi paraded his forces in front of the outer timber defenses, hoping to buy time for his steppe allies to arrive. Both the Kangju and Xiongnu armies fought as horse archers, so it was a surprise to the Han when they caught sight of disciplined infantry within the enemy formation. Historian Sima Qian reported that roughly 100 of these enigmatic infantry displayed a 'fish scale battle formation,' overlapping their shields in a manner which reminded the observers of scales from a Chinese carp. In 1957, an Oxford professor named Homer Dubbs suggested that this small unit of melee fighters could have been made up of a group of Roman Legionaries. ... This contingent was too small in number to affect the outcome of the battle and they retreated within the walls with the rest of Zhizhi's army. [The Chinese assault and breach the outer defenses, the defenders withdraw into the inner citadel, a 10,000 man Kangju relief force attacking from the rear is also driven off] Zhizhi was injured ... and died soon after. His queen and crown prince were taken alive ... So, possibly without even realizing, the Chinese had their first contact with Romans but it was not to be for almost a century that contact was almost made again.

A power struggle in the Han government in 9 A.D. deposed the Han and led to a prominent official named Wang Mang seizing power. When this usurper asked the Tarim Kingdoms to recognize his rule, they refused and broke away from Chinese rule. [You saw this coming right? Cultural drift, political drift] This period did not last long and the Han were able to reclaim the throne in 23 A.D. However, it was to be several more decades before they could successfully restore the Western Regions to Han control. When they were finally brought back under control in the late first century A.D. [Rome was an empire by then] Chinese armies led by Protector General Ban Chao once again began campaigning farther west, as far as the Pamir Mountains which separated the Tarim [Basin] territories from ancient Afghanistan. ... Han officers began to receive odd reports from foreign dignitaries and merchants ... suggesting that while the Chinese had been engulfed in internal strife, an incredibly powerful empire had emerged in the West. ... Reports began to come in that this mysterious new empire was just as large and powerful as the glorious Han dynasty. ... The empire was, of course, the Roman Empire. ... The Han also received scattered pieces of information about the Roman state, its people, and its government apparatus in a somewhat fragmented way. ... Foreign contact and diplomacy was said to be welcomed heartily [by the Roman Empire] ... We can barely imagine what

the Chinese, relatively isolated in their ancient civilizational bubble in the east, thought when they discovered this mysterious and gigantic empire in the far, far west. We know the Greeks viewed India as almost the end of the world and their knowledge of what was beyond this point even passed into the mythological. Perhaps rumors spread similar to the later Christian speculation about the Kingdom of Prester John or perhaps the Chinese viewed [the Roman Empire] as their own dualistic mirror on the other side of the world...

Reports of [the Roman Empire's] prosperity and power suggested that this mystery empire in the west might be a valuable ally and lucrative trading partner for the Han, if only the Chinese could find them. Seeking to discover more about it and possibly even hoping to establish direct contact, Protector General of the Western Regions Ban Chao sent a subordinate named Gan Ying to the west in 97 A.D. ... After crossing Iran, Gan Ying eventually reached a region ... next to the Persian Gulf.... almost on the frontier of the ... Parthian Empire. ... [Chinese] patchy intelligence suggested that the borders of [the Roman Empire] lay somewhere beyond the Indian Ocean's western edge [i.e. the Persian Gulf]. Therefore, Gan Ying reasoned that by travelling south it would be possible to reach the territory of Rome. Unfortunately for the Chinese mission, this incomplete view of the world oversimplified the maritime route to Rome's Empire, as they had no knowledge about the intervening Arabian Peninsula. ... Eventually after much unsuccessful translation, some of the sailors ... offered passage to Roman lands in Egypt via the Red Sea, while others assumed that he wanted to reach the city of Rome itself by sailing all the way around Africa. [due to sailing time and cost, the Chinese envoy abandoned attempts to reach Rome by sailing and returned to China] What Gan Ying did not realize was that Parthia and Rome shared a common land border in the west. ... the Chinese delegation was only 40 days travel from the Roman frontier in Syria. ... This failed enterprise was the only known effort by the Han regime to make contact with the Roman Empire. ... However, indirect economic exchange and trade would continue..." – Narrator, "Roman-Chinese Relations and Contacts," Kings & Generals YouTube Channel, November 14, 2019 ("The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin." – Wikitubia article, "Kings and Generals," December 10, 2020).

GGDM Commentary: Two points come from this: The Romans never penetrated as far as India (the extent of Alexander the Great's conquests before he turned back), thus inadvertently maintaining a gap between them and the Chinese after the Parthians blocked farther expansion (the Levant was a proxy war between the two, see discussion in Sovereignty & Legitimacy, 3 Government Titles, pp. 609-610, and You know he doesn't like that name, 4 Diplomacy, pp. 1148-1149) and second, the Romans never went looking for the Chinese (or didn't make any record of it, there were alleged Roman Envoys who reached China in 166, 226, and 284 A.D.) and were not aware that the Chinese were looking for them. All of this is perfectly reasonable in a GGDM game; within the outlines of this story can be seen many of the subjects and scale discussed in GGDM.

Hegemonic Empire & seeds of dissolution, Silk Road, Mercantilism, Renaissance, lost paradise discussion, Taiping Rebellion, frontier star princes and system warlords in space opera fiction:

"Over the next century, China attained its highest territorial, political and cultural position yet and many scholars consider this period of the High Tang to be a golden age, during which China was probably the most powerful and wealthy state in the world. The Eastern Turkic Khaganate was subjugated in 630, followed by its Western counterpart in 642. With these victories, the Tang gained unquestioned hegemony over Central Asia

Hegemonic Empires, 4 Order, pp. 571-573

'mercantilism,' Before the Big Bopper, 2 Commerce, pp. 1195-1197

<p>and the prosperous Silk Road caravan cities of the Tarim Basin. It also successfully expanded into Vietnam and Korea, rising above the failures of the previous [Sui] dynasties. In the bustling cities of China, writers such as Li Bai and Du Fu created some of the most revered poetry in the ancient Chinese lyrical tradition, while beautiful paintings and expertly crafted pottery were created and even exported throughout the world. To do this, a quasi-modern export industry was developed, where Tang craftsmen would produce goods for specific markets, such as bowls inscribed with Islamic symbology for sale in the Muslim Caliphate to the west. In the bustling streets of the Imperial Capital of Chang'an and other large Tang cities, Indians, Persians, Arabs, Koreans, Syrians, Sogdians and others functioned as merchants and worshipped in their own manner, tolerated and encouraged by the High Tang aristocracy and monarchy. It truly was an age of gold, but not to last.</p> <p>As Emperor Xuanzong came to the throne in 712, the Tang gold age reached its apex. The early part of his reign was the period of greatest creativity of the dynasty and many of the greatest aforementioned works of the period were created in it. This all changed in 736 when Li Linfu was appointed the Chief Minister. At the same time, Xuanzong was influenced by religion and his favorite courtesan and became less interested in ruling. In 742, Li Linfu conducted a series of purges getting rid of the most talented potential adversaries at court. By 747, he was the de facto dictator. Arguably the most damaging of Li Linfu's policies was that of exclusively employing non-Chinese generals as military governors. By entrusting armies to men with no political ties to the court, he hoped to prevent rivals from rising to power, however, this also meant that the army commanders were less loyal to the central government. One of them was An Lushan, a general of Sogdian and Göktürk (Western Turkic) origin.” – Narrator, “An Lushan Rebellion – One of the Bloodiest Conflicts in History,” Kings & Generals YouTube Channel, January 18, 2019 (written by Matt Hollis) (“The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin.” – Wikitubia article, “Kings and Generals,” December 10, 2020).</p> <p><i>GGDM Commentary: The withdrawal from rule by Xuanzong and the subsequent Tang collapse mirrors in many aspects the similar withdrawal of Hong Xiuquan, massacre of Yang Xiuqing and his followers, and the subsequent collapse of the Taiping Rebellion 1,100 years later.</i></p> <p><i>See related discussion of the Taiping Rebellion in The Opium Wars, 3 Commerce, p. 1216 and Hong & Jesus, 2 Fallen to Earth, p. 1524.</i></p>	<p>‘frontier star princes,’ Core Worlds, 1 Expansion, p. 880²⁰</p> <p>‘loss of paradise,’ Raymond Birn quotes, 4 Commerce, bottom p. 1228 & top p. 1229.</p> <p>Silk Road:</p> <p>‘the Black Death,’ Double Your Troubles, 1 Disruption, pp. 259-260</p> <p>‘cultural and resource differences made it worth the risk,’ Black Market, 3 Commerce, pp. 1211-1212</p> <p>‘Buddhism traveled the Silk Road,’ The Core of Christianity, 1 Kairotic Moments, pp. 1423-1424</p>
<p><i>Moving the Capital Colony, Capture of Capital Colony, Disruption Events (and Disruption of Government Titles):</i></p> <p>“Alarmed at the news, Xuansong and his heir, Suzong, fled the grandeur of the Imperial Capital. Two weeks later as they reached a relay station, the Royal Entourage was turned on by their soldier escort and Xuanzong was forced to execute many of the bureaucrats who the soldiers blamed, probably correctly, for the disaster at Tong Pass. After placating his warriors, Xuanzong fled south and eventually reached the city of modern Chengdu in Sichuan Providence, while his heir advanced north and approached Lingzhou in the autumn of 756. Three days after his arrival, Suzong was persuaded to usurp the throne from his exiled father, who was granted the title shang-huang, or ‘retired emperor.’ The Tang’s longest and most glorious reign was at an end. Meanwhile, An</p>	<p>Inside the Hyper-space Bypass, Capital Eligibility, and General Howe in Philadelphia, 2 Order, pp. 533-536</p> <p>Trouble in the Trees, Rousing the Rabble, <i>et</i></p>

²⁰ Alfred Coppel’s 1950 classic short story “The Rebel of Valkyr,” mentioned in several places throughout GGDM, is the epitome of a revolt by frontier star princes in a technologically regressed (neo-Luddite), feudalistic interstellar setting.

<p>Lushan’s main rebel army entered and occupied the capital at Chang-an, reportedly massively depopulating the city in the process. It is not known if he massacred a great portion of the city’s population or if the disruption simply caused many to flee, but the formerly great city was diminished by this part of the war.” – Narrator, “An Lushan Rebellion – One of the Bloodiest Conflicts in History,” Kings & Generals YouTube Channel, January 18, 2019 (written by Matt Hollis) (“The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin.” – Wikitubia article, “Kings and Generals,” December 10, 2020).</p>	<p><i>seq.</i>, 2 Disruption, p. 270</p> <p>‘disruption of Structural Title,’ World Powers Fall, 3 Government Titles, pp. 617-618</p>
<p><i>Civil War, strategic resource warfare, creative Concierge Interventions, loss of Capital Colony, collapse, failed Conflict Checks:</i></p> <p>“The existential threat to the Tang dynasty was over, but the victory had been won at great consequence. The effect of the rebellion on China had been utterly devastating. It is not known how many Tang subjects perished as a result, but the death toll is widely estimated to range from 15,000,000 to 40,000,000. As the loyalist had been forced to withdraw both their generals and armies from the frontiers to fight the rebels, their border defenses also collapsed; with armies from Vietnam and the surrounding regions attacking the undefended Canton region, maintaining control over it for half a decade. In 763, the Tang’s long-standing Tibetan rivals took advantage of their weakness and briefly occupied Chang’an, before they were forced to retreat. The Tarim Basin and northwest was permanently lost, along with its rich horse-rearing pastures and wealthy oasis cities. During the rebellion, An Lushan had also seized the Grand Canal, cutting off the flow of grain, cloth and money to Chang’an.</p> <p>Furthermore, after he had seized the capitals, the Imperial Government lost all of the granary contents and the wealth in its treasuries. As a result the previously prosperous realm was now in dire need of funds and began selling titles and positions, which had before been occupied by skilled and examined bureaucrats. This situation was not helped by the fact that the old taxation and land system completely collapsed in the rebellion, as many tax rolls were destroyed or became obsolete due to the massive casualties and amounts of civilian displacement. The last embers of Yan rebellion were not extinguished for another decade and the impacts of the conflict would plague the Tang dynasty for the rest of their reign. They would rule for another 150 years before the unified China once again fragmented, but would never again reach the heights they had achieved before the rebellion of An Lushan.” – Narrator, “An Lushan Rebellion – One of the Bloodiest Conflicts in History,” Kings & Generals YouTube Channel, January 18, 2019 (written by Matt Hollis) (“The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin.” – Wikitubia article, “Kings and Generals,” December 10, 2020).</p> <p><i>GGDM Commentary: This process also parallels in microcosm, the civil wars and long-term slow collapse of the Roman Empire which is discussed and dissected in GGDM. Note however, that in GGDM the treasury is not located at any colony and cannot be ‘captured,’ unlike the situation described above, however, the “granary contents and the wealth in its treasuries” is reflected in loss of future taxation potential, loss of whatever was on the colony, and also disruption and looting effects.</i></p>	<p>Civil Wars, 2 Disruption, pp. 267-268</p> <p>‘Social/Estate Title disruption,’ Foreclosure of a Dream, 3 Government Titles, pp. 615-617</p> <p>‘strategic resource warfare,’ First War, 1 Commerce, p. 1182</p> <p>Loss of Capital Colony:</p> <p>‘disruption of Structural Title,’ World Powers Fall, 3 Government Titles, pp. 617-618</p> <p>First Space and Fourth Direction, 2 Diplomacy, p. 1116-1118</p> <p>‘creative Interventions,’ Gavelling, 1 Order, p. 518</p>
<p><i>Chinese Treasure Fleet, Technological Regression, why the Chinese didn’t colonize, starship captains faction, invading timelines, Conquest by Entitlements:</i></p> <p>“Imagine hundreds of ships fanning out across the horizon, an ocean of red silk sails. At their head, colossal dreadnoughts, each one bigger than a football field. This was the</p>	<p>Port of Origin and Naval Power, 1 Commerce, pp. 1181-1182</p>

Great Fleet of the Ming Dynasty, a massive floating city commanded by Zheng He. This Treasure Fleet brought incalculable wealth to foreign lands, yet also showed China's might, conquering pirates and creating kings. ... The [Yongle] Emperor wished to see his domain expanded throughout the oceans, to have all nations across the four cardinal directions come under his economic influence and acknowledge China's greatness. ... There was still the matter of building the great fleet, into which Yongle poured monumental amounts of resources to see it through. In the old capital of Nanjing, a massive dry dock was set up, over a quarter mile wide. In it, the great Treasure Ships were built. These were gargantuan nine mast vessels over 450 feet in length and 200 feet in width, five times bigger than the ships of Christopher Columbus. These behemoths were a marvel of engineering, featuring water-tight compartments in their hulls, ensuring only one pocket would be flooded should a leak spring, not the whole ship. They were aptly named, for they carried a priceless cargo of silks, porcelain, gold, silver and other treasures that would be gifted to foreign rulers who paid tribute to the Ming. Sixty-two Treasure Ships would be completed in a span of only three years, supplemented by 190 smaller vessels carrying supplies. ... Hundreds of ships, with a total of over 27,000 crewmen aboard... this was more than half the population of contemporary London....

Unlike later European explorers, Zheng He was plying lands already known to his people. Even so, he used various means of reliable navigation. Magnetic compasses determined his whereabouts, and slow burning incense sticks measured distance and time. The fleet navigators had access to detailed sea charts and were able to read the altitude of key stars while sailing along certain latitudes....

On the way back, Zheng He was made aware of a pirate flotilla in the Strait of Malacca, led by the notorious Chinese pirate lord Chen Zuyi, who evidently had designs upon the Treasure Fleet. Sources on this conflict are thin, but it is recorded that Zheng He led the pirates into an ambush, where battle followed. Highly disciplined Ming soldiers threw explosives and incendiary grenades into the pirate ships, sinking ten and capturing seven. Zuyi was captured after a several month long chase. ... Chen Zuyi was publically beheaded in Nanjing....

This time, they encountered the Prince Parameswara, who had just founded a burgeoning trade city [Malacca, stormed by the Portuguese in 1511]. Parameswara offered up his realm to Zheng He, who gladly took it under Ming suzerainty, on behalf of his Emperor [in 1411]. In kowtowing to the Chinese, the Malaccan Prince ensured his city would be unmolested by his expansionist neighbors [not to mention that the Treasure Fleet had disposed of the pirate Chen Zuyi four years earlier] who dared not invoke the ire of the Ming. Soon, his city became the most prosperous trading city in the Straight [of Malacca]....

In Ceylon, Zeng He found trouble. The local Buddhist Sinhalese were embroiled by wars both with Hindu Tamils and amongst themselves. The regional power was the Kingdom of Kotte ruled by the usurper King Alakesvara [Vira Alakesvara of Gampola]. The Sinhalese suspected the foreign fleet of trying to steal their sacred relic – the Tooth of Buddha. Alakesvara refused to pay Zheng He any tribute, and drove the Chinese from his shores, forcing them to move on to Calicut. On the return voyage, Zheng He arrived back in Ceylon with vengeance in mind and a small war followed. Sources differ wildly on the nature of this conflict, but it is widely agreed that the Admiral himself and 2,000 soldiers were lured inland by the Kotte King, where Sinhalese forces felled trees to cut them off from the coast. Alakesvara mustered the majority of his soldiers to launch a surprise assault upon the Treasure Fleet and plunder its riches, but the Eunuch was a

Invading Time-lines, 4 Order, pp. 576-577

Conquest by Entitlements, 5 Culture, p. 430

'Chinese Eunuch Faction may be an example of a starship captain faction,' Noblesse Oblige and Boomer & Bang-Bang, 4 Movement, pp. 871-873

Technological Regression:

Dark Ages, 1 Technology, pp. 686-687

David S. Landes excerpt, Eras

quick thinker and stormed the sparsely defended Sinhalese capital city with his 2,000 men. The Sinhalese were now forced to besiege their own capital, but the Ming soldiers held their own. During this fight, Zheng He managed to capture Alakesvara and escape back to his ships. They departed from the island in safety and the hostage king was taken back to Nanjing. Ultimately, the Yongle Emperor released Alakesvara and sent him home, but not before appointing Parakramabahu VI as the new King of Ceylon at the suggestion of the Sinhalese ambassadors. This new ruler paid regular tribute to the Ming, rendering Ceylon back under Chinese influence....

On the return journey through Malacca, Zheng He became embroiled in a dynastic dispute for the throne of Semudera, where a usurper named Sekander had deposed the King, Zain al' Abidin. Zheng sided with al' Abidin. This enraged Sekander, prompting him to attack the fleet, allegedly with ten thousand men. The Ming soldiers defeated this army, and placed al' Abidin back upon the throne, making it a tributary state....

In 1424, following the end of Zheng He's sixth voyage, the Yongle Emperor died, succumbing to illness while on campaigns against the Mongols. With him, the Ming's desire to fund more voyages slowly dissipated. Yongle's son staunchly opposed the fleet, but he died only a year into his reign, succeeded by his son the Xuande Emperor. Xuande opted to honor his father's ambitions by calling upon Zhang He once more. Thus in 1431, ten years after the conclusion of his previous voyage, the 60-year old admiral was sent on one final cruise. On this journey, the Great Admiral met his end, passing away in Calicut in 1433 and being buried at sea. With both Yongle and Zheng He gone, there was nothing left to stop the Ming Court from disbanding the Treasure Fleet. There is still debate about why the voyages were terminated. Scholars claim the sects within the Imperial Court had always been fundamentally opposed to the fleets, seeing it as a flagrant insult to China's Confucian values, which imparted the importance of a land-based agrarian society. Others cite widespread resentment for the Eunuch faction, of which Zheng He was part. The Fleet had been a hallmark of their power and its destruction was a way to diminish their influence. Ultimately, economics was likely the principle reason for the fleet's stoppage. Yongle had bled his treasury dry with other ventures. His war fronts had cost him dearly, while building Beijing had also incurred huge expenses. After his death, the Ming decided that oceangoing trade was no longer monetarily feasible. Most of the Great Wall was built by later Ming Emperors using the funds that would have otherwise gone into maintaining Treasure Ships. In 1529, the Jiajing Emperor burned hundreds of logbooks from Zheng He's voyage in an attempt to erase him from history and establish China as an isolationist nation....

The success of his fleets and their abrupt termination brings many to question if China had squandered the opportunity to form a colonial empire before the kingdoms of Europe took to the seas." – Narrator, "Zheng He's Floating City: When China Dominated the Oceans," Kings & Generals YouTube Channel, September 4, 2019 ("The Wars of the Diadochi series is the only series which is not narrated by OfficiallyDevin." – Wikipubia article, "Kings and Generals," December 10, 2020).

GGDM Commentary: The Portuguese explorer Jorge Álvares reached China in 1513. By 1517, the Portuguese had established a trading post in China. By 1522, the Portuguese had circumnavigated the world and Vasco de Gama made his third trip to India in 1524. So this makes the burning of the logbooks in 1529 a very curious event.

In 1511, the Portuguese stormed Malacca (and the Ming were indifferent), in 1513 they reached China and by 1517, they had established a trading post in China. For poverty-ridden Europe it was all about trade, and they did whatever they needed to obtain it.

<p><i>Colonizing, religion, and suzerainty were collateral considerations to trade. The approaches could not have been more different. This is an approach usually followed by science fiction; resource starved and overpopulated/polluted/war-torn Earth goes out on exploration and conquest across the local galaxy.</i></p>	
<p>Oppenheimer, J. Robert</p>	
<p><i>Nuclear weapons and religion, apocalypse, passing of ages:</i></p> <p>“We knew the world would not be the same. A few people laughed, a few people cried. Most people were silent. I remembered the line from the Hindu scripture, the Bagavad Gita. Vishnu is trying persuade the Prince that he should do his duty. And to impress him, takes on his multi-armed form and says ‘Now I am become Death, the Destroyer of Worlds.’ I suppose we all thought that, one way or another.” – J. Robert Oppenheimer original back and white interview video (“J. Robert Oppenheimer: ‘I am become Death, the destroyer of worlds.’” Penilune Pictures YouTube Channel, August 6, 2011 – surely the date of posting is no chance coincidence!)²¹</p> <p><u>GGDM Commentary:</u> <i>The detonation of the nuclear weapon at the Trinity Test is similar in most respects to the invention of Stardrive marking the 1st Era threshold of the game, see Magic Formula, 2 Eras, p. 767. See also, Three Minutes, 2 Colleges, p. 480.</i></p>	<p>Raemer E. Schreiber quote, 2 Technology, p. 702</p> <p>Little Willie Won’t Go Home and Dawning of Horror, 1 Combat, p. 937-938</p>
<p><i>This seems to be the source of the X-factor and the sci-fi short story “Mimsey were the Borograves”:</i></p> <p>“There are children playing in the streets who could solve some of my top problems in physics, because they have modes of sensory perception that I lost long ago.” – J. Robert Oppenheimer (Quoted at Vision ‘65 “New Challenges for Human Communications” (21-23 October 1965) and published in v 65: New Challenges for human communications, Volume 4, International Center for the Typographic Arts, Southern Illinois University (1965), p. 221).</p>	<p>X-Factor, 2 The Streams of Time, pp. 86-87</p> <p>Kate Becker quote and When the Thames Froze Over, 1 Order, p. 526</p>
<p><i>I think this is also true of myself and whatever GGDM is:</i></p> <p>“I can’t think that it would be terrible of me to say – and it is occasionally true – that I need physics more than friends.” – J. Robert Oppenheimer (Letter to his brother Frank Oppenheimer (14 October 1929), published in <u>Robert Oppenheimer : Letters and Recollections</u> (1995) edited by Alice Kimball Smith, p. 135)</p>	
<p><i>Related to Montross quote: no weapon, once proven on the battlefield, has ever been successfully banned (and about half of 1 Combat):</i></p> <p>“It is with appreciation and gratefulness that I accept from you this scroll for the Los Alamos Laboratory, and for the men and women whose work and whose hearts have made it. It is our hope that in years to come we may look at the scroll and all that it signifies, with pride. Today that pride must be tempered by a profound concern. If atomic bombs are to be added as new weapons to the arsenals of a warring world, or to the arsenals of the nations preparing for war, then the time will come when mankind will curse the names of Los Alamos and Hiroshima. The people of this world must unite or they will perish. This war that has ravaged so much of the earth, has written these words. The atomic bomb has spelled them out for all men to understand. Other men have spoken them in other times, and of other wars, of other weapons. They have not prevailed.</p>	<p>Areal Weapons and Lynn Montross quote, 3 Carriers & Fighters, p. 1073</p> <p>Richard Rhodes quotes, 4 Movement, p. 872 and 4 Commerce, p. 1237</p>

²¹ The date of the interview is unspecified, but it is well-established historically that he did in fact say those words and their authenticity is not questioned. According to internet sources, the interview was first televised in a 1965 documentary.

<p>There are some misled by a false sense of human history, who hold that they will not prevail today. It is not for us to believe that. By our minds we are committed, committed to a world united, before the common peril, in law and in humanity.” – J. Robert Oppenheimer, Acceptance Speech, Army-Navy “Excellence” Award (16 November 1945).</p> <p><i>See also, Strategic Air Command movie Feature Quote, First Cold War Calculation and Stratofortress, 4 Carriers & Fighters, pp, 1089-1090.</i></p>	
<p>Orwell, George</p>	
<p><i>Military blunders, charge of the light brigade, patriotism/nationalism, Symbolic Constructural Element, vocal minorities, unification of the British Isles, pluckiness:</i></p> <p>“In England all the boasting and flag-wagging, the ‘Rule Britannia’ stuff, is done by small minorities. The patriotism of the common people is not vocal or even conscious. They do not retain among their historical memories the name of a single military victory. English literature, like other literatures, is full of battle-poems, but it is worth noticing that the ones that have won for themselves a kind of popularity are always a tale of disasters and retreats... The most stirring battle-poem in English is about a brigade of cavalry which charged in the wrong direction.” – George Orwell, “England Your England” (1941).</p> <p><i>See also, Waving the Flag, 2 Constructural Elements, p. 190, Romantic Nationalism, 3 Government Titles, pp. 618-619, ‘romantic narcissism,’ Alan Wolfe top Feature Quote and Hand-wringing Aspect, 3 Colleges, p. 487, ‘unification of England, narrative’ Internal Disputes & Isolationism, 1 Special Operations, pp. 1277-1278, ‘drunk Ultra-Nationalism’ Hegemonic Empires, 4 Order, p. 573 and ‘patriotism’ Aspect, 2 Writs, pp. 438-439 and Hermann Goering quote, EN 13, 6 Diplomacy, p. 1180.</i></p>	<p>Interdisciplinary Approach, <i>et seq.</i>, 4 Colleges, pp. 507-508</p> <p>Symbolic Constructural Element, 1 Constructural Elements, pp. 176-177</p>
<p><i>Confusing how answers with why answers, why we never get an answer:</i></p> <p>“I understand HOW: I do not understand WHY.” – Winston (character), George Orwell, 1984.</p> <p><i>In the novel, he writes this in his secret dairy, but in the movie, I think he was lying in bed with Julia sleeping next to him, having just read the secret manifesto that was given to him by O’Brien.</i></p> <p><i>See also, ‘ignorance is not virtue,’ Rachel Smolkin top Feature Quote, quoting Barack Obama, 2 Information, p. 1339, ‘confusion and fright,’ Centauri Emperor Turhan Feature Quote, 1 Kairotic Moments, top p. 1419.</i></p>	<p>A Simple Proof, 1 Entropy, pp. 225-226</p> <p>EN 10, 2 Commerce, p. 1208</p>
<p>Pakman, David</p>	
<p><i>“Know-nothingism,” Facts:</i></p> <p>“When you can’t argue the facts anymore, when you have been beaten on the facts and your arguments ... fall apart, you call into question whether we can believe anything, whether we can know anything ... this is a complete white flag because it stops the conversation. It’s actually a really common crutch. It’s a basic epistemological question that in a sense we can always ask. Right? You can always turn to how do we know anything? ... What really is true? Can we know anything? But this is a crutch that stops the conversation because it’s like, well, then anything you’re saying is also subject to that same question. It is a white flag when it is an interview about facts. At any point you want, you can always say, how do we know any fact is true? Ok, but that’s not really where you go if the facts are on your side and if you are able to coherently put together</p>	<p>A Thing Done and Five Types of Facts, 1 Dream-time, pp. 134, 136-137</p> <p>Aristotle Side-step, 3 Dream-time, pp. 164-166</p> <p>‘Know-nothingism,’ Michael Robbins quote, 1</p>

<p>an argument.” – David Pakman, “Trump Humiliated In Worst Interview in History,” The David Pakman Show YouTube Channel, August 4, 2020.</p> <p><i>GGDM Commentary: There is an old saying at law, “When the facts are on your side, pound the facts, when the law is on your side, pound the law, when you have neither, pound the table.” The above case is closer to ducking under the table.</i></p> <ul style="list-style-type: none"> I think that David Pakman missed a good one here: The oddity of trying to prove that you can’t prove anything, the oddity of saying we can know that we can’t know anything. It’s a nonsensical and self-defeating parlor argument game, we know it well, we’ve heard it for centuries, that always ends in you can’t even know you saw it, remember it or experienced it even a moment ago! Avi Sion called this out, see ‘claims to have no claim,’ quote 2 Fallen to Earth, p. 1518. It always ends with you can’t know you just said that and you can’t know I am even here arguing with you, in fact, you can’t even know you exist (see Descartes!). 	<p>Fallen to Earth, pp. 1503-1504</p> <p>Avi Sion quote, 5 Culture, p. 428</p>
<p><i>Education Proficiency, public relations/propaganda discussions, Carl Sagan’s ‘bamboozle’ comment:</i></p> <p>“This is extremely dangerous and it’s extremely dangerous for two reasons. One – and I am not trying to insult people when I say this – but the lack of critical thinking and media literacy skills in this country make this stuff really effective ... so we’ve got to do something about it, I don’t even know what it is because the audience that he is catering to with this garbage is ripe for it; they are not then going to come and watch me spend 15 minutes explaining to you how you are being bamboozled by this.” – David Pakman, “Tucker Carlson Setting Stage for Violence If Trump Loses,” The David Pakman Show, July 8, 2020.</p> <p><i>See “The Bamboozle,” Carl Sagan bottom Feature Quote, 1 Diplomacy, p. 1107 and Propaganda by Another Name, 6 Diplomacy, p. 1178.</i></p>	<p>And the Cradle Will Rock and Education Proficiency, 3 Culture, pp. 382, 386</p>
<p><i>Reactionary Forces:</i></p> <p>“This is literally retrograde conservatism, you know, the idea of doing things the old way for the sake of doing things the old way for no real reason.” – David Pakman, “Tucker Carlson Sets Record for Lies in 80 Seconds,” The David Pakman Show, November 27, 2020.</p> <p><i>See also, Port of Origin, 1 Commerce, p. 1181 and ‘Chinese technological regression’ Dark Ages, 1 Technology, pp. 686-687.</i></p>	<p>Dark Ages, 1 Technology, pp. 686-687</p> <p>David S. Landes excerpt, Eras</p>
<p><i>Cultural war, propaganda, public relations discussions:</i></p> <p>“The point here is, look how long it took for me to go through the lies just in an 80-second segment of Tucker Carlson. This is why it is hard to counter the disinformation. Hopefully doing this is useful to some degree, obviously it is outside the scope to counter an hour of Tucker a day would take me four hours. It’s not practical.” – David Pakman, “Tucker Carlson Sets Record for Lies in 80 Seconds,” The David Pakman Show YouTube Channel, November 27, 2020.</p> <p><i>See also, ‘tobacco industry lies,’ Bruce Schreiner Feature Quote and Three Big Lies, 2 Information, pp. 1354-1356. It took years of litigation to counter and debunk tobacco industry lies.</i></p>	<p>Cultural War, 5 Culture, pp. 428-429</p> <p>‘The Big Lie,’ Adolf Hitler Feature Quote, 1 Diplomacy, p. 1106</p>

<p><i>The U.S. won't last forever discussion:</i></p> <p>“So, increasingly I am hearing things from my audience about, listen all great empires have fallen in history, sometimes they fall slowly, the idea of the United States as this permanent empire is ahistorical and you wouldn't even necessarily know it while it is happening. So maybe as an analogous situation, we can talk a little about Rome...” – David Pakman, “Could the US Fall Like Rome Fell?” The David Pakman Show YouTube Channel, October 3, 2020.</p>	<p>Terminal Patients, 3 Disruption, pp. 289-290</p>
<p>Penn, Thomas</p>	
<p><i>Relates to the manipulating historical dates discussion:</i></p> <p>“In early November 1485, Henry VII's first parliament met. He would use it to tackle the inconvenient truth of Richard III's reign and to re-work recent events to suit himself. ... [Examining the actual parliamentary record scroll] In this record, Richard III is the usurper and Henry VII is the rightful king putting things straight. ... But there was one thing in particular during this parliament that Henry did which sent a ripple of unease through the commons. He re-wrote history. It simply consists of a date, here. Now, the Battle of Bosworth was fought on the 22nd of August, 1485, but here, Henry VII has dated his reign, the 21st ... day of August, last past. That's to say, the day before the battle was fought. We might ask, what's in a day? Well, by backdating his reign to the day before he beat Richard III and became king, Henry was effectively accusing everybody who had turned out for Richard III on the battlefield, of treason.” – Narrator Thomas Penn (British Historian), “Henry VIII Winter King” (documentary, 2013).</p> <p><u><i>GGDM Commentary:</i></u> <i>And you know the penalty for treason ... it's not the nose in the book penalty!²² I think that Mr. Penn possibly missed a more ominous suggestion in the backdating and that is that it was always Henry's destiny to be King of England; that is, he was king by divine will before he was king. Now, this is all the same in the end, but it has more emotive weight than mere treason, it suggests contravention of divine will.</i></p>	<p>Play Dates, 3 Information, pp. 1368-1369</p> <p>A Thing Done and Five Types of Facts, 1 Dream-time, pp. 134-136</p>
<p>Penrose, Roger</p>	
<p><i>Sublime, Platonic Reality, obsession (Weird Circle Fixation):</i></p> <p>“Well, it [mathematics] is extraordinarily precise and in different areas, more precise, in some areas, we know less about it. But I think people often find it puzzling that something abstract like mathematics really describe reality as we understand it. I mean, reality, you think of something like a chair or something, something made of solid stuff and then you say, what's our best scientific understanding of what that is? Well, you say it's made of fibers and cells and so on, and these are made of molecules and those molecules are made of atoms, those atoms are made out of nuclei, and electrons going around. And then you say, what's a nucleus, and you say, well it's a protons and neutrons and they're held together by things called gluons and then neutrons and protons are made of things called quarks and so on. And then you say well then, what is an electron and what's a quark? And at that stage, the best you can do is to describe some mathematical structure, you say, they're things that satisfy the Dirac equation, or something like that which you can't understand what that means without mathematics. I mean the mathematical description of reality is where we're always led and these equations are fantastically accurate.”</p>	<p>‘math is quantitative logic,’ Clarence Marsh Case Feature Quote, 1 Entropy, bottom p. 220</p> <p>‘category error,’ Wikipedia quote, 2 Expansion, p. 897</p> <p>‘Platonic archetype,’ Type 4 (Fundamental Reality), 3 Beginnings, pp. 42-43</p>

²² The Yosemite Sam “nose in the book penalty” was humorously replayed in Babylon 5 episode, “The Ragged Edge” (1998).

GGDM Commentary: I could not help but to wonder what it is that would allow us to describe human civilization in terms comparable to (but not the same as, because that can never happen) the way mathematics describes the universe? I really have no idea, and my head nearly explodes trying to catch even a momentary glimpse of it. Apparently our understanding of human civilization (the social sciences, history) is comparable currently to something less than Ancient Greek or Babylonian mathematics (or physics or astronomy). It may also be that my attempt to reorient macrosociology along axiomatic terms is but a doomed distraction (I am not cocky and abrasive like Ludwig von Mises).

“... gravity according to Einstein’s theory – I mean Newton’s theory already had a precision of something like one part in 10^{7th} , so that’s 10 millionths, with one part in that and then there was discrepancy seen in the behavior of Mercury and so on and that’s where you start to see differences with Newton’s scheme. And then Einstein comes along and produces a theory which is now known to have a precision something like to 10^{14} and that precision is a measure of how accurate – there’s a particular system of two stars going around you, special kinds of stars, neutron stars, very dense objects. And one of them is what’s called a pulsar, it emits pulses of signals which could be the time extremely precisely and over a period of, well I supposed it’s maybe more than 30 years now, I can’t remember, they’ve been observing this thing, and in that period of time, the accuracy over that period of time is known to something like one part in 10^{14th} and the agreement between Einstein’s theory and the observations. So it’s telling you these are very, very precise things.”

[you can find another mention of the discrepancy in the orbit of Mercury in the Raymond Feynman quote, [this document](#)]

“And so these things, just about numbers, were developed very much from the time of the Greeks and ever since then, mathematics has been a subject which you can study for its own sake, it has its own life in a sense, and certainly mathematicians view it this way, it’s something out there, it seems to have a reality independent of the reality – the ordinary kind of reality like things like chairs and so on – which are what we normally think of as real. But the mathematical reality is something different, it’s sometimes referred to as a Platonic world, Platonic reality, and sometimes people have a lot of trouble thinking of that as real. I mean philosophers worry about that and so on.

GGDM Commentary: This is consistent with and illuminates Clarence Marsh Case’s description of mathematics as ‘quantitative logic’ and what a mathematician can know about the world and mathematics as a tool to measure reality.

[what is a Platonic reality?] “Well, I think it’s a different kind of reality from the reality of the physical world, I tend to think of there being different ways of looking at reality; there’s the reality of our mental experience, which okay, interrelates with the physical reality, and so then does the mathematical reality of this Platonic world which gives reality to these notions. So if you like, mathematical facts like there is no largest prime number, is something independent of ourselves, it’s always been true, it doesn’t didn’t somehow become true as soon as somebody seems so hard to prove it, it’s always been true. [interviewer interjects that it would have been true if nobody...] Exactly, yes and in a sense that had to be so because if the physical world depended so precisely on these mathematical laws, I couldn’t have known what to do in a certain sense if the mathematics hadn’t already been there. I mean, it’s not us that imposes this on the world, it’s out there.

Weird Circle Fixation excerpts, The Big Bang

Sublime in GGDM:

Thomas Jefferson Feature Quote and Learning to Make Fire, 3 Patents, pp. 746-747

Something Sublime, 3 Culture, p. 380

Religion Sublime, 1 Fallen to Earth, pp. 1504-1505

‘Kairotic Moment must be sublime,’ Hallowed Round, and ‘the macrosocial process of Christianity is what is sublime,’ The Core of Christianity, 1 Kairotic Moments, pp. 1415-1416, 1423-1424

Some people think that maybe the reason we have good mathematical laws of physics is that's the best way we can come to understand the world, but it's something more than that, it really is out there in the world."

[the interviewer then articulates the question of whether mathematics is invented or discovered]

GGDM Commentary: But Sir Penrose has already answered the question, clearly in his view, and in the view of mathematicians and physicists, mathematics already exists and is 'discovered' not 'invented' by humans. And look, I heard some version of this when I was younger which is what caught my interest in the title of this video. And in the sense of physics, of course we knew what the answer would be... but I cannot help but to wonder if this is a 'category error' because we really only have two options in our language: it was either there and discovered by humans, or it was not there, extant previously in our universe, and was thus 'invented' by humans. But I can see that this argument traces also to the rejection of human agency in the collapse of an electron into either a wave or a particle at the detector in the famous double-slit experiment in quantum mechanics.

[continuing after the interruption] "Well, you know it's just our way of organizing what we see about us. But I really don't think that's good enough because Newton, for example, the observations probably had about three figures and three decimal places and he produced this theory which kept on working, until about seven figures you see, then there were discrepancies seen. Einstein produced his theory, mostly out of his head with that appealing to things that were known to Galileo and so on, but apart from that, it was not much more empirical evidence, but he produced his theory which extended far beyond anything that the observations at that time told us about and they keep on agreeing with the observations, so that theory, which is if you like, a Platonic absolute thing, and it's a mathematical thing, seems to be inbuilt into the way the world operates. It's not as though you see a new effect and say, ok we need to think of a better theory to accommodate that one, sometimes science is like that, but these really good physical theories are not like that. You're revealing something in the way the world operates which is there all the time and I don't think there's any way of understanding that just in terms of our trying to understand what we see around us."

[how much mathematics is sitting out there?] "Well, that's a good point, because there's an awful lot of mathematics which doesn't seem to have any clear relation to the physical world. Well, I could picture it as there is this world of mathematics, and only a small part of that, and it's a very fruitful part, it's an extraordinarily fruitful part, has relevance to the physical world. There's an awful lot out there which, as far as we know, has no relation to physical behavior ... But sometimes people think of these as mental creations you see, but it doesn't really explain – and there's just one example from the Mandelbrot set, it's extraordinarily complicated, and you can magnify little bits of it and you see all of this incredible detail, and that's all there in a very simple mathematical idea, and it's encompassed by this very simple piece of mathematics."

"Well, I think there are two aspects to mathematics, at least how I look at it. Some people are just exploring the mathematics and that's their real interests and it's the beauty and the subject often that's why they're doing it, because they find it exhilarating, something they find really wonderful to do. But there's the other side of it, which is how it relates to the physical world and there is this extraordinary precision that we find when you

get the mathematics right, it really mirrors the behavior of the physical world to an unbelievable degree. So there are these two sides to mathematics, it has this reality which you can study quite independently of its role in physics and the other side which really does seem to reveal how the real world operates and in a certain sense, what the world is as far as we can understand it.” – Sir Roger Penrose interview by host Robert Lawrence Kuhn, “Is Mathematics Invented or Discovered?” Closer to Truth, Ep. 48, 2009.

GGDM Commentary: I’m a maths idiot so I don’t have anything useful to add regarding math (and how could I anyway compared to Sir Roger Penrose?), but what he is describing here is consistent with my discussions of finding the sublime in GGDM. I guess from that point of view, I treat macrosociology, or at least my simulation attempt at it, in the way that a mathematician approaches mathematics for the beauty of it, for the exhilaration.

- I suppose that if I were more artful and literary, I could make a compelling story outlining this idea, but that’s not my style, I tend to be rather plainly blunt about it. It seems to me again to be some vague sort of parallel, our mastery of physics and mathematics of the first order of natural phenomenon (physics, inorganic matter in the words of Clarence Marsh Case), along with increasing mastery of the second order (biology, organic matter), along with the beginnings of or an inkling of third order (mental organic, psychology) and fourth order (social, super-organic) suggests that ‘advancing’ sapient civilizations move along the lines of mastering the four orders of natural phenomena.

That said then, we might reach a level of development or understanding in psychology and sociology concurrent with our current level of understanding in physics in maybe two to five centuries hence. What that looks like, nobody knows, but it’s not post-human or transhuman, it’s not what transhumanist are really discussing at all. As a corollary, this suggests a serious shortcoming in future and alien contact sci-fi films which usually just show us (or alien versions of us) with more technology, but basically unchanged (or as Norman Spinrad noted, very little of science fiction shows a better humanity in the future, a better future²³).

Pesce, Joe

Temporal Technology, T-Ship, Paradoxes and Paradox Resolution, Temporal Special Operations, Terminator series closed loop discussion:

“So time travel’s a neat thing, right? ... Obviously the subject of science fiction and lots of science ... it’s allowed by General Relativity, time travel is, but there’s a number of issues and one of those issues is the so-called Grandfather Paradox. I’m sure you’ve all heard of this, it’s the possibility that a time traveler goes back in time, changes the past that affects the future. So I go back in time, I do something that inadvertently leads to the death of my grandfather before he’s married [or my parents were conceived] and so therefore I can’t exist, but yet I’m there. So that’s a paradox. So for many scientists this seems to have been a limit on disallowing time travel. But as you noted, these researchers in Australia, an undergraduate and his advisor, a couple of months ago came out with

Classic Paradox, Ghost in the Daylight, and The Door to That When Is Closed, 1 Temporal Technology, p. 803-805
 What to do with Paradoxes, *et seq.*, 2 Temporal

²³ “How much science fiction is being published now that’s set in worlds that are better than ours? Not that have bigger shopping malls or faster space ships, but where the characters are morally superior, where the society works better, is more just? Not many. It becomes difficult to do it, and that’s a feedback relationship with what’s happening in the culture, with science fiction being the minor note. People don’t credit it anymore! Not just better gizmos and more virtual reality gear, but better societies. People don’t believe the future will be a better place. And that is very scary.” – Norman Spinrad, Locus Magazine Interview, February 1999.

<p>a paper showing that they had developed mathematics indicating that this paradox can be avoided seemingly. Now, I'm not going to get into the math, math is hairy, can't say that I fully understand it as well, but that is irrelevant because what they seem to be saying is that the timeline, the progression of time, rearranges itself, that is, it self-corrects to avoid any paradox.</p> <p>So for example ... I travel back in time to stop COVID-19 and I want to keep Patient Zero from being infected. And so I travel back in time and obviously, if I stop Patient Zero from being infected, and I stop the pandemic, then that eliminates my motivation for going into the past and that is the crux of the paradox. ... So what these researchers have found in the mathematics is that the events would recalibrate themselves, so maybe ... I go and stop Patient Zero, but I then become Patient Zero and I start the infection. Or someone else becomes Patient Zero that's outside of the ... realm of my being able to manipulate. So, ultimately the end point is still the same; there's still going to be a pandemic, but the particular events, maybe the details of the timeline change, and so the mathematics are showing that you really can't go back in time and affect an endpoint, the endpoint will always be the same. We may get to it in a different way, so fundamentally it's showing that mathematically this paradox doesn't exist and that time travel is possible again mathematically. [discussion of philosophical implications of destiny and fate] Mathematically, I suspect it's probably ok, does that mean that time travel is possible and that we will be seeing ... my future-self showing up right now? Probably I'm on the fence, I wouldn't hold my breath." – Dr. Joe Pesce (Program Director at National Science Foundation (NSF)) on Rising with Krystal & Saager, November 26, 2020.</p> <p><i>GGDM Commentary: This kind of blows up the T-Ship concept in GGDM because any ship it attacks will still arrive at the endpoint or destination or whatever, regardless, just by different events. But that's for the participants to resolve ... I wouldn't hold my breath!</i></p>	<p>Technology, p. 822</p> <p>Time Safari, Inc., 1 Special Operations, pp. 1268-1269</p>
<p>Petrov, Anton</p>	
<p><i>Fractured Universe argument, Disturbance Modifiers:</i></p> <p>“So in the past as we were looking around the universe, we actually have already discovered a few things that don't seem to be consistent, for example, more or less recently we discovered that the expansion of the universe does not seem to be constant everywhere. It seems to be accelerating a little bit faster in some directions than others. At the same time we also discover that the actual constant that we refer to as the cosmological constant does not seem to be constant either; it seems to vary with time and also with place. And on top of that, we've also been discovering unusual spots in the universe that seem to be slightly higher in, for example, x-ray radiation than other spots, which also suggests to us that it seems that the universe is actually not what is known as isotropic; it's not really the same everywhere and the recent discovery sees to actually kind of push this even further. But first of all we have to discuss the idea of what's known as the 'fine-structure constant' ... but obviously because this is known as a constant, we've always believed this to be constant everywhere in the universe, although there were a few discussions suggesting that is maybe that is actually not so and some scientist even suggested that maybe this number has changed over time, in other words, it grew by a little bit suggesting that the number does change and is not a constant. But none of this was of course proven....” – Anton Petrov, “Study Suggests Fundamental Laws of Nature Change Throughout the Universe,” Anton Petrov YouTube Channel, May 1, 2020.</p>	<p>Fractured Universe Argument:</p> <p>Moonwalking to the Stars, 1 The Big Bang, pp. 3-4</p> <p>Fourth Frame, 1 Entropy, pp. 226-227</p> <p>Ontological Schisms, 2 Expansion, pp. 892-893</p> <p>The Ontological Terrorism of GGDM, 3 Fallen to Earth, pp. 1529-1530</p>

<p><i>GGDM Commentary: There are other videos on YouTube on this subject, such as a PBS Space Time video, “Are the Fundamental Constants Changing?” I am not going to state that this absolutely proves my Fractured Universe argument, but in my usual ‘confirmation-bias’ way I seize upon it as suggesting that I may have arrived at a correct idea from an entirely different approach than math/physics. Petrov cites to two papers, and suggests that we need more evidence to rule out error or misunderstanding.</i></p> <p><i>See also, Pseudo-Physics of the KM, 2 Kairotic Moments, p. 1434 and Disturbulence, 2 Movement, p. 847.</i></p> <p><i>See also, final checkmark in Frame It, 1 Order, pp. 526-527.</i></p>	<p>Order of Genesis, et seq., 1 Order, pp. 522-523</p>
<p><i>In-system propulsion, interplanetary movement, Fighters:</i></p> <p>“While a typical rocket engine has a lot of power to lift an object and to take it into space, the advantage of an ion engine is that it can actually use a lot less fuel to achieve the same kind of velocity that a typical rocket engine could achieve. But because their overall power is much lower than a typical rocket engine, we can’t just use ion engines to lift objects. For now, the ion engines have really only been used in space ... newer versions of these engines being able to achieve up to about 100,000 kilowatts of power but unfortunately still not really being enough to, for example, lift a rocket from the ground or be used in far regions of space. And the reason for this is that they actually require a tremendous amount of energy to function so as you move away from the sun and ... reach farther and farther regions of the solar system, there’s really no way for us to start generating energy. The current calculations suggest that if you were to, for example, take a nuclear power plant with you to try to power these engines, for an efficient propulsion system to actually be able to function in the far regions of space, you would need roughly around 17 tons of different material that is going to be powering the nuclear plant and that’s of course not including all of the other stuff you need to bring for the ion engines to function.</p> <p>So it does become a little less efficient the farther you go. ... But now we may have reached the next step in this technology, the step that might allow us to create these engines and use these engines here on planet Earth in the atmosphere, because not so long ago, the MIT scientists and MIT students were able to create an ion engine propulsion using airplane technology ... and so the first ion engine flight that was achieved back in 2018 is sort of equivalent to the original Wright Brothers’ flight. So this engine works on a slightly different principle and instead of using a propellant or any kind of fuel, it tries to create ions and also release ions directly from the air. ... this airplane itself contains no moveable parts. ... But using this technology and using a very similar principle, the scientists from the European Space Agency realized that they can actually use something similar in satellites ... which would allow satellites in very low Earth orbit to propel themselves preventing degradation of orbit and possibly using this technology for some other means as well [he mentions it might work on Mars].” – Anton Petrov, “We Reached The Next Mind Blowing Era of Ion Engine Propulsion,” Anton Petrov YouTube Channel, August 9, 2020.</p>	<p>Interplanetary Movement and Gray Space, 2 Movement, pp. 844-845</p> <p>Fighters and Punk-it Rocket, 1 Carriers & Fighters, pp. 1046-1047, and EN 7, p. 1053</p> <p>‘In-system deceleration and maneuvering,’ How It Moves, 2 Star-drive, p. 794</p> <p>‘Interplanetary raid/strike,’ World in Flames, 4 Carriers & Fighters, pp. 1083-1084</p> <p>Go Speed Racer!, 3 Combat, p. 982</p> <p>Orbital Platforms, 2 Construction, pp. 666-667</p> <p>Strategic Shipyarding and System Boats, 3 Construction, pp. 676-677</p>
<p><i>Slipstream Drive (Andromeda TV series), wholistic view, emergent nesting of systems, Boltzmann Brain (by a big stretch):</i></p> <p>“... and we actually have no idea even how our own consciousness is created. ... But what we are going to be talking about is the structure, the complexity of different networks,</p>	<p>Godhead and Pinhead, 1 The Side-real Stage, pp. 110-111</p>

<p>the complexity of structures as they arise from, pretty much nothing, and how these structures actually seem to resemble one another even though the size is very different. ... and most importantly, someone finally did the science behind all of this and identified several major similarities and also obviously some differences as well between what seems to be the structure in our brain and the structure of the universe. ... And what makes the study interesting is that it was actually an astrophysicist and a neurosurgeon combining their knowledge and combining their expertise to try to create the similarities between the brain and the universe. So, it's not just a picture on Facebook, this is actually true science. And all this of course, connects to the idea that there are just a lot of different patterns and a lot of different networks everywhere around us and many of these networks seem to follow a very similar principle, usually a mathematical principle, creating very beautiful, but also very repetitive patterns that can then be discovered in different domains around us. ... But once again, let me highlight this again: The morphology or the shape of things does not imply that the function is the same, in other words, just because two things resemble each other does not mean that they are going to have the same function. We actually know a lot more about the universe than we technically know about the structure and the formation of the structure in the brain. And so in some sense, by studying how all of this is done in the universe, it actually does help us realize how everything forms inside of our brain as well.” – Anton Petrov, “Structure Of The Brain VS. The Universe – Actual Similarities Found,” Anton Petrov YouTube Channel, November 27, 2020.</p> <p><i>GGDM Commentary: Again, we come to that elusive feeling or sense of parallelism that I described in More than a Feeling, et seq., 1 Temporal Technology, pp. 808-813, and Anton is very careful to not read too much into it (e.g., his morphology comment above), he dances well, because the human mind is always trying to make connections (e.g., synchronicity).</i></p> <p><i>See also, ‘wholistic’ (anti-reductionist) discussions in GGDM: Timewaster, 1 The Big Bang, pp. 11-12, Wholistic History, 4 Colleges, p. 509, and Wholistic, 2 Diplomacy, p. 1121.</i></p>	<p>Andromeda Wiki top Feature Quote, 3 Movement, p. 854</p> <p>Stardrive, 1 Stardrive, pp. 782-783</p> <p>The Public Space, 4 Beginnings, p. 47</p> <p>As Coo-Coo as a Swiss Clock, 1 Order, pp. 524-525</p>
<p>SETI, alien persons:</p> <p>“But the reason so many scientists are going to be very eagerly awaiting these scientific papers to come out is really because even when there is a tiny, tiny possibility that it is aliens, everyone is going to try to investigate this simply because a lot of our science really depends on this, depends on discovering extraterrestrial intelligence somewhere out there. ... But that's not all, there's actually something else that was really interesting about this discovery ... So it turns out that the signal itself was also slightly blue-shifted, or essentially its frequency was increasing a little bit suggesting that it was moving towards the planet Earth – or at least that's just one of the implications. ... Now, this blue shifting is very well understood, so we can actually figure out how fast it's moving, but until the paper has come out, we're not going to be able to know anything about it. Also, unless we actually see the signal again, and unless we're able to somehow detect it from exactly the same location as we found it before we are not going to be able to confirm this as a techno-signature or any kind of an interesting alien signature. It's just going to remain as a potential disturbance from something else terrestrial that we just couldn't figure out. ... Nonetheless, the signal has officially been given the designation BLC1 [showing Wikipedia article], which stands for Breakthrough Listen Candidate 1 because this is the first time we've ever found a signal that has sort of passed all of the other filters; it's</p>	<p>To Serve Man and Statement of the Conference, 1 Diplomacy, pp. 1091-1092</p> <p>Alien Persons, <i>et seq.</i>, 2 Diplomacy, p. 1110</p> <p>Dennis Overbye quoting Dr. Geoffrey Marcy (Vatican Observatory), 4 Fallen to Earth, p. 1557</p>

<p>exciting enough for us to do a lot of follow up studies... [references article written by Nadya Drake, daughter of Frank Drake].” – Anton Petrov, “SETI Detected a Strange Radio Signal From Proxima Centauri,” Anton Petrov YouTube Channel, December 19, 2020.</p>	
<p>Constructural Elements process:</p> <p>“Back in 2017, these scientists using so-called Pan-STARRS [Panoramic Survey Telescope and Rapid Response System] which was a fast response telescope used to detect certain objects like comets and asteroids, detected this unusual object known today as Oumuamua and years later we are still trying to figure out what exactly this was; today we might actually finally have a solution, a very sound scientific solution that does not involve aliens.</p> <p>But first of all, let’s actually talk about the shape of Oumuamua because what I’ve been showing you so far [the image on the screen] is this really unusual cigar-like shape but a lot of scientists really do not believe this was the shape at all, as matter of fact, a lot of new studies ... determined that the shape probably[was] ... a kind of a flat pancake-like shape or in some sense it also looks like basically a bar of soap after you use it for a very long time... but unfortunately because all of the illustrations so have been made using this [cigar-like] shape, I’m going to have to use this just to illustrate my point.</p> <p>So we know that this object came into the solar system moving at a velocity slightly lower than would be expected from a typical interstellar object. What this implies ... is that this object probably wasn’t really travelling for a very long time across the interstellar space. The suggestion here being that it’s maybe about 500 million years tops, possibly even less than that. We also believe that it originally entered the outer solar system roughly around the year 1605, so essentially in the beginning of [modern] astronomy, and it’s probably going to officially leave the solar system by the year 2430 moving at a speed of about 26.3 km/sec....</p> <p>But so far, nothing really makes this object unusual, but then something happened that the scientist didn’t expect, as they started to observe this object leaving the solar system, they realized that there was a slight deviation between the observed orbit and the expected orbit. Now, for comets that’s actually totally not unusual, we expect that comets as they emit a lot of material from their core generally start to change their orbit and trajectory just a little bit ... but what made Oumuamua different is that the cometary tail was not observed at all and so the trajectory here was changing yet at the same time the tail was not observed anywhere. And because of this, well that’s where [the extraterrestrial intelligence] explanation came from and honestly, at least scientifically, this still kind of doesn’t make sense because there are so many other better explanations...</p> <p>... And so, in other words, what the scientist in this paper imply was that it was actually a chunk of nitrogen ice, most likely separated from some distant Pluto-like object in another starsystem ... and those deviations from the orbit were very likely caused by the evaporation of nitrogen ice from the surface and it just so happens that as nitrogen evaporates, it doesn’t actually produce any kind of [comet-like] tails at all... and on top of this, because it was a chunk of ice from a dwarf planet, the implication here is that it was probably also a lot more reflective and thus the object was probably a lot smaller than we initially assumed. And by being so much smaller, the amount of emissions coming from the object were able to deviate its orbit a lot more than initially predicted ... a lot of observations of the orbital changes can be easily explained ...</p> <p>... Although for me personally, this explanation is more than enough, it provides all of the necessary answers and provides all of the explanations to everything that was seen in</p>	<p>Temporal Constructural Element, Epistemological Constructural Element, Symbolic Constructural Element and Ideological Constructural Element, 1 Constructural Elements, pp. 173-174, 175, 176-178, and 179-180</p>

this unusual object.” – Anton Petrov, “Oumuamua Finally Explained Using a Brilliant Analysis,” Anton Petrov YouTube Channel, March 18, 2021.

GGDM Commentary: Compare the foregoing to the questions asked by the *Constructural Elements*:

Temporal Constructural Element: “The first question we ask of anything in our world, is where did it come from, how did it get there, we want to know its history, its temporal lineage. So the first connection of any ‘other’ thing in our consciousness is to place it in our timeline, from the date of ‘discovery’ or appearance to what happened to make it be there (if and when we know) and what has happened since.”

- *In this case, we know when it was sighted or discovered, have backtracked to when it entered our system, projected when it will depart, and have a satisfying hypothesis of the origin and what happened in between. We have also fit it into our own calendar system.*

Epistemological Constructural Element: “The next question for any object in our consciousness is how we obtained knowledge of the object, what we can know about it, and how the object fits within the constructed knowledge of our world. Every consciousness must necessarily organize and place knowledge of the world into some sort of structure that is functional, internally consistent, and forms a worldview.”

- *We know how it was sighted or discovered, we have determined what we can know about it (absent the ability to physically intercept it), and have placed the object within our construction of the universe.*

Symbolic Constructural Element: “Abstraction is a key element of sapience. Experiences and events are reduced (edited) to memories, rules, summaries, points, regulations, codes, idols, icons, and symbols. Symbols are objects, often idols or icons that represent or stand for something else, an idea, image, belief, action or another person or object. ... Anything, any place, or anyone is capable of being made a symbol of something else or of a class or category of things, by highlighting certain attributes and dismissing or diminishing others. ... The act of choosing one thing over another, making a choice or decision, or elevating anything over another, is an act of discrimination, *an act of inequality*. Even comparing things requires making a judgment about qualities, such that modern cultural anthropology discourages comparisons of cultures. *Discrimination* is, by itself, a *neutral* term of cognizance.”

- The fundamental question here is ‘what does it symbolize’ or ‘what symbolic value do we assign’ to the object in question.
- *The ‘cigar shape’ image of Oumuamua sticks in our psyche probably because it reminds us of a phallus (a cosmic phallus...), the same reason why most starships in science fiction are phallic shaped when they don’t need to be... and so many people jumped to the conclusion that it must be an alien starship...*

Ideological Constructural Element: “In the final analysis, all things within our consciousness are fitted into a set of ideas, idealized conditions (or the extent to which the object in question departs from ideals and ideal conditions) and worldviews, and wishful thinking about our relationships to each other and the real universe around us. ... The ideology involved may or may not be overtly political, but nearly all ideology relates to politics, economics or religion (and the entanglements thereof); it would be difficult to imagine otherwise without significantly changing the meaning of the word ‘ideology.’”

<ul style="list-style-type: none"> • So the question of the Ideological Constructural Element is how does X object fit into our ideas about the world, our idealized conditions and worldviews? • <i>Oumuamua tested again the ‘ideals’ of science and modernity (as described in the next entry) against our understanding of the basest human behaviors and wishful thinking. The extraterrestrial intelligence explanation was rejected, the progenitor ostracized and ‘scientific community’ standards re-ratified, and the object was fitted into the worldview of the natural sciences, sans wishful thinking about starfaring extraterrestrial intelligences.</i> <p><i>Anton Petrov uses too many words and pauses and digressions, so I have to be careful in transcribing him ... but the point of this exercise is that in the end, he answered all of the questions asked by the Constructural Elements of the Oumuamua object and was personally satisfied with the answer, not seeking any other or alternative explanation.</i></p>	
<p><i>Loren Eiseley ‘small men’ in ‘big science’, Occam’s Razor:</i></p> <p>“But before I start, I actually wanted to briefly mention why we had this controversy and this unusual debate about the origins of this object [Oumuamua] and without going into details about the object itself, the only reasonable explanation for all of this is well, unfortunately, for lack of better words, scientific ego. The idea of wanting to be that one scientist discovering something absolutely extraordinary somewhere out there and being that first person to mention it, to provide proof for it, and to then basically be in the spotlight because of this ... now unfortunately in science this happens quite a lot. And also, unfortunately because of this, there are two main problems, one of the main problems with this is that eventually this causes the public to lose faith and to lose any kind of confidence in scientific discoveries, in the scientific community and in scientists in general. Second of all, the problem with this mentality is that this creates a kind of race to try to be that one person to discover something incredible so that you can be in a spotlight, which also often ends up in people making a lot of mistakes in the process, and then basically becoming a kind of pariah or just losing their job completely.</p> <p>Now, that’s not exactly what I wanted to focus on but it’s really important to understand that when trying to figure out what we’re looking at, it’s super important in science not to jump to conclusions, especially when those conclusions can be explained by any other reasonable means. And even though we all really want to believe in extraterrestrial intelligence and a lot of us are actually convinced the aliens are somewhere out there, trying explain a phenomenon that can be explained different ways by basically implying that it’s probably alien intelligence is actually a somewhat irresponsible thing to do, at least for scientists. ... but if you are in a scientific community it is extremely important to be very prudent in investigating your claims and in trying to avoid turning a hypothesis into an actual fact because that’s what’s been happening with a lot of new discoveries in the last few decades; Planet 9 here being the other culprit...” – Anton Petrov, “Oumuamua Finally Explained Using a Brilliant Analysis,” Anton Petrov YouTube Channel, March 18, 2021.</p>	<p>‘small men in big science,’ Loren Eiseley top Feature Quote, 1 Technology, p. 684</p> <p>Ideological Constructural Element, 1 Constructural Elements, pp. 179-180</p>
<p><i>Biomass, Gaia hypothesis, xenomicrobes, extremophiles, life on other planets, sub-surface colonization, Controlled Environment Technology (CET):</i></p> <p>“We’re going to be talking about something that’s actually underneath our feed, something inside the actual crust of our planet, something that we didn’t really know was even there. ... This is actually coming from a study called Deep Carbon Observatory where scientist for about ten years used various samples around the planet, drilled deep into and</p>	<p>Columbian Exchange and Xenomicrobes:</p> <p>‘Native Americans and small</p>

tried to figure out if they could actually find any life there. And as you can probably imagine, they found quite a lot of life, but they didn't really realize how much of it is out there. Turns out they discovered so many different bacteria so much ... carbon mass or biomass of different bacterial life that it really redefined our understanding of not only how much life there is underneath our feet, but it's actually most likely that there's more life underneath the ground than there is on the surface, or in the air of our planet. ... normally if you pick up a piece of earth, basically any kind of soil, you would find in a tiny, tiny 1 gram of soil approximately 50 million cells of various bacteria; this could be dangerous bacteria, this could be the bacteria that are actually good for you. Normally in water there's about 50 times less so if you take on milliliter of water from a lake or from an ocean, you'll about a million bacteria...

So we know there's a lot of bacteria around us, so pretty much everywhere you go or anywhere you stand ... no matter how hard you try to hide from it, there will be bacteria in there. But what the scientist drilled into earth and essentially very, very deep, up to about five kilometers deep, they kept discovering more and more bacteria as a matter of fact, a lot of it, and they even found it underneath the ocean crust as deep as three kilometers below the actual crust of the ocean. So essentially we found life ... in locations where we never expected to find it and when they ... compared it to samples here on the surface, they discovered that there was actually even more carbon mass down there and so the estimate right now suggests that there's like 23 billion tons of ... carbon material of actual living organisms down there. Now you may not ... realize how much this is... but just to give you a comparison, if I were to take all of the humans together, and if we were to combine 7.6 billion people into one single mass, you would get about 100 million tons of carbon. This is ... 200 times more in mass of humans ... all of the domestic animals like cows, sheep and so on, if you were to combine them together, you get about seven times more than humans, so 700 tons, but that's still way, way less than 23 billion...

And this also implies that if you look at all of the bacteria present on our planet, about a third of it lives underneath our feet, essentially inside the planet Earth. And this groundbreaking discovery also suggests that we have a huge chance now of finding life on Mars, or really, inside Mars. ... And this also means that we really underestimated life in general, we didn't really think it could survive in these conditions and it totally can and can totally thrive there, not just survive, but actually have a blast down there underneath our feet.' – Anton Petrov, "Scientists Discover Huge Bacterial Biomass Inside Earth," Anton Petrov YouTube Channel, December 13, 2018.

GGDM Commentary: Somewhere, Dr. Lynn Margulis is smiling from ear to ear. Although player races in GGDM won't be looking for bacterial life, it will be looking for them on almost any planet where they might land and find 'habitable' colony sites. This is a strong angle that the Concierge can introduce or play into the game, the more 'habitable' a world is for player races, the more likely it is already inhabited by kilometers of bacteria and extremophiles underneath! Some are good, some are bad, and all of them are just plain ugly.

- Wow, I seem to have at the end of this project come full circle: In 3 Taxation & Census, I mention in parens that life has been found 5 km below the Earth's surface (on p. 317). That strongly suggests that I watched this video within a year of when it first appeared on YouTube because GGDM was finished and copyrighted

pox,' John Winthrop Feature Quote and Bad Exchanges, 4 Expansion, p. 924 and EN 6, p. 930

The Black Death, 1 Disruption, p. 252

'xenomicrobial transmission between colonies,' Pangalactic Pornography, 5 Beginnings, p. 53

'ending of War of the Worlds,' EN 11, 2 Disruption, p. 280

'small pox retention debate,' EN 12, 4 Diplomacy, p. 1152

'microorganisms in space,' George Dvorsky Feature Quote, 1 Expansion, p. 885

'fungi nearly wrecked Mir,' EN 4, 2 Movement, p. 853

CET:

Wagon Train to the Stars, 1 Expansion, pp. 878-879

The Landing, 4 Expansion, p. 920

The Air that I Breathe, 3 Taxation & Census, p. 315

<p>in May 2020. But the issue came back around and I remembered the biomass discovery video in April 2021 when I connected the discovery to the Gaia hypothesis. Thus it is included here.</p> <p><i>See also, 'bacteria has been found 5 km below the surface,' Planet Narn, 3 Taxation & Census, pp. 316-317, massive subterranean cities, Day World, pp. 315-316, and 'extremophile bacteria in volcanos,' Robin Andrews quote, 4 Taxation & Census, p. 329.</i></p>	
<p>Pisenti, Joseph (RealLifeLore YouTube Channel)</p>	
<p><i>Human appreciation of scale and distances:</i></p> <p>“To say that the Pacific Ocean is huge would be a huge understatement [video points out that if you drilled straight through the Earth from just off the coast of Chile, you’d emerge in the China Sea just off of Vietnam and still be in the Pacific Ocean!] But the longest continuous stretch of water spans between the islands of Indonesia and the coast of Columbia; this stretch is nearly 19,800 km long. This is such a huge distance you could fit the entire diameter of the moon between it. Actually, you could fit five moons in this distance. ... The Pacific Ocean takes up about 1/3 of the planet’s surface. ... The surface area of every continent in the world, combined ... and even throwing in Greenland just for good measure, is only 148 million square km, this means you could fit every single continent in the world together inside the Pacific Ocean and still have millions of square km left open. ... Let’s pour the Pacific Ocean over Mars. Eventually, you’ll submerge all of Mars’ 145 million square km of surface area ... The Pacific Ocean is 20 million square km larger than the surface area of Mars. ... Indeed, the Pacific isn’t just huge across, it’s huge below; it’s the deepest of any of Earth’s oceans. The Challenger Deep Trench in the Marians Trench is the deepest point in the world ... plunging nearly 11 km beneath the waves. ... and the mean depth across the pacific is over 4,000 meters.” – Narrator (uncredited), “The Pacific Ocean is VASTLY Bigger Than You Think,” RealLifeLore YouTube Channel, December 15, 2020.</p>	<p>‘modern divinity,’ Groundhogs and EN 1, 2 Movement, pp. 848-849, 852</p> <p>TV Tropes quote, 1 Stardrive, p. 781</p> <p>How It Moves, 2 Stardrive, p. 794</p> <p>Scale Creep, 4 The Streams of Time, pp. 98-99</p>
<p><i>Calendars discussion, time discussion, solar-lunar calendar system, human circadian rhythm, time represented by Regular Turns, Combat Rounds and Turn Cycles in GGDM:</i></p> <p>“Of all of the planets in our solar system, Mars is the one that appears to be the most habitable. Relatively speaking, it’s not too cold, it’s not too hot, and there is even a day and night cycle that is actually quite similar to our own, which means that timekeeping on Mars is actually somewhat close to what it is on Earth. But in many ways, it’s also starkly different and that’s a problem that astronauts and colonist in the near future are going to have to face. The question is, how exactly close is the Marian time scale to Earth’s and will astronauts visiting Mars in the near future be forced into a completely new dimension of time?</p> <p>Perhaps first, it is important to discuss what time even is at all? Time, when you think about it, is sort of a strange concept. In its most basic form, time is essentially just the progress of existence that appears to occur in an irreversible succession from past to present and on into the future. ...</p> <p>The problem that no ancient timekeepers ever thought about though is how would this system work among humans living on another planet? The system we all know of 24 hours in a day and 60 minutes per hour is specific to our current planet. So, how could a system like this that we already have end up correlating to Mars or rather why even come up with a new system at all if the current one works just fine? The problem with doing</p>	<p>Calendar Civilization and EN 11, 3 Dreamtime, pp. 166-167, 170</p> <p>‘circadian rhythm,’ EN 19, 5 Taxation & Census, pp. 350-351</p> <p>‘defining time,’ Aristotle and Derida top Feature Quotes, De Re, and Metaphysics of Presence, 1 The Streams of Time, pp. 74-75</p> <p>‘Pontifex Maximus,’ A Story in Unreal Time Scale, 4 The</p>

that is that Mars rotates at a rate 2.7% slower than Earth, meaning that the Martian day is actually somewhat longer, but before jumping to the full day, let's begin with the smaller unit of time, the second. A second is really just a human-perceived derivative of a larger time and as a result, would be the exact same on Mars as it is on Earth. In fact, the precise measurement of a second is known as the atomic second, which is exactly measured as 9, 192,631,770 vibrational periods of a Cesium 133 atom, this obviously still applies on Mars, so seconds are good. But next up is where things begin to get a little more complicated.

Before moving onto what a minute is, it is first important to understand exactly what a day on Mars is like and to do that, we need to understand exactly what a day is. A day on any planet is the time it takes for the planet to rotate once on its axis relative to the sun. ... While an Earth day is roughly 24 hours, or specifically 23 hours and 57 minutes ... a Martian day ... is exactly 24 hours, 39 minutes and 35 seconds long in Earth time. Now, going back to what a Mars minute is, a Mars solar minute will be 1/60th of a Mars solar hour. And a Mars solar hour will be 1/24th of a Mars day. So, after doing some quick math, we can determine that a Mars is actually equal to one minute and one and a half seconds of Earth time and a Mars hour is actually equivalent to 1 hour, 1 minute and 39 seconds on Earth. Who wouldn't want to have a little extra time in the day after all?

Now, the next unit of time ... would be the month. On Earth, we use the moon to define this length of time as it takes 29 ½ days to complete the lunar cycle, which conveniently breaks the year down into roughly twelve equal parts. However, on Mars it's not quite that easy. Mars actually has two moons, Phobos and Deimos, and these moons are almost nothing like ours. Phobos ... orbits just 3,700 miles above the surface ... and whips around it three every ... day, and Deimos ... while it is more distant, it still only takes 30 hours. Now, unless we wanted to have literally hundreds of months in a year, using these moons as a relative reference is just not going to be practical. And therefore, it was determined that it would be best to just divide the Martian year into 12 equal parts ... just like we do on Earth, thus granting a relationship for the Mars month and the Earth month to be much closer together.

But where it really starts to get crazy, however, is when we add up these months and begin to compare the Earth year to the Mars year in its entirety. In astronomical terms, a year is the time it takes for a planet to make one trip around the Sun. While the Earth takes roughly 365.25 days to make this journey, hence the leap year every four years, the Mars year is nearly double that time at 687 Earth days, or converted to Mars days, 6669. But what really makes a difference in the time on Earth vs. the time on Mars is the actual orbit ... the Earth orbits around the sun in a nearly perfect circle ... meaning that no matter what time of the year it is, the distance between the Earth and the Sun remains much the same, and thus has no effect on temperature. Instead the seasons on Earth change primarily from the relative tilt of the Earth in reference to the Sun. However, Mars has what is known as an eccentric orbit meaning that in some months it is much closer to the Sun while for others it is much, much further. And while this may not seem like a huge deal, it is going to make for some rather long and brutally cold winters.

So with all of this being said, what time ... is it on Mars right now and does Mars even have an exact date? Well ... yeah, for the purposes of enumerating Mars years and facilitating date comparisons, a system has already been developed by the Space Science Institute to perform this duty. This system, although not officially adopted yet, is becoming increasingly used, especially by recent Mars exploration rovers. It suggests that Mars

Streams of Time, pp. 102-103

'time travel and calendars,' Crossing the Rubicon, 1 Temporal Technology, p. 801

'Easter and the Gregorian calendar,' Time to Get Medieval, 3 Temporal Technology, p. 830

'definition of a Regular Turn and Turn Cycle in GGDM,' Buzzing Lightyears, 4 The Streams of Time, pp. 101-102

year one occurred on April 11, 1955, Earth time, at the point of the northern spring equinox, shortly before the great Martian dust storm of 1956 which was observed by astronomers here on Earth. Thus, for reference, as we celebrate the New Year here on Earth on January 1st, 2021, Mars will be nearing the end of year 35, with new year 36 finally occurring here on earth on February 8, 2021.

As humanity continues to reach further and further out into the solar system and beyond, it will become necessary to adopt new ways of telling time, just like on Mars. While early Mars rover systems used a relatively primitive time system where they would literally just pause their clocks at midnight for 39 minutes in order to account for the time difference, more recent rover missions have begun to use what is known as Mars Universal Coordinated Time or MUCT. MUCT is very similar in nature to how Universal Coordinated Time or UTC works on Earth. It is defined as the mean solar time at Mars prime meridian, much like how Earth has a prime meridian marking for which UTC is based off of, Mars has a meridian that was first proposed way back in 1830 ... and is marked by a crater known as Airy-0 which is sort of funny because this was ... 50 years before the Prime Meridian was established and agreed upon on Earth at the International Meridian Conference...” – Narrator (uncredited), “The Bizarre Way We’ll Keep Track of Time on Mars,” RealLifeLore YouTube Channel, December 26, 2020.

GGDM Commentary: Human time is all relative and somewhat arbitrary. Yes, we can pick out a regular astronomical object and reason our way from it, but it’s still somewhat arbitrary in the end, and the process has been working backwards to define what had already been arbitrarily determined as units (example, the second). The value of this discussion is to see how native intelligent life and human settlers might devise local timekeeping systems just like our ancestors did on Earth, for example, natives of a place like Mars or distant Earth colonist descendants might not have ‘months’ but rather a dual system based on the orbits of Phobos and Deimos. Because, why wouldn’t they? But what about the human internal clock or circadian rhythm? That would present a problem, being hard or impossible to change, and in conflict with the rotation rate of the colonist new planet home.

Sub-light travel, light speed and scale, communications lag, local autonomy and AI Scouts, colony political and socio-culture drift and isolation, definition of an instant in human terms:

“Light is about the fastest thing that you can possibly imagine, think about how fast it seems when you turn on a light switch in your room and you see it instantly fill with light. Or when you shine a flashlight on something and the light immediately appears on whatever you are shining it on. It feels instant; because of our scale light moves so quickly that it might as well be, but when you move out beyond our scale, light gets slower and slower to the point where it quickly seems to more resemble a snail rather than ... light speed. Here’s what I mean: Light on Earth seems really, really fast because Earth is small; light travels at a speed 299,792,458 meters per second when in a vacuum, which is fast enough to completely orbit the Earth more than seven times in single second...

When you flip a light on inside your room, the light probably moves fast enough to reach across the entire room in just 1/500,000th of a second which, to mere human eyes, basically feels instant. This is why instant communication on the internet between any two people on the Earth’s surface is possible, because the Earth is a small enough place to where light speed basically does mean the same thing as instant, but that all changes

Communications Breakdown, *et seq.*, ‘pre-modern Naval communications,’ Contre-amiral Rémi Monaque Feature Quote, and Creaky Communications, 1 The Streams of Time, pp. 76-79
 ‘Mars Rover communication lag, local AI,’ Imperative Game, 1 Reformation, p. 1382

drastically when we zoom out just a little far away from the Earth and get out into the rest of the universe.

Far from being instantaneous, it takes light 1.255 seconds to cover the distance between Earth and the Moon, which has all kinds of weird implications when the Apollo astronauts were there... Communicating with someone on the Moon is still easy when compared with somewhere else like, say, on Mars... In the future when we have colonies with thousands or even millions of people living on Mars, the sheer distance away that Mars is going to create lots of weird and interesting communication problems since Earth and Mars have different orbits around the Sun. Mars varies pretty drastically; her distance from the Earth on the close end, it takes light just over three minutes to cover the distance, which isn't bad, but on the far end, it'll take 22 minutes and 24 seconds, which makes instant communication impossible... And that's the quickest response possible, so nobody should really get upset after not getting a reply for a while from a Martian. This is going to become a big problem in the future and I suspect it's going to cause human civilization on Mars to gradually feel more and more isolated and separated from Earth.

Light just keeps getting slower and slower and slower the farther we move away from Earth. The time it takes light to reach Jupiter from Earth is anywhere between 33 to 53 minutes, meaning that when NASA has a probe in orbit, they have to wait for around 2 hours sometimes just to process information and send instructions to correct a potential navigation error, meaning that light speed instructions are sometimes too slow to arrive in time to fix the problem. Even light from the Sun takes a while to reach us here on Earth, generally around 8 minutes on average...

And just forget about trying to maintain instant communication at the outer reaches of the solar system on Pluto because it takes light over five hours to get there from Earth, and keep in mind that everything we've talked about so far is just within the confines of our own solar system. So light gets even slower when we get even farther out. The nearest other star to our Sun, Proxima Centauri is 4.24 light years away from Earth, meaning, yeah, it would take 4.24 years for light from Earth to reach it. So just imagine ... a single message between the colony and Earth would take almost a decade to achieve... To truly appreciate how insane that is, if there were a human colony on a planet there right now, they would only just now be hearing about news and memes from 2015. Do you even remember what was going on back then? Boeing had just unveiled the 737 Max, Obama was still the U.S. President, Brexit hadn't been voted on yet ... and people were still arguing over what color that stupid dress was ... so this would be the current state of our planet that would be reaching the residents of Proxima Centauri B. In the future, it will take 8 ½ years just to get a response from somebody there after you send them a message. If humanity's life expectancy remains around 80 years in the future, you'll only be able to share a maximum of 9 messages in your entire lifetime with somebody who lives around Proxima Centauri B and that's what the fastest form of light speed communication looks like with just the closest star to use in the universe, let alone the billions and trillions of stars and planets that exist even farther away.

The speed of light is even slower than you think it is and it's too slow for our grander ambitions in space..." – Joseph Piseni (narrator), "Why the Speed of Light is Actually Horribly Slow," RealLifeLore, March 14, 2020. (*Joseph Piseni is identified on his Instagram account with a picture.*)

GGDM Commentary: *This has weighty implications if you think that 'advanced' extraterrestrials are observing us and intervening in our civilization ☺ ... it means they are*

'quantum entanglement,' Speed of Bad News, 4 Movement, p. 873

'planets available within sub-light speed range,' Realspace, 2 Expansion, pp. 901-902

Human Drift-course, 3 Entropy, p. 246

Dust Motes, 4 Expansion, p. 920

A Slavey to Starships, 3 Order, pp. 552-553

Lightspeed and Scale:

'human sidereal stage,' Stage Illusions, 1 The Sidereal Stage, pp. 107-108

FTL x 10,000 LY, *et seq.*, 1 Movement, pp. 836-838

Groundhogs, 2 Movement, pp. 848-849

Scouts and Artificial Intelligence (AI):

'AI scout ships and First Contact,' Imperial Interstellar Scout Service, 3 Movement, p. 855

'drone fighters,' Web of Night and

<p><i>already here and operating autonomously from their government or that they have developed a means of FTL communication. Consider for example, that it took seven to twelve weeks to sail from Boston to London in the 18th Century, news of the Battles of Lexington and Concord, which occurred on April 19, 1775, reached London on May 28, 1775. As General Howe arrived at Boston with reinforcements on May 25, 1775, he was already en-route at the time of the battles, and shortly engaged the besiegers at the Battle of Bunker Hill on June 17th while London was still figuring out what to do. Interestingly, testimonial documents from the Massachusetts Provincial Congress were printed in a London newspaper two weeks before British Commanding General Gage’s vague report arrived in London. Predictably, London blamed General Gage for starting the conflict, instead of their own policies and acts.</i></p> <ul style="list-style-type: none"> • What is an ‘instant’ (or even a moment) is a subject that I recall being discussed at length in a college philosophy course more than 20 years ago; for example, we talk about the ‘instant’ or ‘moment’ of death, what does that mean, how fast is that? As the quote above suggests, that is probably, concretely, about 1/500,000th of a second. 	<p>EN 17, 2 Colleges, pp. 477-478, 485-486</p> <p>‘gas drone in Battlefield Earth,’ NBC – Nuclear, Biological, and Chemical Warfare, 4 Combat, pp. 997-998</p> <p>Imperial Admiral Eurisko, 4 Colleges, p. 512</p> <p>Artificial Persons, 2 Diplomacy, p. 1114</p>
<p>Pran, Dith</p>	
<p><i>Dith Pran, AP/Reuters March 2008 interview shown in The Last Word: Dith Pran, Survivor of the Killing Fields, Dies at 65 (2013):</i></p> <p>“So I witnessed the crisis, the killing field because the Khmer Rouge, ah, you know, kill and starve and torture people to death. Millions of people. ... In order to survive, you have to pretend to be stupid because they don’t want you to be smart. They think that the smart people will destroy them. And you, ah try to show that you are not a threat to the regime. ... [punishment for stealing food while starving, narrowly escaped execution, was released] In that scene it happened to me because they feel that I’m innocent. I get captured because I steal something because I was starving to death. As a human being, people cannot allow you to starve and die, so he tolerate us. That’s what happened in the middle of the night, they start to release me and put me in freedom. ... I promised myself if I survived his killing field, I wouldn’t stop talking about this kind of crisis ... [The Khmer Rouge recruited and indoctrinated children as spies, soldiers and executioners] They are good children, they are bad children. The bad children you cannot blame them because they took them and brainwash them ... So I figured out to remind the people that not only adult suffer, the children of Cambodia killings suffer tremendously too. ... My job, want to remember that please everybody must stop the killing field, not allow this exist again. One is enough. Too many. One time is too many. If they can do that for me, my spirit will be happy.” – Dith Pran, interview in hospital, 2008.</p> <p><i>From the movie, The Killing Fields (1984), fictitious movie narration by Dith Pran character:</i></p> <p>“They tell us that God is dead. And now the Party, they call the Angka, will provide everything for us. He says, Angka has identified and proclaims that the existence of a bad new disease, a memory sickness like those that think too much about life in pre-revolutionary Cambodia. He says, we are surrounded by enemies. The enemy is inside us. No one can be trusted.” – Dith Pran (movie narration).</p>	<p>Khmer Rouge:</p> <p>Getting Along, 3 Commerce, pp. 1209-1210</p> <p>EN 4, 2 Disruption, p. 279</p> <p>EN 1, 3 The Big Bang, p. 20</p> <p>EN 3, 2 Special Operations, pp. 1304-1305</p> <p>‘Pol Pot,’ Dissonance, 2 Reformation, pp. 1392-1393</p>

<p>“We must be like the ox, and have no thought, except for the Party. And have no love, but for the Angka. People starve, but we must not grow food. We must honor the comrade children, whose minds are not corrupted by the past.” – Dith Pran (movie narration).</p> <p><i>GGDM Commentary: On Christmas Day, we celebrate the torture and execution of one man. If that strikes you as twisted, it is. A public execution was turned into a celebration 2,000 years ago because it is claimed that he is the son of God (or maybe God, who knows, they argued about it and executed more people over it for centuries) and his execution sent him back to his daddy in heaven and somehow that translates into salvation for the world, or at least for the believers (see the Harrowing of Hell problem); Christianity has been rather selective and inconsistent on that point. Are you ill yet? Through endless repetition and reiteration, Christmas has dulled and deprecated in the last centuries to a vaguely religious, mostly secular mid-winter holiday for children and family, the only actual hope of the world. Rather fitting.</i></p>	
<p>Ready, Christian</p>	
<p>Research & Development, Colleges, use of Enlightenments in Technology Power activations:</p> <p>“It may seem a little strange to even be talking about the next generation of space telescopes when the James Webb Space Telescope is a decade behind scheduled, has blown way past its original budget and it hasn’t even launched yet. But large-scale projects take well more than a decade to go from concept to first light even under the best of circumstances. That’s why the National Academy of Sciences brings together the astronomical community to produce the Decadal Survey on Astronomy and Astrophysics. The Decadal Survey sets the scientific priorities in astrophysics for, well ... the next decade. But it’s more than just a glorified wish list. Congress makes budgeting decisions based on them. Missions like Chandra, Spitzer, James Webb and Roman were all given top priority in previous Decadal Surveys.” – Christian Ready, “4 Future Space Telescopes NASA wants to build,” Launch Pad Astronomy YouTube Channel, June 13, 2020.</p> <p><i>See also, ‘enlightenment’ in R&D: Schrödinger’s Cat and The Kitty Incident, 2 Technology, pp. 702, 708.</i></p>	<p>‘budgeting in R&D,’ Black Hole, Big Money, Big Nothing, Development Fund, 2 Technology, pp. 702, 704, 707-708</p> <p>‘use of enlightenments,’ College Bound and Mission, 1 Colleges, pp. 456, 458 and Pool of Radiance, 2 Colleges, p. 477</p>
<p>Exoplanets, Scouting, planet Habitability Class distribution:</p> <p>“Number 1 – the Habitable Exoplanet Observatory or HabEx. HabEx’s primary mission is to directly image and characterize Earth-like exoplanets for the first time. Thanks to the Kepler mission, we now know that virtually all stars host at least one planet and as many as 20% of those planets may be Earth-like. But of the 6,000 exoplanets detected so far, only a handful have been directly imaged. ... [Number 4 - LUVOIR] But an Earth-like planet is ten billion times fainter than its host star. That makes exo-Earths among the faintest objects we have ever detected. ... One of LUVOIR’s science goals is to find out how common Earth-like exoplanets are. That means surveying as many systems as possible to build up reliable statistics. LUVOIR-B’s 8-meter design is expected to yield somewhere around 28 habitable candidate planets. That just enough to achieve statistical significance. However, LUVOIR-A’s design should yield around 54 habitable candidates. That exceeds the minimum statistical requirement and provides a margin against uncertainties. It would effectively answer the question “Are we alone?” – Christian Ready, “4 Future Space Telescopes NASA wants to build,” Launch Pad Astronomy YouTube Channel, June 13, 2020.</p> <p><i>See also, Everyone Has a Venus, 4 Taxation & Census, pp. 328-329.</i></p>	<p>Looking Through, 2 Expansion, pp. 900-901</p> <p>Exoplanets, 2 Diplomacy, p. 1116</p> <p>‘Drake Equation,’ EN 6, 6 Beginnings, p. 67</p> <p>‘exoplanets and religion,’ Cardinal Baronius, 2 The Sidereal Stage, pp. 117-120</p>

<p><i>Observation & Reconnaissance, detection abilities in GGDM, order of magnitude:</i></p> <p>“Whereas Chandra uses four shells of grazing incidence mirrors, Lynx will use 12 metashells of densely packed thin mirrors made of multiple smaller modules. This makes Lynx 100 times more sensitive than Chandra. That will allow Lynx to image very faint X-ray sources that are below Chandra’s detection limit. ... Lynx’s sensitivity will allow it to work much faster while probing far deeper into the X-ray universe than any previous mission. A single 100,000 second exposure with its High Definition X-Ray Imager will see deeper than the 7 million second Chandra Deep Field. This detailed image of Kepler’s Supernova required nearly 9 days of Chandra’s observing time. Lynx will create an even more detailed image over a wider field of view in just a few hours. ... As proposed, Lynx would have a hundred-fold increase in sensitivity. Sixteen times the field of view. Eight hundred times the survey speed. Ten-to-twenty times the spectral resolution. <i>Lynx isn’t incremental – it’s transformational.</i>” – Christian Ready, “4 Future Space Telescopes NASA wants to build,” Launch Pad Astronomy YouTube Channel, June 13, 2020 (emphasis added).</p>	<p>ABBA Arrival, Private Eyes, and Taking It All Down, 2 Information, pp. 1340-1341, 1342-1343</p> <p>Riding the T, 3 Temporal Technology, p. 828-829</p> <p>Battle of Churchill Sol B, 2 Carriers & Fighters, pp. 1061-1062</p>
<p><i>Enhancements, Resupply via Log Ship, especially of Defense Bases in Combat:</i></p> <p>“But unlike JWST [James Webb Space Telescope], LUVUOIR is serviceable and upgradable thanks to its modular design. It will carry 10-years’ worth of consumables that can be replenished [via robotic spacecraft]. Non-serviceable components are designed to last at least 25 years.” – Christian Ready, “4 Future Space Telescopes NASA wants to build,” Launch Pad Astronomy YouTube Channel, June 13, 2020.</p> <p><u><i>GGDM Commentary:</i></u> <i>Note that resupply and upgrade by robotic spacecraft are features of all space telescopes being designed for the 2030s. This is thanks to commercial lift capabilities, see discussion Predecessor Technologies, 3 Patents, p. 751-752.</i></p> <p><i>See also, Continuous Operational Technology and Enhancement Technology, 2 Patents, pp. 740-741.</i></p>	<p>Costly Resupply and Transfers, 3 Construction, pp. 679-680</p> <p>Combat Resupply and Great Hsi-Ku Arsenal, 4 Movement, pp. 868-869</p>
<p>Reickhoff, Paul</p>	
<p><i>Service vs. Business:</i></p> <p>“You know, some people have said ‘the Post Office is not profitable’ and you hear the President talk about this a lot. You know what else is not profitable? The Marine Corps, the Army, the Department of Defense, because we don’t care if they are profitable, we care if they get the job done. And that is how the Post Office must be thought of as well; the Post Office is not about profit, it’s about delivering what America needs.” – Paul Reickhoff, Morning Joe, MSNBC, August 24, 2020.</p> <p><i>See also, Natural Assumptions, 4 Taxation & Census, p. 327.</i></p>	<p>‘Colony domestic subsistence,’ Resources, 2 Taxation & Census, p. 301</p>
<p>“Ric” (Certifiably Ingame YouTube Channel)</p>	
<p><i>Americans in Rubber Suits, players will probably treat all GGDM species as humanoid or human population, Hox Genes:</i></p> <p>“Why are so many aliens across so many franchises humanoid, and sometimes, even just human looking? Well, because it’s easy for the make-up department. Alright fine well, joking aside, it really is, plus it’s easier to make a compelling narrative when the features of a race reflect us; we can read their emotions, see their body language, and empathize with them in a way that’s hard to do with a generic blob monster. But, if you know this channel, then you know that the normal boring explanation won’t satisfy me in the least</p>	<p>‘participants will probably treat all game population as human,’ The Great Abacus in the Sky, 3 Taxation & Census, p. 314</p>

<p>so let's dig into the lore reasons why some of the most iconic sci-fi races are just humans with silly foreheads.</p> <p>Well, for a start, there are the common themes of evolution. We evolved from prey, we walk on two legs because it gives us a greater view of our surroundings, better to spot danger, we have our heads at the top because it's where we keep our senses and our brains close behind them to quickly interpret those senses. We're intelligent because as prey, we needed to outsmart our predators rather than overpower them. It stands to reason that lifeforms on similar worlds would evolve in the same way to a degree; the smart life is likely to be the prey that got smarter and it wasn't prey anymore. That still doesn't cover all the bases, surely there's other evolutionary paths to consider...</p> <p>[Narrator then runs through creative science fiction lore explanations from Star Trek, Mass Effect, Dr. Who, etc., he notes that Mass Effect's range of aliens is wider than others, for example, having an 'uplifted jellyfish' race]</p> <p>Another idea is the God theory, the idea that there is in fact a mystical force that we don't understand that permeates creation. Often this is interpreted as the progenitor race idea, but sometimes it's simply as it sounds: All life was created by a design, by a truly omnipotent one or not. This theory has the added benefit of washing away complicated scientific ideas and replaces it with 'because it is.' Often this opens the way for more philosophical questions about the nature of life and the meaning of existence in an almost infinite universe..." "Ric" (narrator/creator with a British accent), "SciFi Reasons for Humanoid Aliens," Certifiably Ingame YouTube Channel, June 3, 2017.</p> <p><i>GGDM Commentary: This is the half-serious flip-side argument to those of Neil DeGrass Tyson and others that aliens would not be 'little green men' or like anything we'd recognize from Earth. The writer is smart enough to recognize that even the 'prey' evolutionary argument does not guarantee aliens that look like humans, have five protrusions from the a central trunk, etc.</i></p> <ul style="list-style-type: none"> • Ric also inadvertently points out what is wrong with Star Trek and the difference between Star Trek-like writing and Babylon 5: The big reveal in Star Trek TNG "The Chase" of the reason why all aliens species are 'humanoid' is just a one-off story that has no implications for the rest of the Star Trek storyline or universe and is probably never mentioned again, whereas in Babylon 5, it would have been the central mystery theme of the entire series, played out over five seasons with all implications. Now, the question is, which type of sci-fi do you prefer? Pre-fab throwaways or solid oak furniture? 	<p>'Americans in rubber suits,' Tsunami, 2 Kair-otic Moments, pp. 1434-1435</p> <p>Hox Genes and Tools from Toddlers, 1 Technology, p. 685</p> <p>'Babylon 5 series writing,' see Anthony Leong quotes, 1 Entropy, p. 219, 2 Entropy, p. 238, and 1 Culture, p. 353</p>
<p><i>Interstellar Government, Structural Government Titles, Planetary Government and local interests, Power Activation rolls for planets and ships to obey, cultural drift, Noblesse Oblige, Conflict Checks, Interstellar "High Laws," a higher power enforcing diplomacy and commerce, power-preserving cynicism, who is making First Contact?:</i></p> <p>"With all of the advancements and advantages that come with joining the Alpha Quadrant power, the United Federation of Planets, why wouldn't a species want to join? ... but we're here to play Devil's Advocate. So to begin with, there is often a lot of misconception about how militarized and rigid the Federation is; this stems in no small part, from its own processes. Starfleet, by its very nature is often the first point of contact with a new alien species and as the Federation's largest fleeted organization, often acts as courier, ambassador and enforcer... Starfleet is itself run in a militaristic fashion, complete with uniforms, ranks, designation and serial numbers, and as many species' only refer-</p>	<p>Structural Government Titles, <i>et seq.</i>, 2 Government Titles, pp. 595-597</p> <p>'Power Activation failure checks,' Power Off, <i>et seq.</i>, 2 Constructural Elements, pp. 193-195</p>

ence point for the UFP, shapes their entire experience of the group. Plus a very high percentage of Starfleet is human, with many of its assets, Utopia Planetia, Starfleet Academy, all being in the Sol system. So this adds to the notion that the entire Federation is a human-centric organization, so these opinions may dissuade many from approaching the UFP with membership in mind, but there are some very real reasons to abstain, leave or even oppose this power too.

The first and biggest option that comes to mind is probably the most obvious reason to steer clear; joining the Federation means committing yourself to a higher authority. Although the laws set out in the Federation Charter try to outline a way of life that protects individual liberties and the freedoms of a planet's native government, the laws it created to enforce this are not optional in most cases. Now, a lot of these rules simply boil down to 'don't disrespect other cultures' – well that's a fairly obvious conclusion for a fledgling interstellar power to come to by themselves. Angering another species isn't exactly conducive to creating diplomatic ties, but why would you need an entire higher governmental structure to tell you to do that?

The red tape that inevitably surrounds things like trade and commerce in Federation space, while ruling out smuggling of sentient organisms, prohibits the exchange of many other items. Legitimate traders often find themselves on the receiving end of inquisitive Starfleet vessels, adding delays and costs to their schedule... If your government has ties with organizations such as the Orion Syndicate, you can expect strict regulation in Federation involvement if you were a member, potentially severing ties with the entire syndicate because of the more unjust aspects to their business practices. In theory the UFP doesn't tell you which governments you can ally with, but in practice?

This highlights a much larger problem too; the Federation is 217 years old and it has made a lot of enemies. They cite security and unification as one of their principles but have come into conflict with almost every other major political power in the Alpha Quadrant. [discussion of the Romulan-Earth conflict] ... An enemy you would inherit if full Federation membership was attained. [discussion of the Cardassian Union and the Dominion] ... And it's not an isolated story. The Federation-Klingon war, the Borg making a beeline straight for Sector 001, bypassing all those defenses? Even technologically limited species such as the Talarians view the Federation as an enemy force, having frequently ambushed and destroyed its far superior adversaries. Does this paint a good image of Starfleet, the Federation's security force? How are they to protect all of their member races, especially those on the frontier of its territory?

Bajor was considering Federation membership after driving the Cardassians off its homeworld and eventually their petition would be accepted, however, when the Dominion showed up, Benjamin Sisko suggested that the Bajorian people sign a non-aggression pact with the Gamma Quadrant power, otherwise they would be considered an enemy by association. Starfleet and the Federation have at their disposal many advancements in technology, not just militaristic, but medical, agricultural and general shortcuts like replications, holosuites and transporters, and the preach cooperation and they share this technology, but where were they while Bajor was under Cardassian occupation? Would the Prime Directive forbid their interference? Sure, Bajor ended up benefitting from the Federation's assistance after their culture had been irreparably damaged by the boot of its occupiers, but they ended up a UFP member so the Federation could seem to be simply be serving in its own interests.

The Federation offers up humanitarian aid, routinely, but will also stand by and watch entire civilizations potentially die off if they don't meet the standards for intervention.

Cultural Drift, 3 Entropy, p. 246

Who is making First Contact?:

Alien Persons and Stakes, 2 Diplomacy, pp. 1110-1111, 1114-1115

Why Not Again, 4 Diplomacy, p. 1142

Interstellar Powers:

'High Laws of the Imperium,' Traveller RPG Wiki Feature Quote and The Power that Preserves, 1 Government Titles, p. 579

'higher power to enforce commerce and diplomacy,' Feature Quotes and Between Nietzsches & Xhosa, 3 Government Titles, pp. 619-620

'power preserving cynicism,' Dave Nilsen Feature Quote and Artifice, 2 Structural Elements, pp. 191-192

Planetary Government in GGDM:

'GGDM does not deal directly with planetary governments,' AI

Either way, could you do that? Stand by and watch as a species suffered through a crisis while you had the means to help them? On the flip side, you may not want to render aid to another species but due to the Federation's increasingly complicated and flexible-when-it-suits them humanitarian laws, you are forced to, your planet's resources diverted to a relief effort that is beyond your control. Or perhaps you'll simply have to give up your own land to the enemy as part of some peace treaty. This is what happened to the Marquise, Federation citizens who were forced to concede their entire planets to Cardassian control at the end of the Border Wars. Despite Starfleet having rules against forced relocation, this was in essence what it was suggesting the colonist do. Their complaints fell on deaf ears and in the end they rebelled against the UFP. They were then disowned by Starfleet entire and branded traitors, engaging in their own campaign to liberate their homes from Cardassian control. Many of the Marquis are able to wage this guerrilla war because they were Starfleet officers who defected.

This proves one thing, despite the unity and harmony that the Federation ideals present, it's people on the ground level are just as divided as any. Many of the criteria for joining the United Federation of Planets encourage diversity, but the fear of losing one's cultural identity is still a very real one. Sure, the UFP doesn't force homogenization but by its nature as an interplanetary alliance, there's going to be an exchange of societies, goods and ideas and some cultural contamination is inevitable. Not saying that this is a good or bad thing in and of itself, but perhaps simply an unforeseen or unwanted side effect. A planet's culture too may not be adaptable enough for the Federation who frowns upon any caste-based societal structure, even if it's integral to your way of life. This would bar you from membership in the UFP altogether; your culture's philosophies may simply be incompatible with those of the Federation.

Just ask the Klingons. Their civilization is thousands of years old and they are regulated by their 24 great houses, a caste-based system that has regulated their aggressive behavior throughout history ... and saying that ... look at their territory compared to the size of the Federations! One species compared with 183 working in unison. Same with the Romulans, the Cardassians and many other races. These other powers all are as expansive as they are due to their 'top dog' mentality of expansion... [discussion of Romulans, Cardassians and Klingons whose powers and abilities are more flexible than expected] ... All of these represent alternative methods to expansion based on radically different philosophies and one of these methods may better suit a rising power than the often bureaucratic Federation. Working together for a common goal of betterment may be a noble cause, but when doing so involves juggling the wants and needs of 183 species and over 7,000 other homeworlds, making your voice heard can often take considerable effort and sometimes it's quicker to go it alone.

For all its utopian ideals, the United Federation of Planets is flawed. While it is never downright oppressive, it's diversity brings with it a multitude of cultures and facets, each an individual shard. But like glass, you can fit the pieces together, but the divides remain. When you look into these cracks, you'll see all sorts of inadequacies, like those that led to the formation of the Marquise, and contradictions. ... this means that hypocrisy is often necessary to maintain order. It's a complicated, nuanced, messy affair ..." – "Ric" (narrator/writer), "Why NOT to Join the Federation," Certifiably Ingame YouTube Channel, April 13, 2018.

GGDM Commentary: *Is the Federation a Confederation Government Title for real? Or is it a Dualistic Government Title? Is the Klingon Empire a real Unitary Government Title or is it a Confederation Government Title?*

Nanny, 1 Government Titles, pp. 580-581

'puppet regimes,' Conversion, 3 Order, pp. 554-555

'little control over starships,' Starship Jefferson, 1 Stardrive, p. 780

'tension between starships and planetary governments,' Noblesse Oblige, 4 Movement, pp. 871-872

Cultural 'Contamination' through Trade:

'sophists of ancient Greece,' Sophistry to the Stars, 1 Culture, pp. 355-356

Alieney Apostasy, *et seq.*, 3 Disruption, pp. 283-284

Orientalism, 4 Commerce, pp. 1228-1229

Wave Motion, *et seq.*, 2 Kairotic Moments, pp. 1432-1433

Unfinished Well and Ship of Fools, 3 Kairotic Moments, pp. 1443-1445

<p><i>This rare discussion is a very good outline of the arguments about interstellar government in GGDM – admittedly, GGDM is very much influenced by the screen sci-fi of my time especially Star Trek, Babylon 5, and Battlestar Galactica, as well as screen and print versions of Dune, and of course, the Traveller Role Playing Game, all of which exhibit centralized interstellar governments. I give kudos to Ric because I really could not have said it better ... in fact, I didn't in hundreds of pages of GGDM! But this is the central concept embodied in Structural Government Titles in GGDM.</i></p>	
<p>Roosevelt, Franklin D.</p>	
<p><i>Oligarchic Drift:</i></p> <p>“The liberty of a democracy is not safe if the people tolerate the growth of private power to a point where it becomes stronger than the democratic state itself. That in its essence is fascism: ownership of government by an individual, by a group, or any controlling private power.” – Franklin D. Roosevelt, “Message to Congress on the Concentration of Economic Power,” April 29, 1938.</p> <p><i>Cf. “This catastrophe that hit Lebanese in the heart which was the result of a chronic corruption in the country and the regime. Previously I said the corrupt establishment hit all parts of the country, however, I discovered that the corruption organization is bigger than the state and the state is controlled by this and it cannot face it or get rid of it.” – Prime Minister Hassan Diab of Lebanon, resignation speech, CNN Live via voiceover English translation, August 10, 2020.</i></p>	<p>The Bargain, 5 Culture, pp. 426-428</p> <p>Oligarchic Drift, 3 Entropy, p. 246 and Oxfam reports, EN 8, p. 251</p> <p>‘mercantilism vs. consumerism,’ Before the Big Bopper, et. seq., 2 Commerce, pp. 1195-1197</p>
<p>Ruhle, Stephanie</p>	
<p><i>Political Propaganda, Looking:</i></p> <p>“The truth matters, but only if you hear it.” – Stephanie Ruhle, “Fox News Paints Very Different Picture Of Election’s Final Week,” MSNBC Live with Stephanie Ruhle, October 30, 2020.</p> <p><u>GGDM Commentary:</u> <i>However some truth is necessary in propaganda: “If you give a man the correct information for seven years, he may believe the incorrect information on the first day of the eighth year when it is necessary, from your point of view, that he should do so. Your first job is to build the credibility and the authenticity of your propaganda, and persuade the enemy to trust you although you are his enemy.” – Psychological Warfare Casebook, Operations Research Office, Johns Hopkins University Baltimore (1958) (1 Kairotic Moments, p. 1425).</i></p> <p><i>See also, ‘manipulation of public opinion,’ Edward Bernays bottom Feature Quote, 1 Government Titles, p. 584.</i></p>	<p>The Looking Laws, 2 Expansion, pp. 890-891</p> <p>‘manipulation of public opinion,’ Edward Bernays bottom Feature Quote, 1 Government Titles, p. 584 and ‘invisible manipulation of public opinion,’ Edward Bernays quote, EN 1, 1 Culture, p. 359</p>
<p>Sagan, Carl</p>	
<p><i>Why creationist have difficulty in Court cases, boorish behavior by Christian literalist and fundamentalist in the 1970s and 1980s, Bertrand Russel ‘what is an agnostic’:</i></p> <p>Carl Sagan: What is faith? It is belief in the absence of evidence. Now, I don’t propose to tell anybody what to believe but for me, believing when there’s no compelling evidence is a mistake. The idea is to withhold belief until there is compelling evidence and if the universe does not comply with our predispositions, ok then we have the</p>	<p>Dating Man, Omega Point, and Boorish Behavior, 5 Beginnings, pp. 57-59</p>

<p>wrenching obligation to accommodate to the way the universe is... [Charlie Rose interrupts]</p> <p>Charlie Rose: So you step forward to say, I deny all religion because I can't see it or prove it?</p> <p>Carl Sagan: No, no, noo [gesturing, Charlie Rose keeps talking over him]</p> <p>Charlie Rose: You see the experience and the value of reaching for higher experiences?</p> <p>Carl Sagan: Let me say, religion deals with history, with poetry, with great literature, with ethics, with morals, including the morality of treating compassionately the least fortunate among us, all of these are things that I endorse wholeheartedly. Where religion gets into trouble is in those cases that it pretends to know something about science. The science in the bible for example, was acquired by the Jews from the Babylonians during the Babylonian Captivity of 600 B.C. That was the best science on the planet then, but we've learned something since then. Roman Catholicism, Reformed Judaism, most of the mainstream Protestant denominations, have no difficulty with the idea that humans have evolved from other life, that the Earth is 4.6 billion years old, with the Big Bang, they don't have any trouble with that. The trouble comes with people who are Biblical Literalist, who believe that the Bible is dictated by the Creator of the universe to an unerring stenographer [Charlie Rose starts to interrupt] ... and has no metaphor or allegory...[Charlie Rose interrupts]</p> <p>Charlie Rose: And from there they make their political and economic choices...</p> <p>Carl Sagan: And scientific...</p> <p>Charlie Rose: and scientific choices. And that's part of your problem with that idea...</p> <p>Carl Sagan: Exactly!</p> <p>Charlie Rose: ...is that because for the wrong reasons, we make the wrong choices about science.</p> <p>Carl Sagan: That's right, so who is more humble? The scientists who looks at the universe with an open mind and accepts whatever the universe has to teach us or somebody who says everything in this book must be considered the literal truth and never mind the fallibility of all the human beings involved in the writing of this book. – Carl Sagan's last interview, with Charlie Rose, May 27, 1996.</p> <p><i>See also, 'agnostics are not immoral,' Bertrand Russel top Feature Quote, 5 Fallen To Earth, p. 1569, 'why Christian Fundamentalist always lose in court cases,' Backdoor Evolution, 3 Technology, pp. 723-724.</i></p>	<p>Cardinal Baroni- nius, 2 The Side- real Stage, pp. 117-120</p> <p>'The Naked Ape case,' Tyranny in the Nursery, 3 Colleges, pp. 491-493</p> <p>How has the reli- gion adapted to science and tech- nology, interstel- lar travel and ex- posure to the larger universe, and Is the Reli- gion Portable, 4 Fallen To Earth, pp. 1555-1556, 1557-1558</p> <p>Science and Re- ligion forever separate:</p> <p>Another Duality, 1 Technology, pp. 694-695</p> <p>'ontic description vs ontology,' Mi- chael Robbins Feature Quote, 2 Reformation, bot- tom p. 1393</p>
<p><i>First Cause/Ultimate Cause/Prime Mover:</i></p> <p>"We don't yet know whether the universe is open or closed; more than that, there are a few astronomers who doubt that the redshift of distant galaxies is due to the Doppler effect, who are skeptical about the expanding universe and the Big Bang. Perhaps our descendants will regard our present ignorance with as much sympathy as we feel to the ancients for not knowing whether the Earth went around the Sun.</p> <p>If the general picture, however, of a Big Bang followed by an expanding universe is correct, what happened before that? Was the universe devoid of all matter and then the matter suddenly, somehow created, how did that happen? In many cultures, the customary</p>	<p>'cosmology ques- tions, riddle,' Carl Sagan Fea- ture Quote, 4 Fallen to Earth, pp. 1552-1553</p> <p>Apologizing to the Choir, 2 Fallen to Earth, p. 1522</p>

<p>answer is that a god or gods created the universe out of nothing. But if we wish to pursue this question courageously, we must of course, ask the next question: Where did God come from?</p> <p>If we decide that this is an unanswerable question, why not save a step and conclude that the origin of the universe is an unanswerable question? Or if we say that God always existed, why not save a step and conclude that the universe always existed; there's no need for a creation, it was always here. These are not easy questions, cosmology brings us face to face with the deepest mysteries, with questions that were once treated only in religion and myth." – Carl Sagan, <i>Cosmos</i>.</p> <p><i>GGDM Commentary: One YouTube commenter said of Carl Sagan: "It's like someone mixed Fred Rogers and Einstein together in one body." This is something that Neil DeGrasse Tyson or Michio Kaku can never emulate; they have to be something else.</i></p>	<p>First Cause discussions:</p> <p>'Temporal Constructural Element,' <i>Creator 1 Constructural Elements</i>, pp. 174-175</p>
<p>Human scale discussions in GGDM:</p> <p>"We have a theology that is Earth-centered and involves a tiny piece of space, and when we step back, when we attain a broader cosmic perspective, some of it seems very small in scale. A general problem with much of Western theology in my view is that the god portrayed is too small. It is a god of a tiny world and not a god of a galaxy much less of a universe." – Carl Sagan, <u>The Varieties of Scientific Experience: A Personal View of the Search for God</u> (2006, published posthumously), Ed. Ann Druyan, Edited from 1985 Gifford Lectures, University of Glasgow.</p> <p>Cf. "How is it that hardly any major religion has looked at science and concluded, 'This is better than we thought! The Universe is much bigger than our prophets said, grander, more subtle, more elegant'? Instead they say, 'No, no, no! My god is a little god and I want him to stay that way!'" – Carl Sagan, shortly before his death (Feature Quote, 4 <i>Fallen to Earth</i>, p. 1551).</p> <p><i>See also, 'human forever,' Tribal Minds, 1 Temporal Technology, pp. 813-814 and A Dying Age, 2 Eras, pp. 774-775, 'we made our gods just like us,' Earth Landing, 2 Government Titles, pp. 593-594 – in this case, it means that we made them fit our space and time scale!</i></p>	<p>Human Scale discussions in GGDM:</p> <p>Stage Illusions, 1 <i>The Sidereal Stage</i>, pp. 107-108</p>
<p>Scarborough, Joe</p>	
<p>Powers Proficiency, boundary control, and even to some extent relates to stare decisis in News Events and other in-game Interpretations:</p> <p>"And if Democrats have half a brain, and if they are not wimps, they will actually lift that speech and use it word for word and use it when they expand the Court to eleven or twelve justices. Because what Mitch McConnell said, you know he's right, they have a Constitutional right to do this. Democrats shouldn't whine, they should have won the last election. ... What is true for Republicans is true for Democrats. Mitch McConnell said this doesn't violate the rules of the Senate, because of course he makes the rules in the Senate, and it doesn't violate the Constitution of the United States; neither does expanding the Supreme Court to eleven or twelve Justices, that doesn't violate the Constitution, and again, everything Mitch said will apply to that next year in the Judiciary Reform Act of 2021." – Joe Scarborough, "Joe On SCOTUS: What's True For GOP Is True For Democrats," <i>Morning Joe</i>, MSNBC, October 27, 2020.</p> <p><i>GGDM Commentary: In GGDM Terms, the Democrats have filed a Diplomatic Protest, see 2 Dreamtime, pp. 148-149, which no one seconded apparently. ☺</i></p>	<p>Integrity and Powers Proficiency, 3 <i>Culture</i>, pp. 390-396</p> <p>Keep the Sand in the Sandbox and Fancy Foreign Words and Universal Legislator, 2 <i>Dreamtime</i>, pp. 147, 148, 149</p> <p>Patent Consistency, 3 <i>Patents</i>, p. 749</p>

<p>“[McConnell] proved that the only boundaries, the only guardrails are the Constitution of the United States, so why wouldn’t Democrats live by the McConnell Rule that we are only bound by the Constitution of the United States and can do whatever we want to do?” – Joe Scarborough, “Joe On SCOTUS: What’s True For GOP Is True For Democrats,” Morning Joe, MSNBC, October 27, 2020</p>	
<p>Schenker, Marty and Tim Stenover (and Mitch McConnell)</p>	
<p>The Bargain, corporate social activism (corporations in GGDM are intertwined with their civilization, MegaCorporate ‘shareholders’ in GGDM, generational turnover, Spencerian Selection Forces (Jonathan Turner), Marxian ‘alienation,’ cancel culture (Expression Proficiency), Estate Government Title:</p> <p>Bloomberg Quicktake video description on YouTube (background information):</p> <p>Senate Minority Leader Mitch McConnell on Monday warned corporations of “serious consequences” if they use their economic power in support of what he described as far-left causes, including opposition to a new voting law in Georgia. “From election law to environmentalism to radical social agendas to the Second Amendment, parts of the private sector keep dabbling in behaving like a woke parallel government,” McConnell said. “Corporations will invite serious consequences if they become a vehicle for far-left mobs to hijack our country from outside the constitutional order.” McConnell’s rebuke comes as a number of corporations, including Delta Air Lines Inc. and the Coca-Cola Co., have criticized Georgia’s new election law. Major League Baseball moved its All-Star Game from Atlanta, a move endorsed by President Joe Biden. Some Republicans proposed retaliation against MLB and other companies that criticize Georgia’s law. South Carolina Representative Jeff Duncan said he’ll push to end baseball’s antitrust exemption, a position supported by Senate Republicans Ted Cruz and Mike Lee.</p> <p>Tim Stenover (host): “... so with big business and the GOP historically getting along, where did things go wrong and where will it leave Democrats, Republicans and corporate America. Here to discuss is a Bloomberg News editor-at-large, Marty Schenker. Hey Marty, great to see you and have you join us on this, so you’ve been covering business since the 1970s, give us some historical context about what we’ve seen in recent years and even in recent days when it comes to the way that companies are actually weighing in in politics.</p> <p>Marty Schenker (guest): Well, you now, I started off in life at the Wall Street Journal in the early 70s and even from that point, companies scrupulously avoided taking public positions that involved any controversy for the obvious reasons you risk alienating your customers, you risk alienating your employees. So when you went to companies for comment on a big social issue, you never got any on the record. But the world has changed in the last, you know, ten years, five years, with social media and the ability of customers to give instantaneous feedback to companies via Twitter or Facebook or Instagram, or any of the other social platforms.</p> <p>Tim Stenover: So where does it leave companies right now? Do they have to take a stand?</p> <p>Marty Schenker. Well that’s really what I think corporate boardrooms and corporate communications apparatuses are grappling with: Can they afford to stay silent on issues that are quite clearly a passionate issues for their customers and their employees, because in some cases, they consider silence actually support for a controversial issue. So I think in the case of Major League Baseball, is a stark example of where, in my view, it was the</p>	<p>The Bargain, 5 Culture, pp. 426-428</p> <p>Expression Proficiency, 3 Culture, pp. 389-390</p> <p>Estate Government Titles, <i>et seq.</i>, 2 Government Titles, p. 600</p> <p>‘Marxian Alienation,’ see Frank Elwell, this document</p> <p>Spencerian selection, see Jonathan H. Turner and Seth Abrutyn, this document</p> <p>Corporate Social Responsibility:</p> <p>‘intertwined civilization value of corporations, captive market and existential interests,’ <i>Interstellar Corporations, Corporation Games, et seq.</i>, 1 Corporations, pp. 1241, 1243; ‘Corporation must be consistent with the civilization,’ <i>Articles of Incorporation</i>, p. 1246, ‘revocation of Special Writ,’ We</p>

players who really forced their hand on that issue for them to abandon the {2021} All-Star Game [in Atlanta, Georgia].

Tim Stenover: Yeah, I think you bring up a really good point because it is not just about customers, right, it's about attracting employees, it's about retaining employees, and making sure that your employees are actually working for a company that you believe in, but is that a relatively new phenomenon?

Marty Schenker: It is a relatively new phenomenon, I think that the idea that you take a job and that the corporation doesn't really have a role in the social issues that surround you has always been the case, so you never really had to think about it when you picked who you're working for. I think the generational change that's happened is that, in fact, it does matter what the stand is of the companies that you work for and you can see how young millennials are picking their companies more carefully based on their stance on a whole range of issues.

Tim Stenover: Yeah, I think that when it comes to ESG [Environmental Social Governance] or when it comes to social responsibility, I oftentimes think of what Milton Friedman said in 1970 about the social responsibility of a company [quoting, reading from laptop] "is to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game." Is that, does that hold true in this day and age?

Marty Schenker: Well, you know Milton Friedman was the father of deregulation, is probably an outlier thinker and it worked at that time where he had a following, but I don't think it works anymore. I think even Blackrock's Larry Fink said famously a couple of years ago, "Companies can't just view profits as their final responsibility, they have to take other large social issues into consideration when they're pursuing their business."

Tim Stenover: You know, so I think back to a Wall Street Journal editorial that I saw yesterday or the day before, and it talks about somebody who as a customer does not agree with a lot of the positions that brands have taken, and this writer wrote about how he stopped using Gillette because of an advertisement from Proctor & Gamble, or wrote about not drinking the coffee he used to and drinking a different type of coffee. Can brands afford, and companies, can they afford to alienate a certain portion of consumers here?

Marty Schenker: Well you know, it's very interesting because obviously, taken to the ridiculous extreme, we will consume nothing from anyone [is that a bad thing?] ...

Tim Stenover: [interrupting] Right.

Marty Schenker: ... because there will be something that they do that you could conceivably think of as offensive. And it does also, it's a dangerous thing for free speech and expression [referring to 'cancel culture'] if you have to worry about offending any customer with anything creative that can be interpreted in the wrong way. And so, you know, taken to an extreme, if advertisers tried to be neutral all the time, we'd be bored out of our minds.

Tim Stenover: I wonder also if customers actually care to a certain extent, right, like are they going to buy the plane ticket that's the cheapest and it gets them where they want to go at the time that they want to get there, are they going to say, yes I am going to fly Delta, or no I'm not going to fly Delta for all of the reasons above?

Just Lost the Beat, pp. 1247-1248

'MegaCorporation no longer consistent with shareholder's civilization,' Leaving So Soon, 2 Corporations, pp. 1257-1258

Generational Turn-over:

Artifice, 2 Constitutional Elements, pp. 191-192

Life, Taxes, Death, Taxes, 1 Taxation & Census, p. 296

And the Cradle will Rock, 3 Culture, pp. 382-383

Marty Schenker: Well, when you have a choice, you may be able to make that decision based on that kind of issue, but I think Tim you're absolutely right, ultimately the economic arguments may win out over the social conscience.

Tim Stenover: Yeah, maybe if you want to watch baseball, you're going to watch baseball regardless of where the game is being held.

Marty Schenker: Then I think the All-Star Game will be watched in Denver as well as it would have been in Georgia.

Tim Stenover: So where does this leave the next few years and where companies are going to be going from here?

Marty Schenker: I think it's going to be a more vigorous and very chaotic course, and I think it's really going to involve politics. I think Bloomberg opinion had a column today how the Republican Party may choose to use this woke issue among companies as a rallying cry against Democrats in the upcoming mid-term elections. Not against the candidates, but against companies [making quotation hand gesture] that take socially-responsible positions and try to rail against that [i.e. 'culture war'].

Tim Stenover: Look, it's notable because if you think about where corporate America has been politically, it's traditionally been aligned with Republicans, not just in recent years, but historically as well. And you see a lot of the executives who have donated money to Republican causes, and it certainly benefitted them from regulation or lack thereof.

Marty Schenker: Yeah, but then you look at Big Tech and you see that they're very socially responsible, responsive to a lot of these issues. You know, it may be that the third party in the U.S. are actually corporations; there are the Democrats, the Republicans and there's corporations. And they're going to kind of battle it out to seek public support. – Bloomberg Quicktake, "McConnell Threatens Businesses That Get Involved in Political Issues," Bloomberg Quicktake: Now YouTube Channel, April 6, 2021.

GGDM Commentary: The issue of corporate (and elite) social responsibility and activism certainly is not a new creature in our time and corporate boards have always insisted that their only responsibility is the make a profit for the shareholders (of which they are, incidentally, usually the majority shareholders – a conundrum that drives liberal activists to fits), but the events of recent years have raised a new clamor and there seems to be a feeling that the ground is shifting slightly (a process described in Artifice, 2 Constructural Elements) and expectations are changing with a new generation (GGDM addresses generational turnover in a couple of different ways). The peculiar way that GGDM treats Corporations and MegaCorporations (via Special Writs) makes them very much entwined with their civilization and not separate from it, and the conversation above is offered as an example for GGDM participants to consider.

- In an interview with Poppy Harlow on CNN on April 9, 2021, Levi & Strauss CEO, Chip Berg also cited the diversity of stakeholders as another reason why his company is engaging on social issues. When asked, however, about Levi & Strauss' relationship with China and China's 'genocide' of the Uighurs, he danced around the question, but gave a reasonable satisfactory answer: He minimized the importance of China as a market and supplier for his company (3% he said at one point) and said they don't do business with that province (to avoid the possibility of forced labor in their products).

<p><i>The final comment by Marty Schenker about how corporations are the ‘third party’ in our political system epitomizes the Estate Government Title, in this sense, ‘corporate America’ could be called an Estate Government Title in GGDM terms to the extent that they actively – whether under the old Milton Friedman de-regulation model or the new ‘woke’ model – cohesively act to assert their positional power over their civilization. If corporate America suddenly displays great cohesion in the new woke model, or there is a marked long-term change in how it addresses social issues, does the Estate Title of the Milton Friedman model morph into a Social Title instead? Questions for GGDM participants to consider.</i></p> <ul style="list-style-type: none"> • “ESG stands for Environmental Social and Governance, and refers to the three key factors when measuring the sustainability and ethical impact of an investment in a business or company. Most socially responsible investors check companies out using ESG criteria to screen investments. It is a generic term used in capital markets and commonly used by investors to evaluate the behavior of companies, as well as determining their future financial performance. The Environmental Social and Governance factors are a subset of non-financial performance indicators which include ethical, sustainable and corporate government issues such as making sure there are systems in place to ensure accountability and managing the corporation’s carbon footprint. The number of investment funds that incorporate ESG factors has been growing rapidly since the beginning of this decade, and is expected to continue rising significantly over the decade to come.” – from Market Business News (marketbusinessnews.com) Financial Glossary, captured April 6, 2021. 	
Sirota, David	
<p><i>This goes to the discussion of what matters and people acting when they think it matters:</i></p> <p>“The research that was circulating a couple of days ago was about what is called ‘salience’; that when you test something in a poll, you can test where do you as a voter stand on an issue, do you support X or do you support Y? That’s testing people’s preferences on a policy issue, but it doesn’t necessarily test how important they think the issue is or how much the issue will determine their vote. And so the research on salience, suggests what voters are more thinking about, top of mind, casting their ballots based on economic issues...” – David Sirota, Editor-at-large of Jacobian, “Research shows Lincoln Project ads are total FAILURES and pure gift,” Rising with Krystal & Saager, The Hill YouTube Channel, October 9, 2020.</p>	<p>The Looking Laws and What Matters, 2 Expansion, pp. 890-891</p>
Spock (character, Star Trek)	
<p><i>Funny:</i></p> <p>“Diplomats and bureaucrats may function differently, but they achieve exactly the same results.” – Spock, “The Mark of Gideon” (ST:OS, 1969).</p>	
Stargate SG-1 (TV series dialogue, 1997-2007)	
<p><i>Pre-1st Era Minor races, children at the adult table, funny:</i></p> <p>Bra’tac: Perhaps when the warships of your world attack the ...</p> <p>Carter: Excuse me, did you say the ships of our world?</p> <p>Bra’tac: Surely you have such vessels?</p> <p>Daniel: Well, we have a number of, of ... [in unison with O’Neil] shuttles.</p>	<p>Humans Advance Swiftly, 1 Star-drive, pp. 785-786</p>

<p>Bra'tac: These shuttles ... they are a formidable craft?</p> <p>O'Neil: [unconvincingly] Oh, yeah. Yeah. [to Daniel] Bad day. – Stargate SG-1 Season 2, “Serpent’s Lair” (1998).</p> <p><u>GGDM Commentary:</u> <i>My college accounting teacher, Ms. Weaver, asked “What does assume mean?” It means “Ass of U and Me.”</i></p>	<p>‘adult table,’ David Brooks Feature Quote and The Adult Table, 3 The Big Bang, pp. 14-15</p>
<p>O'Neil: Think of it this way, if you don’t do what they want, they’ll kill you. If you don’t do what we want, we’ll let them. – Stargate SG-1, Season 8, Ep. 14, “Full Alert” (2005).</p> <p><u>GGDM Commentary:</u> <i>Diplomacy.</i> ☺</p>	
<p>Sterling, Rod</p>	
<p><i>Expression Proficiency, self-censorship, business vs. art, maturation/sophistication of audiences & end of episodic formulaic television:</i></p> <p>“I’d been writing for a Cincinnati television station as a staff writer, which is a particularly dreamless occupation of doing commercials, even making up ... [fake] testimonial letters. As I recall, there was a drug, a liquid drug on the market at the time [1951] that could cure everything from arthritis to a fractured pelvis and I actually had to write testimonial letters, and on that particular day, I just had it and though I had been freelancing concurrent with the staff job, the best year I’d ever had, I think I netted about \$700 [about \$7,195 in 2020 terms] ... and that one night, we just decided to sink or swim and go into [full time freelance writing].</p> <p>[Responding to a question about censorship on television] Well, depending on the thematic treatment you are using, if you have the temerity to try to dramatize a theme that involves any particular social controversy currently extant, then you are in deep trouble. A racial thing for example. My case in point, I think a show I did for The [United States] Steel Hour some years ago, three years ago, called “Noon on Doomsday” which was a story that purported to tell what was the aftermath of the alleged kidnapping in Mississippi of the [Emmett] Till boy, you know the young Chicago negro and I wrote the script using black and white initially, then it was changed to suggest an unnamed foreigner, then the locale was moved from the South to New England, and I’m convinced they’d have gone up to Alaska or the North Pole ... using Eskimos as a possible minority, except I suppose the costume problem was a sufficient severity not to attempt it. But it became a lukewarm, vitiated, and emasculated kind of show. ... I went down fighting, as most television writers do, thinking in a strange, oblique philosophical way that better say something than nothing. In this particular show though, by the time they had finished taking Coca-Cola bottles off the set because the sponsor claimed that this had Southern connotations, suggesting to what depth they went to make this a clean, aseptically, rigidly acceptable show. Why it bore no relationship at all to what we had purported to say initially.</p> <p>[Question about Paddy Chayefsky] Pre-censorship is a practice I think of most television writers ... this is the prior knowledge of the writer of those areas which are difficult to try to get through and so a writer will shy away from writing those things which he knows he’s going to have trouble with at a sponsor or an agency level. We practice it all the time, we just do not write those themes which we know are going to get into trouble. ... It’s a combination of culprits in this case ... it’s partly network, it’s principally agency and sponsored, in many ways I think it’s the audience themselves. ... Well, I’ll give you</p>	<p>Expression Proficiency, 3 Culture, pp. 389-390</p> <p>Material World, 3 The Big Bang, pp 12-13</p> <p>John F. Kennedy quote, <u>this document</u>, <i>supra</i></p> <p>‘patron system as censorship’ Pangloss Doesn’t Visit Often, 1 Fallen to Earth, pp. 1495-1496</p> <p>Episodic-formulaic television:</p> <p>Arc Covenant, 1 Entropy, pp. 218-219</p> <p>EN 4, 2 The Streams of Time, p. 87</p> <p>EN 6, 1 Special Operations, p. 1282</p> <p>Anthony Leong quote, 1 Culture, p. 353</p> <p>Anthony Leong quote, 2 Entropy, p. 238</p>

an example, about a year ago [1958] ... on the Lassie show, this is a story usually told by Sheldon Leonard who was then associated with the show. Lassie was having puppies and I have two little girls, then aged five and three, who are greatly enamored with this beautiful collie and they watched the show with great interest and Lassie gave birth to puppies. And ... it was probably one of the most tasteful and delightful and warm things depicting what is this wondrous thing that is birth. And after the show, I think there were many congratulations all around because it was a lovely show, the sort of thing I'd love my kids to watch. ... They got many, many cards and letters, sample cards, from the deep South this was, 'If I wanted my kids to watch sex shows, I wouldn't have had them turn on that, I could take them to Burlesque shows! And as a result of the influx of mail, many of the cards incidentally ... were post-marked at identical moments, all in the same handwriting, but each was counted as a singular piece of mail and as a result, the directive went down that there would be no shows having anything to do with puppies. That is, in the actual birth process. Well, obviously it is this wild lunatic fringe of letter-writers that greatly affect what the sponsor has in mind.

[Sponsorship stake in the program] ... And in those cases where there's a problem of public taste in which there is a concern for eliciting negative response from a large mass of people, I can understand why [sponsors] are frightened. I don't understand ... other ... instances of intrusion by sponsors. For example ... not a year ago, a lovely show called "Judgment at Nuremberg" – I think probably one of the most competently done and artistically done pieces ... In it, as you recall, mention was made of gas chambers. And the line was deleted, cut off the soundtrack and it mattered little to these guys that the gas involved in concentration camp was cyanide which bore no resemblance, physically or otherwise, to the gas used in stoves. They cut the line because the sponsor did not want that association made between what was the horror and the misery of Nazi Germany with the nice, chrome, wonderfully, aseptically clean, beautiful kitchen appliances that they were selling. Now this is an example of sponsor interference which is so beyond logic and which is so beyond taste; this I rebel against.

[On moving to executive producer of The Twilight Zone] In eleven or twelve years of writing ... I can lay claim to at least this: I've never written beneath myself. I've never written anything that I didn't want my name attached to. I have probed deeper in some scripts and I've been more successful in some than others, but all of them that have been on ... I'll still take my lick. They're mine and that's the way I wanted them. Somebody asked me the other day if this means I will be a meek conformist? No, I'm just acting the role of a tired nonconformist and I don't want to fight anymore. I don't want to have to battle sponsors and agencies, I don't want to have to push for something I want and have to settle for second best. I don't want to have to compromise all the time which in essence, is what the television writer does if he wants to put on controversial things. I stay in television because I think it's very possible to perform a function of providing adult, meaningful, exciting, challenging drama without dealing in controversy necessarily. This, of course, is not the best of all possible worlds. I am not suggesting that this is at the absolute millennium, I think it's criminal that we're not permitted to make dramatic note of social evils as they exist, of controversial themes as they are inherent in our society. I think it's ridiculous that drama, which by its very nature should make a comment on those things that affect our daily lives, is in the position – at least in terms of television drama – of not being able to take this stand, but these are the facts of life, this is the way it exists. And they can't look to me [gives list of writers] or any of these guys as the precipitators of the big change, it's not for us to do it.

<p>... If I presume Herb [Brodkin] means that inherently you cannot be commercial and artistic, you cannot be commercial and quality, you cannot be commercial concurrent with having a preoccupation with the level of storytelling you want to achieve and this I have to reject. ... I don't think calling something 'commercial' tags it with a kind of odious suggestion that it stinks, that it's something raunchy to be ashamed of. I don't think if you say commercial means to be 'publically acceptable' what's wrong with that? ... The essence of my argument is that as long as you are not ashamed of anything you write, if you are a writer, as long as you are not ashamed of anything you perform as an actor, and I'm not ashamed of doing a television series. ... But I think innate in what Herb says is this suggestion, made by many people that you can't have public acceptance and still be artistic and as I say, I have to reject that." – Rod Sterling, Mike Wallace interview, 1959 right before The Twilight Zone premiered on television (available on YouTube).</p>	
<p>Stevens, Stuart</p>	
<p>Reference to the amphibious landings in WWII in which his father participated: “Courage is getting out of the boat when the man in front of you just got shot.” – Stuart Stevens on The Lead with Jake Tapper, CNN, October 19, 2020. <i>See also, No Surrender, No Retreat, 5 Combat, p. 1010.</i></p>	<p>Dropping In, 4 Combat, pp. 991-992</p>
<p>Cognitive dissonance, failed Conflict Checks, legitimacy: “I don't think we've ever seen in American politics the complete collapse of a party the way the Republican Party is collapsing. If somebody held a gun to my head and said ‘Tell me what it is to be a conservative and a Republican in America today?’ I'd just say ‘Shoot me, I have no idea.’ There's no coherent theory of government, there's no moral center to it. ... The only thing I can compare it to is the collapse of communism in the Soviet Union where what the party said it was for and what it was for were just so disparate that it just collapsed. And that is what is happening to the Republican Party, it's just collapsing. ... I spent decades working in this party [the Republican Party] and all I can say is burn it down, just burn it down and start over.” – Stuart Stevens on The Lead with Jake Tapper, CNN, October 19, 2020.</p>	<p>Legitimacy & Authority and Foreclosure of a Dream, 3 Government Titles, pp. 615-616 Axioms of Consequences, 1 Disruption, pp. 257-258</p>
<p>Stoller, Matt</p>	
<p>Ideological Constructural Element, failed power activations, Corporations, The Bargain (5 Culture): “But I think the fundamental issue with both Democrats and Republicans ... is that they are both wedded to an ideology ... where power and institutions are not meaningful parts of the way they think about the world. So to put it in maybe a more clear way, Democrats want to do good, but they don't want to fight bad. And they are very, very reluctant to wield power from public institutions ... to structure markets, to take on companies, things like that. They're like that's inappropriate, not corruption, just inappropriate.” – Matt Stoller, Rising with Krystal & Saager, December 1, 2020. <i>See also, Humans Need Meaning, 1 Beginnings, pp. 23-24, The FCC Fairness Doctrine, 3 Dreamtime, p. 158, Immoderate Unhappiness, 5 Government Titles, p. 636.</i></p>	<p>Ideological Constructural Element, 1 Constructural Elements, pp. 179-180 Power Off, 2 Constructural Elements, p. 193</p>
<p>Straczynski, J. Michael</p>	
<p>Playing a position in GGDM, Fundamental Realities, position persona: “No, no, I never get writer's block and it comes down to knowing h your character. Here's the secret, you want to be a writer, here's the secret: Imagine your best friend for</p>	<p>‘position color, persona,’ Through Rose</p>

a second walking across the living room at night, the lights are off, and they bang the shin on a coffee table. Now you know your friend, you know exactly what your friend's going to say when that happens. You don't have to think about it or worry about it, you just know, you just know your friend.

Writing is no different. Get to know the characters so well that whatever you drop them into, you sit back and watch what they do and you write it down. It shouldn't be homework, it shouldn't be hard, it shouldn't be 'oh my gosh what happens next!?' You just know, you let them do it anyway and you write it down. Case in point, in Babylon 5, we had the Centauri Emperor who I planned all along for Londo to assassinate at one point. And I was writing the script for that episode, planning a year ahead, Londo's gonna kill him. I got to that moment, and Vir [Cotto] in my head set up and said, 'hang on, your wrong, let me do it, I'm a nice guy, I'm a shy, quiet guy, and I'm a good guy, and if I kill this guy, I will have grief, I will have pain, I'll have angst, you can dine off that as a writer for episodes down the road yet to come. I should do this.' I thought, you know, your right; whatever part of my brain is playing you at this moment, you're right. You go do it. And I'd sort out what he did.

And when writing can be effortless, writing can be fun, and it's not homework. That's the best, when you're sitting there and it's just happening and you're writing it down. There's a thing where – imagine a dance hall but formal dancing, and over there is a guy who just came out of Arthur Murry dance school, and he's doing a really good job, but in his head you can hear him going, one, two, three, one, two, three, one, two, three and over there is Fred Astaire, he's just dancing. There's trying to dance, and there's dancing. There is trying to write, and there's writing. You can either run away and just be that moment or you're just doing it, there's no high that compares to that, no truth more easily apprehended, more emotion more easily rendered, than to just watch it happen and write it down. And that for me is the drug, that's the addiction, so I can have those moments of perfect clarity that I know I can translate for an audience. That's what keeps me going.” – J. Michael Straczynski interview by Karen Herman, May 15, 2013 in Encino, CA.

GGDM Commentary: Babylon 5 is quoted and discussed throughout GGDM – I guess you can say it was a major influence (and Traveller RPG which is also quoted, was a major influence on Babylon 5²⁴) – Babylon 5 appears in about half of the documents that make up GGDM. This quote from the creator, J. Michael Straczynski is offered within GGDM as advice on playing positions, Major Races in the game can be viewed as the characters in a drama – even if they don't have a Type 4 Fundamental Reality – and players should be able to determine intuitively how their race will react or what they will do. It also perhaps explains a little the attraction of tabletop role-playing games for some at least, though I was an awful player in my youth because I have difficulty being anything but myself, so as with most players, my character was just really me in another world instead of being someone else in that world.

Colored Shades and Type 4, 3 Beginnings, pp. 41-42

'writers being in-character,' EN 16, 1 Constructural Elements, p. 187

'collective participatory storytelling,' White Gold Wielder, 2 Dreamtime, pp. 153-154

'don't take it personally,' Close Encounters, 1 Diplomacy, p. 1100

Acting consistent with Fundamental Realities in GGDM:

Indifference, 1 Entropy, pp. 229-230

Through Rose Colored Glasses and Type 3, 3 Beginnings, pp. 41-42

²⁴ J. Michael Straczynski acknowledged it at some point, many viewers had already identified parallels, for example the Dilgar War in Babylon 5 and the Kaefer invasion in Traveller 2300 A.D. Mongoose Publishing in England later produced a Babylon 5 adaptation of Traveller RPG.

Strzok, Peter	
<p>Legitimacy discussions:</p> <p>“I read some of his [Attorney General William Barr’s] comments, and he spends a lot of time talking about the political basis of his authority, but he doesn’t spend time talking about the legitimacy of that power.” – Peter Strzok, Andrea Mitchell show, MSNBC, September 17, 2020.</p>	<p>Legitimacy & Authority, 3 Government Titles, p. 609</p>
Switzer, Tim	
<p>Zero Sum Game, diplomacy, commerce & alliances, Shared Meaning:</p> <p>“It’s this bullying nationalism that explains why China has not been very good at winning friends and influencing outcomes. We’re now in, if you like, a zero sum game and the stakes are enormously high for all concerned, particularly the United States, Australia’s most important security ally, and China, Australia’s most important trade partner.” – Tim Switzer (Dir. Center for International Studies, Sidney, Australia) on CNN live (Connect the World segment), December 4, 2020.</p> <p><i>See also, Trick or Treaties and Broken Arrow, 1 Diplomacy, pp. 1104-1105.</i></p>	<p>Zero Sum Game, 6 Diplomacy, p 1171</p> <p>The Commonality and Two Way Street, 3 Diplomacy, pp. 1131, 1133</p>
Szczepanski, Kallie	
<p>Great Treasure Fleet, Vasco De Gama, isolationism, self-sufficiency, Invading Timelines, alternate history:</p> <p>“In addition to political motivation, the new emperor had financial motivation. The treasure fleet voyages cost Ming China enormous amounts of money; since they were not trade excursions, the government recovered little of the cost. The Hongxi Emperor inherited a treasury that was much emptier than it might have been, if not for his father’s Indian Ocean adventures. China was self-sufficient; it didn’t need anything from the Indian Ocean world, so why send out these huge fleets?</p> <p>Finally, during the reigns of the Hongxi and Xuande Emperors, Ming China faced a growing threat to its land borders in the west. The Mongols and other Central Asian peoples made increasingly bold raids on western China, forcing the Ming rulers to concentrate their attention and their resources on securing the country’s inland borders.</p> <p>For all of these reasons, Ming China stopped sending out the magnificent Treasure Fleet. However, it is still tempting to muse on the ‘what if’ questions. What if the Chinese had continued to patrol the Indian Ocean? What if Vasco da Gama’s four little Portuguese caravels had run into a stupendous fleet of more than 250 Chinese junks of various sizes, but all of them larger than the Portuguese flagship? How would world history have been different, if Ming China had ruled the waves in 1497-98?” – Kallie Szczepanski, “Why Did Ming China Stop Sending out the Treasure Fleet?” ThoughtCo, August 29, 2020.</p> <p><i>GGDM Commentary: Notice that the Treasure Fleet was never used to invade Japan, it never went near Japan at all, but headed straight south down the coast. The Chinese certainly knew exactly where and what Japan was; the enormity and capacity of the Treasure Fleet (27,000 crew and soldiers) would have made it a formidable tool for the invasion of Japan, which might have been immensely more popular at the Ming Court, instead the Ming opted for cowing lesser entities to the south. But the Mongols had been disastrously defeated in their invasions of Japan just two centuries earlier and the Ming had overthrown the Mongols in China and were still fighting border wars.</i></p>	<p>Port of Origin and Naval Power, 1 Commerce, pp. 1181-1182</p> <p>Sit-n-spin, 2 Taxation & Census, p. 309</p> <p>Spheres of Influence and Invading Timelines, 4 Order, pp. 575-577</p> <p>Self-Sufficient Colonies:</p> <p>Resources, 2 Taxation & Census, p. 301-302</p> <p>Specialized Colonies, 4 Expansion, pp. 925-926</p> <p>Passive Siegecraft, 3 The Side-real Stage, pp. 125-126</p>

<p>See also, Alternate History: <i>Alternating History</i>, 6 <i>Government Titles</i>, pp. 654-655 and <i>Triluminary</i>, 1 <i>Diplomacy</i>, pp. 1103-1104; and Isolationism: <i>Internal Disputes & Isolationism</i>, 1 <i>Special Operations</i>, p. 1277, EN 15, 6 <i>Combat</i>, p. 1034 and <i>Autocatalyst & Abandonment excerpt</i>, <i>Technology section</i>.</p>	
<p>Szimanski, Ryan</p>	
<p>USS New Jersey, Iowa-Class Battleships, naval arms race, 20th Century warships:</p> <p>“Say we fire every gun we’ve got, we’re firing nine 2700 lb. 16-inch projectiles, each one with 660 pounds of powder, and we are firing six 5-inch guns on a broadside, 55 lb. projectile, about 15 pound charge, so we fire all that at the same time, at the mass of projectiles and exhaust gases leaving ... still comes out to something like 10 to 15 tons. This is a 58,000-ton ship, even if you unload everything, it’s a 45,000-ton ship, so that is just too much mass to send in a sideways motion.” – Ryan Szimanski, Curator of the USS New Jersey museum ship, “Does Firing the 16in Guns Move the Ship Sideways?” USS New Jersey YouTube Channel, September 29, 2020.</p> <p>GGDM Commentary: <i>I was a 1980s teenager when the USS New Jersey was in action against Druze Militia in Lebanon. See also, ‘naval arms race,’ Magnitude of Eras and Lynn Montross Quote, EN 4, 2 Combat, pp. 952-953, 967.</i></p>	<p>‘Iowa Class Battleships,’ <i>Ship Breaking</i>, 3 <i>Construction</i>, pp. 681-681</p> <p><i>Missile Ships, 4 Carriers & Fighters</i>, pp. 1081-1082</p>
<p>Taibbi, Matt</p>	
<p>Just funny:</p> <p>“He [Pres. Trump] might not have a moral problem with the idea [of being an authoritarian dictator], but two minutes into the plan he’d leave the room, phone in hand, to throw on a robe and watch himself on Fox and Friends over a cheeseburger.” – Matt Taibbi, “The Trump Era Sucks and Needs to be Over,” September 3, 2020 (pub. on Substack, Reddit, Political Wire, etc.).</p>	
<p>Tapper, Jake</p>	
<p>Signaling of virtue discussion:</p> <p>“One of President Trump’s skills during this era has been to behave with so little regard to basic decency that those who try to uphold these standards get accused of being partisan. As if, don’t behave in a reckless way that displays a disregard for human life is now, somehow, a partisan issue. It isn’t.” – Jake Tapper, <i>The Lead with Jake Tapper</i>, CNN, October 11, 2020.</p> <p>See also, ‘ignorance is not virtue,’ <i>Barak Obama top Feature Quote</i>, 2 <i>Information</i>, p. 1339, <i>Discipline & Distractibility</i>, 2 <i>Colleges</i>, p. 475 and <i>Customs Proficiency</i>, 3 <i>Culture</i>, p. 385. See also, <i>Krystal Ball</i>, ‘virtue signaling’ quote, this document.</p>	<p><i>Arête for All</i>, 3 <i>Colleges</i>, pp. 496-497</p> <p><i>Noblesse n’oblige plus</i>, 4 <i>Movement</i>, pp. 869-870</p>
<p>Echo Chambers, political violence, extremism:</p> <p>“We don’t know if they are cynically lying, or if they’re intellectually unable to understand the facts or if there is some psychological issue. But at the end of the day it doesn’t matter because the lies are having an effect. There is this thing called stochastic terrorism, which is the idea of leaders putting out falsehoods and demonizing people, and then acts of violence happen, and it can’t be directly tied, but there is a responsibility there.” – Jake Tapper, <i>The Lead with Jake Tapper</i>, CNN, December 14, 2020.</p>	<p>Alison Griswold top <i>Feature Quote</i> and <i>FCC Fairness Doctrine</i>, 3 <i>Dreamtime</i>, p. 158</p> <p><i>Friends & Enemies</i>, 2 <i>Construction</i>, p. 672</p>

<p><u>GGDM Commentary:</u> <i>Well... I've never heard that term before, but I'm both glad that there is and not surprised that there is a name for it. On the latter point, it is what happened in fascist countries in the 1930s and in many other countries since then and even today, so to talk about it, we need a shorthand term.</i></p> <p><i>See also, Bitterness & Murder, 2 Government Title, pp. 657-658, 'intolerant extremism' 4 Order, top p. 573, Fanatics Not from Phil, 4 Culture, pp. 415-416 and Bob Moser Feature Quote and Selecting Bits, 1 Information, pp. 1334-1335. Note that within GGDM, I used the term 'political murder,' see also, Equilibrium Epiphany, 1 Kairotic Moments, pp. 1421-1422.</i></p>	
<p>Teitel, Amy Shira</p>	
<p><i>Moon landing conspiracy theories:</i></p> <p>“We’re talking about why there are no stars in the Apollo images today on Vintage Space. So let’s start by stating the obvious, Apollo astronauts flew to the moon before there were digital cameras and so the pictures they took on the Lunar surface were taken with film. Now, it’s the moment of light striking the film that we’re really interested in because there’s a couple of things to consider. One is the f-stop, or the aperture. The more open the aperture ... the more light is allowed to come in, the more closed it is, the less light comes in. Another factor is shutter speed, the length of time that the shutter is open exposing the film to light. A faster shutter speed means less light is hitting the film and a longer shutter speed means more light can hit the film. [discussion of choosing shutter speed and aperture, brighter areas vs. darker areas, the problem of photographing two objects where one is bright and the other is dimmer] This is exactly what the Apollo astronauts did on the moon, they photographed the brighter thing to get the detail that it has. Namely, the moon and not the stars in the sky. The moon has an albedo of 0.12 or it reflects twelve percent of the light that strikes it [the Earth has an albedo of 0.367, but has an atmosphere to diffuse the light]. ... But when you are standing on the surface of the moon and that reflected sunlight is bouncing back up into your camera, it is way too powerful, such that you can’t actually photograph the moon and the distant stars off over the horizon. ... The camera was set for settings on the moon’s surface, namely a very bright object, not to see distant stars. [discusses Apollo 16 image where you can see the stars in long UV exposure photo of the Earth and Apollo 14 photo with a dim image of Venus] ... So who out there is still going to say that the lack of stars in Apollo images means we didn’t land on the moon?” – Amy Shira Teitel, “Why You Can’t See Stars on the Moon,” The Vintage Space YouTube Channel, August 6, 2016.</p> <p><u>GGDM Commentary:</u> <i>The title of this video is somewhat misleading, it should have been “Why You Can’t See Stars on the Moon in Apollo Moon Landing photographs.”</i></p>	<p>“In the Year 2525,” The Music of Your Life, 2 Culture, p. 367</p> <p>Norman Spinrad Feature Quote, 1 Stardrive, p. 786</p> <p>‘Planetary Protection Officer,’ EN 9, 1 Expansion, p. 889</p> <p>Moon landing deniers discussions in GGDM:</p> <p>EN 15, 1 Technology, p. 699</p> <p>A Thing Done, 1 Dreamtime, pp. 134-135</p>
<p>Trump, Donald J.</p>	
<p><i>File this under expedient hypocrisy:</i></p> <p>“If you can’t take care of your sick in the country, forget it, it’s all over.” – Donald Trump on Larry King Live, October 1999.</p> <p><u>GGDM Commentary:</u> <i>This is sort of a supra-legitimacy and ‘forward expectations’/The Bargain (5 Culture) type statement relating to domestic subsistence (as described in 2 Taxation & Census) and legitimacy as described in 2 and 3 Government Titles, it all ties here.</i></p>	

Turner, Jonathan H.

This is similar to Elwell's comments about how sociology has become a science of questionnaire design and data crunching:

“Sociologists have lost their vision of what science is. Indeed, only in a discipline that has lost its way could mechanical number crunching, per se, be considered ‘science’ and philosophical navel contemplation be defined as ‘theory.’ It is almost as if we have forgotten that science and theory are part of the same enterprise. That is, science is to seek understanding of the universe, and the vehicle through which such understanding is to be achieved is theory. Sociology has allowed poor philosophers to usurp theoretical activity and ‘statistical packages’ to hold social science hostage.” – Jonathan H. Turner, “Returning to Social Physics: Illustrations from the Work of George Herbert Mead,” George Herbert Mead: Critical Assessments, Volume 3 (1992), Ed. Peter Hamilton, p. 132.

- Cf. Frank Elwell: “Mainstream sociology is straying from its roots. ... Today, too many sociologists practice the discipline as one of social data collection and manipulation, a reification of method over substance.” Macrosociology: Four Modern Theorists (2006), p. xi.

Cf. Frank Elwell top Feature Quote, 3 Fallen to Earth, p. 1529

Sociology's struggle for empirical science recognition, history as 'empirical science,' epistemology/ontology (and ontic description) and academic dogmatism:

“There is, of course, nothing inherently problematic in scholars pursuing different modes of explanation, but unfortunately, those who like to view events in the empirical/historical context often go beyond stating their preference. They often make the assertion that there are no generic forces driving the social universe; all is historical, contextual, and contingent, with the result that nomothetic explanation is not appropriate in the social sciences. What I see as an understandable matter of diverging preferences and intellectual priorities now becomes epistemological and ontological dogmatism that inhibits the development of sociology as a science.” – Jonathan H. Turner, Theoretical Principles of Sociology, Vol. 1, Macro-dynamics (2012), p. 10.

GGDM Commentary: Note that I also argue that sociology is more related to philosophy than it likes to admit (3 Constructural Elements, p. 210). See also, Michael Robbins Feature Quote, 2 Reformation, bottom p. 1393 (ontology vs. ontic description) and Andrew Oswald top Feature Quote (academic dogmatism), 2 Fallen to Earth, p. 1510.

Unsolved Problems, 3 Constructural Elements, pp. 209-211
‘dogmatism,’ Loud Barking, 1 Dreamtime, p. 135
Aspects of Sociology, *et seq.*, 2 Culture, pp. 371-374

This 'sort of' goes to the (long-running) debate about what GGDM is, model, simulation, or theory in the sense that if GGDM were held forth as a 'social theory' it would not be required to 'explain everything' to pass the test:

“A variant of the expectation that we should ‘explain everything all at once’ is a game that we can call the ‘verstehen game,’ [pronounced ‘ver-stay-en’²⁵] on the one side, and the ‘macrostructural game,’ on the other side. Good theory, some say, explains things ‘at the level of meaning,’ while others said that ‘good theory’ explains the social forces that create subjective states. Actually, those are not irreconcilable positions, once we abandon the notion that theory must explain ‘everything all at once.’ We can have theoretical principles that allow us to understand subjective states, we can have other theoretical principles that allow us to understand broader structural processes; and we can have a few social psychological principles to help us understand the relationship between the

‘struggle to define what GGDM is,’ Expected Ice Cream, Waiter Brought Sorbet, 1 Beginnings, p. 30
Fuzzy Models, *et seq.*, 2 Fallen to Earth, pp. 1510-1513

²⁵ “Verstehen” at Merriam Webster: “an intuitive doctrine or method of interpreting human culture especially in its subjective motivational and valuational aspects through the understanding of symbolic relationships”; “Verstehen” at Google dictionary, “empathic understanding of human behavior.” Verstehen is a noun, and therefore it is a name for an abstract property of human understanding.

<p>two. There will no more be ‘one theory’ that explains meaning and structure than there is ‘one theory’ of the physical universe or of the organic realm of the universe.” – Jonathan H. Turner, “Returning to Social Physics: Illustrations from the Work of George Herbert Mead,” <i>George Herbert Mead: Critical Assessments, Volume 3</i>(1992), Ed. Peter Hamilton, p. 137.</p> <p style="text-align: center;">***</p> <p>“Elaborating category systems and using them to describe empirical events can be useful for seeing events in more analytical terms, but it is not a good way to build a general theory because the categories are not testable – indeed, they are simply ontological assertions – and the connections enumerated among the categories are generally not testable as well. Category systems often make for interesting philosophy but not particularly good theory, unless they are simple and used to develop general laws on basic social processes.” – Jonathan H. Turner, <u>Theoretical Principles of Sociology, Vol. 1, Macrodynamics</u> (2012), p. 20.</p> <p><i>GGDM Commentary: Now this always, of course, comes back around to re-framing the question that I have long asked of GGDM in various ways over the years (even mostly when I didn’t – and may still not – understand what I was asking) – in this case, the question is whether GGDM is another ‘category system’ or whether I am now the student who is proposing a different view of social systems to the older generation of established sociology?</i></p>	<p>Moving Through Kashmir, <i>et seq.</i>, 3 Fallen to Earth, pp. 1540-1546</p>
<p>Turner, Jonathan H. and Seth Abrutyn</p>	
<p><i>Emergence and superorganisms, struggle of Sociology to be recognized as science, pseudo-physics in humanities, evolution and biology, Fundamental Realities, Homeworlds, population density, planetary governments, Pacification Theory, Legitimacy & Conflict Checks, Constructural Elements, rebranding of organizations, Commerce-Construction relationship:</i></p> <p>[pp. 530-531] “Indeed, many generations of sociologists have held to the view that social structure and culture are emergent phenomena, requiring their own mode of analysis that is not reducible to either psychology or biology. What this emphasis tends to ignore is that a distinctly sociological analysis is not obviated by drawing from biology but, instead, such analyses are made even more robust. The best examples supporting this conclusion are urban ecology (Hawley 1986; Park 1936) and organizational ecology (Hannan and Freeman 1977) that have greatly enriched the analysis of two key types of corporate units – communities and organizations. These approaches view, respectively, selection as a driving force in (1) the differentiation of communities into distinctive areas of activity and (2) the rates of survival and death of organizations in resource niches inhabited by distinctive populations of organizations. The sociology of these approaches is sustained, but new insights are achieved by introducing <i>selection</i> as a key <i>social</i> process.</p> <p>There is, however, some merit in the concern that approaches from outside sociology tend to ignore sociology. For instance, many approaches posit that Darwinian natural selection and the other three forces of biological evolution create cognitive, motivational, and behavioral propensities – for example, kin selection, altruism, reciprocity, reciprocal altruism, and so on – that become institutionalized in the structure and culture of institutional systems in societies (e.g., Alcock 2001, 2015; Williams 1966; Wilson 1975, 1978). But these efforts to explain this institutionalization in terms of evolved behavioral propensities cite very little if any of the large literatures in sociology on the dynamics of social systems. Furthermore, the agent-based simulations that sometimes accompany these</p>	<p>Fundamental Realities, <i>et seq.</i>, 3 Beginnings, p. 37</p> <p>Population Density 4 Diplomacy, p. 1146</p> <p>Pseudo-Physics of the KM, 2 Kairoitic Moments, p. 1434</p> <p>Legitimacy, <i>et seq.</i>, 3 Government Titles, pp. 607-609</p> <p>‘rebranding of organizations, The March of Dimes,’ New Mission, 1 Colleges, p. 462</p> <p>‘construction-commerce-technology triumvirate,’ Things to</p>

'explanations' rarely specify the sociocultural mechanisms and processes by which such institutionalization occurs (e.g., Fowler 2005; Gintis 2000; Nowak 2006; Skirms 2000). With or without the simulation, most of these explanations become, in essence, 'just so' stories about how behaviors installed by Darwinian natural selection cause the emergence of institutional systems. ... While these stories are often interesting and provocative, they do *not* offer explanations that are interesting to most sociologists. They are highly discursive and, at best, speculative; they do not provide an explanation beyond telling a good story. Thus, while it is certainly true that Darwinian natural selection and other forces of evolution have instilled or enhanced in humans cognitive, motivational, and behavioral capacities, it is equally true that humans have used these capacities, purposefully, to build up culture and social structure – a point echoed in Robert Boyd and Peter Richerson's (1992) work on micro-evolution."

GGDM Commentary: *It is very important that participants in GGDM view 'corporate units' in the game as not just the official Corporations created by Special Writ, but rather, colonies are the actual main corporate unit of the game, which is reflected in the game's emphasis on planetary civilizations, planetary isolation and planetary governments within the larger interstellar setting. This is consistent with the view, for example, of medieval villages as 'corporate' entities that bargained collectively with the local lord; a view that opposes the image of the abject, impoverished, abused serf or peasant.*

[pp. 531-532] "...we outline what Richard Dawkins (1976) termed *survivor machines* for genes but have drawn out the multilevel implications of his argument. The phenotype of the human body is a survivor machine carrying a precious cargo, genotypes, and by extension, human phenotypes are protected by the morphology of societies as they build ever-more complex layers of social structures: groups, organizations, communities, institutional domains, societies, and intersocietal systems. Natural selection operates at all levels of the embedded structures ... but once we leave the realm of human phenotypes, the selection working on the morphology of human superorganisms is no longer Darwinian. New types of selection begin to operate; and our goal in this paper will be to outline different types of selection dynamics, while maintaining some continuity with Darwin's view of natural selection. To highlight the differences in types of natural selection, we have chosen to name them by invoking social scientists whose work overlaps with Darwin's. We will thus distinguish among *Darwinian*, *Spencerian*, *Durkheimian*, and *Marxian* selection as a means of highlighting both the convergence and divergence of Spencerian, Durkheimian, and Marxian natural selection from Darwinian natural selection."

GGDM Commentary: *'Superorganism' corresponds precisely to Clarence Marsh Case's 'fourth order of natural phenomenon' discussed in GGDM: "The four orders are the inorganic, the vital organic, the mental organic and the super-organic, or social," and "The social sciences deal with the fourth order of natural phenomenon, namely the super-organic or social...." (see full citations, 2 Culture, p. 371).*

[p. 534] "Durkheim, however, was the first to explicitly incorporate Darwin's basic model to sociological analysis and, thus, we label sociocultural selection among units of human social organization *Durkheimian selection*. As such, Durkheimian selection is characterized by four principles. First, the units on which selection works are organizations or, more generically, corporate units revealing internal divisions of labor (e.g., fam-

Build, 2 Construction, p. 665

'commerce & construction,' Gross Domestic Product, 1 Construction, pp. 662-663

Biology and Evolution:

"Evolution pervades all biological phenomena," National Academy of Sciences Quote, 5 Beginnings, p. 57

"Biology is more like history than it is like physics," Carl Sagan Feature Quote and Backdoor Evolution, 3 Technology, pp. 723-724

'Teleology is like a mistress to a biologist,' J.D. Haldane Feature Quote, 3 Patents, p. 752

The Super-organic:

Clarence Marsh Case quotes and discussions in Aspects of Sociology, Methodological Dualism, and ENs 9 and 10, 2 Culture, pp. 371-373, 375-377

Fourth Order Language, 3 Fallen to Earth, pp. 1444-1446

ilies, schools, businesses, governmental agencies, art galleries, newspapers, etc.). Second, consistent with Darwinian selection, emphasis is on the evolution of *the population* of organizations and corporate units and, therefore, their organizational forms (e.g., structure and culture) in a particular resource niche. Third, the dynamics driving selection are much like those specified by Darwin: population growth, increased density, escalating competition, selection, and death to less fit organizations, although Durkheim also argued that because of their capacity for agency, corporate units can often move to new niches, or even create new resource niches in which they can survive. Fourth, competition and Durkheimian selection always occurs within the boundaries of an institutional framework that, to some degree, shapes and limits how competition manifests itself (Fligstein and McAdams 2012).”

GGDM Commentary: In one sense, GGDM’s discussion of population density in the context of the European colonization-Native American contest, is consistent with the Durkheimian selection above, but would more likely be classified under Type 2 Spencerian selection below. Also note that in the discussion of Amending College Charters, the ability to ‘rebrand’ and ‘change missions’ of non-profit organizations is discussed, which is fairly consistent with the ability of corporate units to ‘move to new niches’ described above.

[p. 535-536] “*Type 1 Spencerian selection.* Long before Durkheim, Herbert Spencer formulated another view of selection that is essential to the sociological analysis of evolution of sociocultural systems. Although many of his ideas were converted to functionalism in the mid-twentieth century, if we go back to Spencer’s (1874–1896) original work, we can see Spencer’s formulation of an important type of selection that is essential in understanding human superorganisms. Spencer argued that, as societies evolve, they become more complex by elaborating different types of social structures (and corresponding cultures) along four fundamental axes: (1) *production* of resources needed for humans to survive and build social structures; (2) *reproduction* of individuals and the sociocultural formations organizing their activities; (3) *regulation* through the (a) consolidation of power, (b) codification of belief systems, and (c) formation of structural interdependencies through markets; and (4) *distribution* through the expansion of (a) infrastructures of moving resources, information, and people across territories, and (b) markets facilitating exchanges of resources, information, and even people (e.g., slave markets, labor markets). This emphasis on axes of differentiation is, however, a much more important contribution for conceptualizing sociocultural selection.

In fact, Spencer was emphasizing selection pressures that are just the *opposite* of what neo-Darwinians or Durkheim emphasize because Spencer was arguing that under some conditions, it is the *absence of existing variants of social structures or cultural codings* capable of dealing with exogenous or endogenous exigencies that generate pressures for individuals and corporate actors to innovate organizationally, normatively, and symbolically. That is, under these conditions, selection does not sort among existing variants but pushes actors to *create new variants* that can deal with a real or perceived problem revolving around production, reproduction, regulation, and distribution. Spencerian selection, therefore, is Lamarckian in that it is driven by needs, motives, interests, and power relations to ‘acquire’ somehow, perhaps anyhow, new sociocultural phenotypes (Abrutyn 2014a, 2015a, 2015b; Eisenstadt 1964; Runciman 2009; Turner 1995).

We can add another element to Spencer’s argument on what we are terming Type 1 Spencerian selection, one that he did not fully outline but that is important, particularly in

Fourth Frame, 1 Entropy, pp. 226-227

Order of Genesis, 1 Order, pp. 522-523

Sociology’s struggle for science recognition:

Aspects of Sociology, *et seq.*, 2 Culture, pp. 371-374

Clarence Marsh Case quote and discussion in Unsolved Problems, 3 Constructural Elements, pp. 209-211

Homeworlds in GGDM:

Homeworld Position, 6 Beginnings, pp. 62-63

Homeworld Habitability, 3 Taxation & Census, p. 321

‘Homeworlds as colony planets,’ Capital Colony and Pilgrimage to Earth, 2 Order, pp. 532, 541

Planetary Government in GGDM:

‘GGDM does not deal directly with planetary governments,’ AI Nanny, 1 Government Titles, pp. 580-581

the analysis of religion...: the selection pressures created by *basic human needs* (Abrutyn 2009; Turner 2002, 2010). When a large proportion of a populations' fundamental need-states are consistently *not* realized by existing institutional systems, these collective needs generate selection pressures on key actors in various institutional domains (e.g., polity, economy, religion) to create new forms of institutional systems. It is not unreasonable to assume, for example, that humans have fundamental needs to verifying self, for receiving 'profits' in exchange relations with others and corporate units, for experiencing a sense of efficacy in at least some situations, for feeling a sense of trust in others, and perhaps for other such needs (Turner 2002). When large segments of a population cannot meet these needs, the negative emotional arousal – for example, fear, anxiety, shame, anger, frustration, sadness, and so on – can become collectively experienced, thereby arousing intense emotions that exert pressures on actors to find solutions to decrease this arousal – lest more Marxian selection pressures and intrasocietal conflict are generated (see below). Again, the pressure is not so much to select among existing variants of sociocultural formations, but to create some *new variants of structures and cultures* within institutional systems to reduce these selection pressures.”

GGDM Commentary: This entire section pretty much describes GGDM's processes in a more sociologically-acceptable way than any silly space game would... but I want to focus on the axes described in the first paragraph. Axes 1 and 2 are described within GGDM as Taxation and Censes, which, unsurprisingly are paired in a section, a testament to their overarching importance to and inseparability in human civilization. And Axis 1 and 2 are entirely consistent with Frank Elwell's discussion of Foster, citing to Marx and Engles (see Feature Quote, 1 Taxation & Census, p. 296). Axis 3 describes in GGDM terms, Order and Government Titles, and to some extent, the discussions of relation of religion and legitimacy through much of human history. Axis 4 translates in GGDM terms into mainly Commerce and Construction, which are very much connected in GGDM, the movement of RPs by Cargo Ships and enhanced GDP by Unloading.

[pp. 537-538] “*Type 2 Spencerian selection.* Spencer saw the evolution of societies from simple to more complex forms as very much driven by warfare, and as he turned to sociology in the 1870s, he increasingly employed his famous phrase (Spencer 1888 [1850–1851]), ‘the survival of the fittest,’ to denote selection between societies when they go to war (Spencer 1874-96). Societies with larger populations from which to draw military forces, with greater consensus over values, ideologies, and beliefs, with higher levels of economic and military technology, with a polity that is centralized and yet legitimated (often by religious beliefs and elites), with an economy that produces large economic surpluses, with superiority in military organization, and with other advantages can typically win a war against societies revealing lower levels of all these capacities.

As one society conquers another, the diffusion of the dominant society's culture and many of its organizational forms begin to generate another level of selection pressure on the indigenous cultures and social structures of a conquered society, particularly if domination rather than cooptation are employed to control members of a conquered population. Thus, the selection process inhering in war revolves around more-fit societies forcing some degree of consolidation of less fit societies into their institutional structures, thereby making, for the time being, an even larger superorganism. Much like genetic drift, but with purpose and intention, culture travels along with war and conquest, sometimes extinguishing local cultures, but more often combining in new structural and cul-

‘puppet regimes,’ Conversion, 3 Order, pp. 554-555

‘little control over starships,’ Starship Jefferson, 1 Stardrive, p. 780

‘tension between starships and planetary governments,’ Noblesse Oblige, 4 Movement, pp. 871-872

Pacification Theory (as Spencerian Type 2 selection forces):

←

Mark Neocleous Feature Quote and Making War Through Peace, 6 Combat, p. 1020

‘liberty vs. security,’ George S. Rigakos and Mark Neocleous quote, 2 Government Titles, pp. 586-587

Conversion & Naturalization, *et seq.*, 3 Order, pp. 553-554, 556-557

tural variants. Over time, the institutional systems of the conquered change by a combination of Type 2 Spencerian selection and perhaps Durkheimian selection.... Thus, warfare and these associated dynamics have historically been one of the key forces driving ‘descent with modification’ at the level of societies and intersocietal systems, and the internal cultures of even subordinated societies in the new geopolitical formation that evolves.

One force emphasized ... is that conquest generally increases inequalities in the new geopolitical formation composed of the conquered and their conquerors. Inequalities always generate Type 1 Spencerian selection pressures, especially pressures for new forms of regulation but also distribution, production, and reproduction of the new institutional systems. Threat of revolts and other potential lines of resistance represent selection pressures on the institutional systems – polity, law, economy, and even religion – and often lead to adaptive responses that may work in the short run (e.g., coercive repression) but that themselves create a new level of new Type 1 selection pressures from those not receiving resources, not having opportunities, and not meeting fundamental human needs (installed by Darwinian selection). The stage is thus set for a round of what we view as *Marxian selection* in the midst of Type 1 and Type 2 Spencerian selection, often generated by the unfulfilled needs (that are part of the legacy of Darwinian selection) of the subordinated in societies revealing high levels of inequality.

The advantages to viewing selection as Spencerian, whether Type 1 or Type 2, is that evolution is neither inevitable nor unilinear. As the literature on entrepreneurship (Abrutyn 2014b; Eisenstadt 1964) and social movements (Snow and Soule 2010) demonstrates, agents rarely achieve their stated goals as articulated. Instead, adjustments and accommodations are typical (Abrutyn and Van Ness 2015), and incomplete success and ongoing efforts to maintain and expand success are the rule. In fact, societies are almost always in at least a mild state where Spencerian selection pressures from (1) fundamental fault lines of all patterns of social organization (i.e., production, reproduction, regulation, and distribution) and/or from (2) unfulfilled needstates create Type 1 pressures for new types of corporate units that can respond to these pressures. When these creative efforts prove fitness enhancing, they become the core of new institutional domains, as core actors continue to develop these successful corporate units; and as they do so, they also seek modes whereby they become more integrated. In fact, until mechanisms of integration are in place, the fitness-enhancing effects of new corporate units cannot be fully realized. All of the institutions of human societies have evolved this way, and continue to evolve in response to Type 1 and Type 2 Spencerian selection pressures.”

GGDM Commentary: Type 2 Spencerian selection is the story of the game, the difference, as was pointed out in Zero Sum Game, et seq., 6 Diplomacy, pp.1171-1173, is that the setting introduces a never-ending frontier, which is not and is no longer available on Earth. Most of GGDM’s interaction between societies can be fit into Type 2, specifically, Conversion & Naturalization (and Pacification Combat), slavery and economic inequality discussions, and the very fact that human civilization owes much to the long term, lasting historical effects of selfish hegemonic empires!

[p. 538-539] “Marx’s emphasis on the ‘contradictions’ that always exist in the organization of production (save for his communist utopia) is another way of arguing for Spencerian selection. But what makes his analysis distinctive is that often these pressures cannot be resolved because institutional systems – for example, economy, polity, law, reli-

<p>gion – reveal rigidities that keep them from innovating new solutions to problems of inequality (although the historical record, thus far, shows that these institutional systems were able to innovate more than Marx anticipated). As a result, those who are subordinate or marginalized and who do not perceive that they receive a fair share of resources will experience a variety of deprivations that accumulate into a set of grievances that, initially, are only vaguely articulated but that, nonetheless, arouse intense negative emotions (Goodwin and Jasper 2006; Jasper and Owens 2014; Turner 2010). The conflict process begins here, and under a number of conditions, leads subordinates to develop counterideologies against not only the legitimating ideologies of the political economy but also the institutional structure of a society (Summers-Effler and Kwak 2015; Turner 2010).</p> <p>As leaders articulate these counterideologies, they coalesce into an increasingly coherent ideology for revolution in which a class ‘in itself’ becomes organized as a class ‘for itself,’ willing to engage in conflict against the organizational structures and the ideologies imposed by elites that legitimate these structures (Snow 2004). This conflict can be violent at some point and lead to an overthrow of the existing political regime, with a new regime responding to Spencerian selection pressures for regulation and control, thereby imposing new systems of economic relations and political control that may lead to new types of Spencerian selection pressures that, if not managed, can lead to a new round of Marxian selection.</p> <p>While some of Marx’s specific predictions may not be empirically valid, the key point is that certain conditions lead to conflicts that fall outside the bounds of Durkheimian selection because the conflict is over the very institutional systems—economy, markets, polity, law, and religion – that often regulate Durkheimian competition over resources. His ideas also go beyond Spencer who tended to emphasize warfare between societies, whereas conflict-based selection outlined by Marx occurs within and between societies. For much of sociocultural evolution has involved conflict as a selection process between mobilized corporate actors, with the parties to the conflict most able to secure and mobilize resources, the most likely to prevail and, thereby, to structure or restructure new variants of sociocultural formations.” – Jonathan H. Turner and Seth Abrutyn, “Returning the ‘Social’ to Evolutionary Sociology: Reconsidering Spencer, Durkheim, and Marx’s Models of ‘Natural’ Selection,” <i>Sociological Perspectives</i>, 2017, Vol. 60(3) 529–556 (italics in original).</p> <p><i>GGDM Commentary: GGDM does not directly engage with selection forces in the same way as Professors Turner and Abrutyn do in their work on social dynamics, but selection forces are ‘indirectly’ simulated in the game in the form of, for example, inactivation of Constructural Elements, conflict checks for and changing of Government Titles, isolation and drift mechanics, and Writs and Fuzzy Group activations. Participants may, however, consider selection forces identified here (and in other works by other authors) as part of weighing changes to civilizations in the game.</i></p>	
<p><i>Negativity bias, judgment and hope as fears, Happiness Meta-Aspect, Supra-Legitimacy, ‘craving for pride’:</i></p> <p>[p. 544] “At the neurological level, negative emotions far outnumber the positive emotions that humans can use during interaction (indeed, four of at least the five primary emotions that have been elaborated by hominin neurology are negative [anger, fear, sadness, disgust] whereas one is positive [happiness]).” – Jonathan H. Turner and Seth Abrutyn, “Returning the ‘Social’ to Evolutionary Sociology: Reconsidering Spencer,</p>	<p>‘negativity bias,’ Jill Gabrielle Klein Feature Quote, 6 Government Titles, bottom p. 649, EN 1, p. 658</p>

<p>Durkheim, and Marx’s Models of ‘Natural’ Selection,” Sociological Perspectives, 2017, Vol. 60(3) 529–556.</p> <p><i>GGDM Commentary:</i> <i>We were all put here against our will, there is no argument that can or has ever been made that somehow we consented to being here. This is the essence of religion, even though most people who practice, believe, preach their religion don’t understand that this is in fact, the sole issue of religion. Religion must address the fundamental unfairness, wrongness of us having been ‘placed’ here against our will and having to endure the annoyance and harms of life in this universe, including death and loss. To do this, religions construct grand cosmic schemes, creation stories, God’s plan, incorporating ethical and moral structures, community beliefs and rituals, the afterlife, and so forth, all to create a balm and buffer against the Existential Void so that their followers are happy. That is the fundamental and essence of the happiness meta-aspect of humanity as a counter against our sprawling consciousness.</i></p> <ul style="list-style-type: none"> • I personally refuse to accept that there is any grand or beneficent purpose to having been placed here against my will or that there is any grand scheme to the petty annoyances and pain of my life. I refuse to pretend that I am happy, and I am sure that is evident in GGDM. Would the world be better, would humanity be better, if we refused to pretend to be happy, if we took off the blinkers? That is the rhetorical question of GGDM. <p><i>See also, ‘happiness as the Meta-Aspect of humanity,’ The Happy Hurkle, et seq., 4 Culture, pp. 409-410 and ‘supra-legitimacy,’ Type 3, 3 Beginnings, p. 42.</i></p>	<p>Eric Hoffer’s ‘craving for pride,’ Wikipedia quote, 3 Commerce, p. 1219</p> <p>Hope in GGDM:</p> <p>‘hope is fear of our own futility,’ What is Hope Then?, 2 Diplomacy, pp. 1115-1116</p> <p>‘combat die rolls and hope,’ The Heroic & the Dismal, 3 Combat, pp. 979-980</p>
<p><i>Happiness Meta-Aspect, Aspects discussion generally, Symbolic and Ideological Constitutional Elements, Temperance Movement/Prohibition Era, Civil Rights Movement, ‘Crusades’ and hierophany, Christianity as a social phenomenon:</i></p> <p>[p. 539] “...we should perhaps emphasize that religion has often been at the center of these more Marxian-type processes because it already has achieved what evolving SMOs [Social Movement Organizations] always seek: (1) a highly moralized belief system that can be used to charge up emotions, (2) a collective memory that roots social ties and obligations in a sacred time, and (3) an existing organizational structure with leaders and a division of labor ready to act and recruit additional resources to pursue conflict. Indeed, religious organizations have advantages over other types of organizations in that their rewards are intangible and long term and, thus, commitment is intensified, especially where a singular, transcendental deity comprises the supernatural (Norenzayan 2013; C. Smith 1996; Stark and Bainbridge 1996). In addition, religious collectives have networks that cross-cut other categories of stratification, as well as other types of corporate units – for example, kin units, neighborhoods, and communities.” – Jonathan H. Turner and Seth Abrutyn, “Returning the ‘Social’ to Evolutionary Sociology: Reconsidering Spencer, Durkheim, and Marx’s Models of ‘Natural’ Selection,” Sociological Perspectives, 2017, Vol. 60(3) 529–556.</p> <p><i>GGDM Commentary:</i> <i>The characteristics of religion and religious organization described by Professors Turner and Abrutyn above is the power of religion to address the human meta-happiness aspect and shield us from the existential void. Their description can fairly be characterized as describing a sociological ‘meta-power’ of religion – whether the supreme deity actually exists or not, it does to the believers – in an even more robust manner than the Federal government acts as a ‘meta-authority’ over the</i></p>	<p>‘happiness as the Meta-Aspect of humanity,’ The Happy Hurkle, et seq., 4 Culture, pp. 409-410</p> <p>‘temperance movement,’ Flying the Banner, 4 Government Titles, p. 632</p> <p>Bottle Spin Whac-a-mole, 2 Eras, pp. 768-769</p> <p>‘Christianity as a social phenomenon,’ The Core of Christianity, 1 Kairotic Moments, pp. 1423-1424</p> <p>Hierophany:</p> <p>Fuzzy Concepts, 4 Culture, p. 404</p>

<p><i>States through Constitutional interstate commerce power, federal aid and program requirements and ultimately (as a result of the Civil War amendments) that the citizens of every state are also U.S. citizens protected by the U.S. Constitution.</i></p> <p><i>See also, 'Aspects as emotions,' Aspects and Affliction of Aspects, 2 Culture, pp. 364, 369-370 and 'exposing aspects,' A Bustle in Your Hedgerow, et seq., 2 Culture, pp. 365-366.</i></p>	<p>Encyclopedia.com quote and Problem to Solve, 4 Fallen to Earth, pp. 1558-1559</p>
<p>Twain, Mark</p>	
<p><i>The Big Lie discussion:</i></p> <p>"It's easier to fool people than to convince them they have been fooled." – Mark Twain.²⁶</p> <p><i>See also, Bruce Schreiner Feature Quote and Three Big Lies, 2 Information, pp. 1354-1356. It took years of litigation to counter and debunk tobacco industry lies.</i></p>	<p>'The Big Lie,' Adolf Hitler Feature Quote, 1 Diplomacy, p. 1106</p>
<p>Tyrell, Toby</p>	
<p><i>Galaxia-Gaia, wholism/holistic thinking:</i></p> <p>"I believe Gaia is a dead end. Its study has, however, generated many new and thought provoking questions. While rejecting Gaia, we can at the same time appreciate Lovelock's originality and breadth of vision, and recognize that his audacious concept has helped to stimulate many new ideas about the Earth, and to champion a holistic approach to studying it." – Toby Tyrrell, <u>On Gaia: A Critical Investigation of the Relationship between Life and Earth</u> (2013).</p> <ul style="list-style-type: none"> • See James Lovelock quote in this document. <p><i>GGDM Commentary: Still, Gaia will remain a fixture in science fiction (most famously, Isaac Asimov's Galaxia-Gia mentioned in GGDM), fantasy, and new age religions because it has such philosophical potential for expressing the writer's views. The French artist, Bruno Latore's comments rather illustrate this point, see his comments this document; while science things Gaia is dead as a hypothesis, art or some artist still champion the idea.</i></p> <p><i>And thus, there is no reason why it cannot be coopted into a game of GGDM by the participants if it fits or sparks the game story. In the real world, GGDM as a simulation is an argument for 'wholism' in viewing human civilizations as a precondition to understanding civilization as a gestalt, likely that albatross doesn't fly far from the nest, and the best I can hope for from GGDM intellectually is a similar verdict to the one rendered by Toby Tyrrell.</i></p> <ul style="list-style-type: none"> • I don't think the jury has quite finished deliberating on this yet: Suzanne Simard's work on tree root communication systems (see Ferris Jabr quote, this document) and recent discovery of kilometers deep biomass on Earth (see Bruno Latore and Anton Petrov quotes, this document) are certainly favorable to the Gaia hypothesis generally. 	<p>Wholistic, 2 Diplomacy, p. 1121</p> <p>'large distributed systems,' Wikipedia quote, 2 Culture, top-middle p. 363</p> <p>'Gaia' is only mentioned in GGDM in relation to Isaac Asimov's famous sci-fi 'Galaxia-Gaia'</p>

²⁶ This quote is popularly attributed to Mark Twain and has been propagated widely on the internet since about 2011. According to Dan Evon on Snopes (Did Mark Twain Say 'It's Easier to Fool People Than to Convince Them That They Have Been Fooled'?, December 29, 2016), however, it may have been paraphrased from a specific passage in his Autobiography. But it's not a new idea.

Brute force lift from surface, corporations in space, Scout and Cargo Ship resupply, Scout Ship extended OSL, Sit ‘n Spin strategy:

“Just to set up what’s going on here, if you go near the poles where the height of the sun in the daytime doesn’t get very high, so the arc from sunrise to sunset is very low, imagine you have craters with rims sufficiently high that sunlight never actually reaches the bottom of the crater ever. We have always known of the likelihood that you could trap water in those locations, and they are called cold traps. And how do you get the water? You get hit by a comet or a water-rich asteroid, the water molecules ascend and then fall back all around the Lunar surface, but if it lands in the cold trap, it’s never coming out ever. Now, how about the rest of the water? If you land near the equator, the sunlight is very intense and in the Lunar daytime, it evaporates. So what we did not expect was that if you had water say, closer to the poles, but not in the cold trap, that you would still have preserved sort of a molecular array of water molecules at those locations. And I have to add that, just to be clear, all sides of the moon get sunlight, unlike the Pink Floyd album, Dark Side of the Moon, there is no such thing as a dark side of the moon. I’ve had to undo that for the last 40 years.

[Anchor asks *why do we care* that we found a little water on the moon?] Ok, so first you don’t want to be the person who 30,000 years ago would have said when I open the cave door, ‘Oh that’s interesting out there, I want to go visit that.’ And you said, ‘No, no, no, we have cave problems we need to solve first before anyone leaves the cave.’ You don’t want to be that person. ... Second, it costs just about \$10,000 a pound to lift anything into orbit and take it somewhere in the solar system. ... So if you are an astronaut anywhere in the solar system and you need water, NASA has to pay 10,000 for one of these Evian containers, just for you to drink. So imagine you set up a mining operation gathering these water molecules then bottling it. You can then sell that to NASA for \$9,000! So, *in situ* resources ... are of extreme value to any activities that are going on in space when we are imagining the solar system becoming our backyard in the future.” – Neil DeGrasse Tyson, “Neil DeGrasse Tyson Breaks Down Discovery Of Water On The Moon,” Today Show, NBC YouTube Channel, October 27, 2020.

See also, regarding ‘brute force launch’ costs in simulation gaming, Strategic Shipyarding, 3 Construction, p. 676.

Americans in Rubber Suits, players will probably act as though the races in the game are human, true size and scale of the universe, why extraterrestrial life matters to humanity:

“Well Hollywood gets a lot wrong, I don’t know who want to blame for all of this. Hollywood, I think they want to pay an actor to be in an alien costume which means the alien has arms and legs and walks and has a head, and most life on Earth doesn’t have that. And this is life with which we have DNA in common, oak trees, bananas, you know, so I am disappointed with these expectations that people are placing on aliens because it’s all based on our human bias. If you look for life, you gotta look at it in a very open way, look for general biochemistry that could be going on. Of course, you want cameras in case something crawls out...” [interrupted by interviewer, probably for taking too long to answer the question!]

Brute-force Launch:

Norman Spinrad
Feature Quote, 1
Stardrive, p. 786

‘building Scout Ships on planet surface,’ Building Up, 1 Expansion, p. 880

‘homesteader position in GGDM,’ Sit ‘n Spin, 2 Taxation & Census, p. 309

‘Cargo Ship resupply,’ Cold Lunch, 1 Commerce, pp. 1190-1191

Scout Extended OSL:

Imperial Interstellar Scout Service, 3 Movement, p. 855

Scout’s Honor, 1 Expansion, p. 879

‘participants will probably treat all game population as human,’ The Great Abacus in the Sky, 3 Taxation & Census, p. 314

‘Americans in rubber suits,’ Tsunami, 2 Kairotic Moments, pp. 1434-1435

‘Neil DeGrasse Tyson repeating

June 24, 2020 Neil DeGrasse Tyson Tweet shown on Screen: “You’d be inexcusably egocentric to suggest that Earth was the only place in the observable universe with life – among a hundred billion galaxies, each containing a hundred billion stars orbited by a hundred billion planets. Yet how terrifyingly lonely it would be, if true.”

“First, if we are the only life in the universe, it would be lonely, but my first thought would be, ‘that’s weird!’ ‘Cause we’re made of very common ingredients, hydrogen, oxygen, and carbon and nitrogen, that stuff is everywhere in the universe and on Earth, life got started almost as quickly as it possibly could have, within about a hundred million years. That’s short compared to the history of the Earth. So why would Earth be the lucky one for this to happen? That’s not a realistic thought, so our place in the universe would be, wouldn’t it be interesting to know that there are other lifeforms that have our same chemistry. That would give us a sense of belonging, I think; I think we’ve got it wrong, we keep thinking that you’re special if you’re different, but maybe you can be special because you’re the same?! Maybe we’re special because we’re made of the same ingredients as the stars, as other life forms across the universe. Doesn’t that make you feel bigger rather than smaller?”

- Cf. “*The universe is a pretty big place. If it’s just us, seems like an awful waste of space.*” – Carl Sagan, *Cosmos*.

“If you want to say, why are we spending up there when we could be down here, just go back 30,000 years and we’re in the cave. And you poke out the cave door – if caves had doors – and you say, ‘oh, there’s a mountain, a valley, hills and streams and flowers and fruits.’ And you go back to the cave and I want us to explore that and what do the cave people say? ‘Nope, we have cave problems that have to solve first! Can’t leave the cave until you solve the cave problems.’ And only then do they let you out? That’s what it looks like to the explorer when you are saying, ‘I have problems, I don’t have the luxury to explore the unknown.’ Because the unknown is the source of all of our modern enlightenment, and likely the source of solutions to problems that either we confront with nature or that we create for ourselves.” – Neil DeGrasse Tyson interview by Whit Johnson, ABC Prime, March 3, 2021.

GGDM Commentary: Whit Johnson threw the ball right over the plate (it was probably agreed upon ahead of time) in asking the question where DeGrasse Tyson could tell the cave story again; like Frederick Douglas, he has standard, rehearsed, repeating talking points. I assume that this is a point that DeGrasse Tyson insists be made in every interview.

For an example of being an ‘inexcusable egocentric’ as mentioned in DeGrasse Tyson’s tweet, see the Christian reaction to exoplanets discussion and especially the lengthy David F. Coppege quote in Cardinal Baronius, 2 The Sidereal Stage, pp. 117-120. See also, continued discussion in Fallen Angels, 2 Diplomacy, pp. 1111-1113.

Sagan’s arguments,’ Carbon Chauvinist, 1 Order, pp. 527-529

‘universe is 20x bigger than it was in the Cold War,’ Let’s Do Some Calculations, 1 Movement, pp. 837-838

‘Age of Discovery,’ Reformation or Transformation? and Duo Decei Millenii, 1 Reformation, pp. 1380-1381

Importance of Alien Contact:

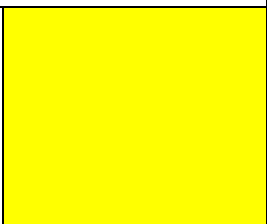
To Serve Man, *et seq.*, 1 Diplomacy, pp. 1092-1095

Alien Persons, *et seq.*, 2 Diplomacy, pp. 1110-1114

‘aliens invasion movies make aliens just like us,’ Earth Landing, 2 Government Titles, pp. 593-594

Undoomed (YouTuber)

“Imagine if you will that you are the ruler of the world. You are the head honcho, the big cheese, it’s not important why this has happened, only that it has. You are now in charge, whatever you say, goes. Now imagine that your advisors have come to you for a decision regarding an important policy. [*this pretty much describes the player position on GGDM* 😊] For whatever reason, you don’t get to write the policies yourself, and the two choices you are presented with and must choose from are these: Policy option No. 1 is



designed to create a small population with a high standard of living; policy option No. 2 on the other hand is designed to create a large population with a low quality of living. Which is the better option? And which will you choose? Now, common sense would suggest that option No. 1 with its small but happy population would be the best option, right? Well, it turns out that a lot of philosophers would disagree with that.

Let's examine their reasoning behind this. Assume that policy No. 1 will bring about Population A, the one with low numbers but high standards of living. And consequently let's also assume that policy No. 2 will bring about Population Z with large numbers and low standards of living. ...

And this is why it's called the Repugnant Conclusion. It gets its name from the fact that it's hard to accept, because we cannot logically wrap our head around the fact that the existence of a huge population of people with lives not even worth living is better than, let's say, our own existence. Given the fact that it's so hard to accept, many philosophers reject this idea, but not all of them. A great many argue that it is illogical to oppose this idea and that any such opposition is destined to fail.

So what is the conclusion, what is my opinion on this? I would say that this entire logical progression in this argument is what a computer programmer might call a 'recursive error.' And although a computer is inherently 100% and at all times logical, it may not always produce logical results. And by that token, just because the first two examples are reasonable, does not mean that the conclusion is reasonable; it doesn't follow that it's reasonable, or even sane, to consider a huge miserable population better than a small happy one. I think this argument is very deceptive and I think there are a lot of people who use it for a lot of different reasons, for instance, it could be used as a tool to lower living standards in the West, on the other hand, I suppose it could be used in a positive way to dissuade ethnic cleansing for instance. In the long run, however, I think this is a harmful line of reasoning. Either way, I am dismissing this argument and declaring it null and void. But hey, that's just my opinion, but then again, if you didn't want my opinion, why did you come here?" – Narrator (Undoomed aka The Slender Man YouTube), "The Repugnant Conclusion," Undoomed YouTube Channel, November 17, 2017.

GGDM Commentary: Unlike most of the commentary on The Repugnant Conclusion, Undoomed offers a possible answer – albeit one that entirely dismisses the problem without attempting to solve it. That's one popular human way to solve problems, Douglas Adams called it the 'Somebody Else's Problem Field.' On the other hand, I suggested to Julia Galef that Joseph Painter's 'technological optimism' provides an asymmetric solution to The Repugnant Conclusion in the sense that advancing technology renders the exercise, the choices offered, at least less overtly harmful due to efficient solutions and improved resources production and processing provided by technology.

- Undoomed's solution to The Repugnant Conclusion is like ignoring the 'white lie' argument in ethics. Everyone benefits from having truthful, fully accurate information, and there is real world harm to lying and misinformation, thus lying is universally, across all cultures, considered unethical. Yet there is an argument that in some situations, for example, lying to a violent criminal to avoid harm to children who are hiding from him – that lying is sometimes acceptable, heroic and necessary. Thus, an exception has been carved out called a 'white lie' but Undoomed's argument to ignore The Repugnant Conclusion, which demonstrably has real world consequences – is like saying a lie is a lie and ignoring the logic of the 'white lie' exception in ethics. He tries to solve the philosophical

<p>problem by just ignoring and dismissing it, like Douglas Adams’ “somebody else’s problem field.”</p>	
<p>Velshi, Ali</p>	
<p><i>Foreign recognition as Legitimacy:</i> “‘But this weekend, even though Donald Trump did not recognize the winner of the Presidential election, leaders all around the world did. ... From all corners of the globe leaders congratulated President-elect Biden and Vice-President-elect Kamala Harris and welcomed them to a new world order. My colleague, NBC’s Richard Engel, put it this way, ‘people were reacting like the United States had overthrown a dictator, that democracy had been saved, that America’s reputation had been saved.’” – Ali Velshi, The Rachel Maddow Show, MSNBC, November 9, 2020.</p>	<p>Sovereignty & Legitimacy, 3 Government Titles, pp. 609-610</p>
<p>Vonnegut, Kurt</p>	
<p><i>AI nanny:</i> “‘And it was EPICAC XIV who would decide for the coming years how many engineers and managers and research men and civil servants, and of what skills, would be needed in order to deliver the goods; and what I.Q. and aptitude levels would separate the useful men from the useless ones, and how many Reconstruction and Reclamation Corps men and how many soldiers could be supported at what pay level and where, and ... The President, with an endearing, adolescent combination of brashness and shyness, and with the barest trace of a Western drawl, was now reading aloud a speech someone had written about EPICAC XIV. He made it clear that he wasn’t any scientist, but just plain folks, standing here, humble before this great new wonder of the world, and that he was here because American plain folks had chosen him to represent them at occasions like this, and that, looking at this modern miracle, he was overcome with a feeling of deep reverence and humility and gratitude ...” – Kurt Vonnegut, <u>The Player Piano</u> (1952).</p>	<p>AI Nanny, 1 Government Titles, pp. 580-582 Deep Learning the Singularity, 2 Technology, p. 706 The AI Problem excerpts, Corporations</p>
<p>Walker, Jackie</p>	
<p><i>This relates to – is a more cynical version of – the definition of politics in 1 T&C:</i> “‘We inhabit a world where politics increasingly appears like a fraud perpetrated by interest groups, backed by the power of an economic and political elite who control what is said and what you can say, and who disseminate what they choose in order to keep control of what they increasingly have.” – Jackie Walker, “‘I don’t want no peace’ – a black, Jewish activist’s take on the responsibility of intellectuals,” in <u>The Responsibility of Intellectuals</u> (2019), Ed. Nicholas Allott, Chris Knight and Neil Smith, p. 28.</p>	<p>Interstellar Politics, 1 Taxation & Census, p. 295 ‘alternate definition of politics,’ Cultural War, 5 Culture, pp. 428-429</p>
<p>War of the Worlds TV series (Fox Network Group, 2019)</p>	
<p><i>Zero Sum and Interstellar Colonization and the nature of Alien Earth Invasion movies:</i> “‘When I think back to that day, small details stick in my mind. Things I said, the look on people’s faces. They wanted to wipe us from the face of the Earth. But we kept asking ourselves, ‘why’? After all the centuries of mindless cruelty, maybe we shouldn’t have been surprised. Are we really so different? There’s evil inside of us all.” – Bill, opening narration of Episode 1, War of the Worlds TV Series (2019).</p> <p style="text-align: center;">***</p>	<p>‘Zero sum thinking in interstellar colonization’ Zero-Sum Game, 6 Diplomacy, pp. 1171-1172 ‘Avatar movie resources negative feedback loop’</p>

[Speaking in French, with English subtitles]

Dr. Catherine Durant: I can't understand. Why?

Colonel Mustafa Mokrani: Maybe they see us as a threat?

Dr. Catherine Durant: They're scared of a little girl?

Colonel Mustafa Mokrani: Then maybe we have something they want?

Dr. Catherine Durant: There are closer planets [to Ross-128] with resources. Water and minerals. Anything they might need. It makes no sense.

Colonel Mustafa Mokrani: It makes sense to them.

Dr. Catherine Durant: I'm going to bed. – dialogue near the end of Episode 2, War of the Worlds TV Series, 2019.

Seems to be a recurring theme.... this time in English:

Jonathan: Have you any idea why they wanna kill us?

Chloe's Brother: Maybe for the same reasons we kill each other. Maybe they enjoy it. They are not here yet ... but they will be coming. ... Because there are people here and they want to kill us all." – dialogue middle of Episode 4, War of the Worlds TV Series, 2019.

GGDM Commentary: There are seemingly countless updated screen adaptations of H.G. Wells' 1898 War of the Worlds and in the years, after the turn of the millennium, there seems to be a new one every year on either side of the pond. These quotes are from the 2019 Fox Networks Group produced Anglo-French language modern reimagining that aired on Fox and EPIX in the United States and Canal+ in France and included Elizabeth McGovern in the cast. That is, this is not from the BBC produced War of the Worlds series that was competing for the market at the same time.

The preceding quotes once again show that I have no original or truly new ideas, that I am naught but a hack, that much of GGDM is, perhaps subconsciously, lifted from the currents of the cultural milieu of my time; in this case, the post-millennial world has caught up to the zero-sum questions of why there would be an alien invasion or even interstellar wars when there are so many other planets out there with nearly free and boundless resources and living spaces, and even touches lightly (in the opening narration) on why we like alien invasion movies (hint, because that means technologically-advanced extra-terrestrials are just like us, so we are not really so bad).

- To underscore this point the apparent origin of the alien invasion, Ross 128, an old low-mass, faint red dwarf, is the twelfth closest star to ours and is about 11 light years from Earth; it would require an entire generation to go out and come back at the speed of light, probably more with time to accelerate and slow down. As mentioned in Realspace, 2 Expansion, pp. 901-902, there are 64 G-class stars and 133 stars visible with the naked eye within 50 light years of Earth. It would require tremendous will to launch such a costly invasion instead of finding and mining infinite resources. Why indeed? Further, for beings evolved around an old red dwarf star, our star would not be optimal (see discussion in Looking Through, 2 Expansion, pp. 900-901).
- Some people were really irked to find at the end of the first season that the alien invaders were just humans, or more likely, a very ill human and an army of dog-

Unobtainium, 3
Movement, pp.
857-858

Alien Invasion Movies:

'aliens invasion
movies make al-
iens just like us,'
Earth Landing, 2
Government Ti-
tles, pp. 593-594
'why Minor
Races lose' War
of the Worlds, 4
Diplomacy, pp.
1144-1145

To Serve Man, 1
Diplomacy, pp.
1092-1093

'Minor Race ina-
bility to resist ini-
tial landings,'
Dropping In, 4
Combat, pp. 991-
992

<p>like robots. This I can understand – though most TV ‘aliens’ are really Americans in rubber suits anyway – but is it really that surprising based on what was said (quoted above)? The point of the invasion seems to be to collect babies. Is the human from the future, is the human the last of its race?</p>	
<p>Watts, Edward</p>	
<p><i>Decline, power activation failures, inactive Constructural Elements:</i></p> <p>“I think that when you are in a successful political system that’s been around for a long time, the assumption is that that system has something natural that makes it succeed. And you don’t assume that that system is flawed or that the system may be undergoing changes that could completely undermine it. And the other thing that is important is that in the Roman context, these crises would happen maybe once a generation, and you would live through it and you would assume that was bad, but now things are back to normal and we can move forward. And it’s only with the ability to see more than a century’s sequence of change that we can say actually this is a very long process of degeneration and decline. But the people living through it didn’t live through that century.</p> <p>And I think in the US we see something very similar. When did this process of political degeneration start in the United States? Did it start in the ‘60s? Did it start in the ‘90s? Did it start in 2016? But we continually think these things reset, but the reality is, of course, we might be part of a process that started 60 years ago and we just haven’t noticed that we are in the middle of a process that will last a very long time.” – Prof. Edward Watts, Chair of the History Department, UC-San Diego, appearing on the David Pakman Show, October 3, 2020.</p>	<p>‘Power activation failure,’ Presence and Power Off, 2 Constructural Elements, pp. 189, 193</p> <p>When the Center Cannot Hold, <i>et seq.</i>, 2 Disruption, pp. 265-268</p> <p>Terminal Patients, 3 Disruption, pp. 289-290</p> <p>Roman Parley, 1 Expansion, p. 883</p>
<p>Weed, Ryan</p>	
<p>“Before I start talking about antimatter physics, antimatter rockets, going to other stars, traveling interstellar, I think it’s important we ask ourselves a question. That is: Why explore space? We have so many problems here on Earth, we have global warming, hunger, war, why should we spend time, money, and effort going into space, when we could be spending that time and effort here on Earth? I could list all of the technological advances, the medical breakthroughs of over four decades of human space travel in space, but I think the real question is: Why explore? I think simply the answer is: It’s in our DNA. We are the descendants of people who were curious and who explored their environment, and I think we need to continue doing that.” – Ryan Weed, “Have you ever imagined how interstellar travel could work?” TEDxDanubia, Budapest, Hungary, May 2016.</p> <p><u><i>GGDM Commentary:</i></u> Ryan Weed is echoing the ‘cave problems’ argument of Neil DeGrasse Tyson. The video is available on YouTube, the transcript is available here: https://singjupost.com/ryan-weed-have-you-ever-imagined-how-interstellar-travel-could-work-at-tedxanubia-transcript/?singlepage=1.</p>	
<p><i>In-system movement, sub-light travel, 1st Era threshold, time-dilation problem:</i></p> <p>But there’s a problem, there’s a big problem, and that is that rockets are too slow. In order to demonstrate that, our fastest object that humans have ever created is the Voyager 1 spacecraft, and that moves at 15 km/s. That may seem like a fast speed, but if you want to go to Mars with that, at that speed, it would take months to get there.</p>	<p>Interplanetary Movement and Grey Space, 2 Movement, pp. 844-845</p> <p>Fighters and Punk-It Rocket, 1</p>

<p>If you wanted to go to Pluto – which NASA just did, and they spent a billion dollars in ten years to get there – it just takes too long. The final example, really the most important one is: If we want to get to another star, our closest star system Alpha Centauri, as you see there, is about four light years away, and that’s 38 million kilometers. It would take about 30,000 years at 15 km/s to get there and, you know, I don’t want to wait around for that. Luckily, human beings are actually quite good at developing tools that allow us to explore our environment. ...</p> <p style="text-align: center;">***</p> <p>If we want to go to Alpha Centauri, the story gets a little different, and we start bringing in concepts of special relativity. If we want to go out there at 4.3 light years, at 1g it would take about five years going at about 85% the speed of light. Once we start getting toward a significant fraction of the speed of light, we start getting time dilation, which is an interesting phenomenon, but really it’s the thing that allows us to travel out into the Universe. While five years has elapsed on the spacecraft, nine years has elapsed on the Earth. It’s getting weird, but still feasible. If we extend this out to Kepler-452b, Kepler-452b is an interesting place because a lot of people call it Earth 2.0. It’s a little bit bigger than Earth, it’s in the habitable zone of its Sun. A lot of people want to go there and see – maybe there’s life. I think there is a good chance that there might be, although it is 1500 light years away. With our 1g spacecraft we could get there in 12 years on the spacecraft. Unfortunately, 1,500 years will have passed on Earth.</p> <p>So things are getting a little weirder. If we look at the ultimate application of this, exploring to the edges of our Universe, 13.5 billion light years away, at 1g we could make it there in a human lifetime, 30 years. Now, we are going incredibly fast, towards the speed of light, but the only problem is, that 13.5 billion years would have passed here on the Earth. What I’m trying to say is that, with the transformative technology like this, we have to think seriously about the consequences, and new questions that arise. The first of which is: If we want to really explore beyond our Solar System into our galaxy, we are going to have to do it ourselves: if we do send a probe or a robot, we will never hear back from it, essentially.</p> <p>And then the second issue is: If we do want to go out beyond our galaxy, we’re going to essentially be saying goodbye to this. And you know human beings used to be a nomadic species, and so one of the questions I am asking you is: Do we want to become nomads again?” – Ryan Weed, “Have you ever imagined how interstellar travel could work?” TEDxDanubia, Budapest, Hungary, May 2016.</p>	<p>Carriers & Fighters, pp. 1046-1047</p> <p>‘planets available within sub-light speed range,’ Realspace, 2 Expansion, pp. 901-902</p> <p>Stardrive is 1st Era Threshold in GGDM:</p> <p>Childhood’s End, 1 Eras, pp. 754-755</p> <p>Magic Formula, 2 Eras, pp. 767-768</p> <p>Time Dilation Problem:</p> <p>Starship Jefferson and Assumptions of Light, 1 Stardrive, pp. 781-782</p> <p>Thumbing Our Nose at Einstein, 1 Temporal Technology, p. 802</p>
<p><i>Maritime Chronometer, Age of Exploration:</i></p> <p>“In the 1700s, we built very accurate measurements of time, we built the chronometer that allows us to travel the seas, and allowed for the Golden Age of Exploration. In the 1900s, the Wright Brothers developed flight, and really allowed us to master the skies. If you really want to explore beyond our Solar System, we are going to have to come up with a new tool.” – Ryan Weed, “Have you ever imagined how interstellar travel could work?” TEDxDanubia, Budapest, Hungary, May 2016.</p> <p><i>See also, Pre-Modern Naval History, 3 Construction, p. 678.</i></p>	<p>Longitude Act:</p> <p>History Patented, 1 Patents, pp. 726-727</p> <p>Longitude Act Prize, EN2, 2 Eras, pp. 776-777</p>
<p><i>Conquest by Entitlements, Corporations leading the way into space for profit:</i></p> <p>“And then, kind of a far-out application for this, is asteroid mining. I know you’ve probably never heard of asteroid mining, but it turns out that very small asteroids in our asteroid belt, metal rich, is worth a lot of money. With chemical rockets, you can’t just go out</p>	<p>‘mining 16 Psyche asteroid,’ War of the</p>

<p>there and get it, you need something like an antimatter system. In terms of extending this technology into human space travel, that will require, of course, a lot of work. It turns out that our squishy bodies can only really handle about 1g acceleration, and even so 1g, 9.8 m/s/s, is actually pretty high acceleration. NASA took ten years to get to the Pluto; if we go at 1g, we can get there in about 3.5 weeks, which isn't that bad.” – Ryan Weed, “Have you ever imagined how interstellar travel could work?” TEDxDanubia, Budapest, Hungary, May 2016.</p> <p><i>See also, ‘corporations will lead the way into space for profit,’ Interstellar Corporations, 1 Corporations, pp. 1241-1242 and A Slavery to Starships, 3 Order, pp. 552-553.</i></p>	<p>Worlds, 4 Diplomacy, pp. 1144-1145</p> <p>Conquest by Entitlements, 5 Culture, p. 430</p>
<p>Plot Fuel, anti-matter propulsion, Engineering Proficiency</p> <p>“Being an antimatter physicist, I’m kind of partial to antimatter, but it could be something else, it could be laser propulsion, laser fusion, or solar cells. ... But I think antimatter is actually the nearest term and most realistic. A little bit about antimatter. It was first predicted by Paul Dirac – up there in the top-right corner. He was actually struggling with two relatively new concepts, one being special relativity, which describes life at really high speeds and the speed of light, and quantum mechanics, which describes the Earth or the world of the very small, atoms and molecules. So he was solving this relativistic quantum mechanics equation, and he came out with two answers: a positive energy and a negative energy for these particles.</p> <p>How many times you’ve been doing your homework, and you come up with a negative answer, and you say: ‘Chuck that, just look at the positive energy solutions, because that’s what makes sense.’ But Paul Dirac was a genius, and he saw these negative energy solutions, and he said: ‘Wait a minute, maybe there’s a whole new set of particles out there that we haven’t even seen.’ Some people thought he was crazy of course. But it was only three years later that Carl Anderson at CalTech saw this in his cloud chamber. He saw the track of a particle going, curving, and it had the same energy and mass as an electron, but it was curving the wrong way. It should have been curving to the right if it was an electron. So this is the first experimental evidence of antimatter or an anti-electron, which we like to call positrons.</p> <p>So antimatter I like to describe as mirror matter. If there was an anti-you in a mirror, it would look exactly like you, except that everything would be flipped. The same is true at the subatomic level. Anti-electrons have the same mass as electrons, just positive charge rather than negative charge. That’s why we call them positrons.</p> <p>An interesting characteristic of antimatter is annihilation. It’s quite unique in that if you have an antimatter particle and a matter particle, and they get close enough together, they’ll both disappear and turn into pure energy. Now this is the Universe’s most efficient means of turning mass into energy, and it’s quite powerful, and that’s what got me interested in positron physics years ago. What does that mean in terms of energy density if you had a clump of antimatter? Antimatter has about 90 megajoules per microgram. I know that doesn’t mean much to you, but to put that in more familiar terms, if you had a gram of antimatter, or an M&M-size piece of antimatter, then you have the same amount of energy as about 80 kilotons of nuclear weapon, or alternatively about 10 million liters of liquid natural gas – about a full tanker load.</p> <p>So not only does antimatter have incredible promises as a fuel for spacecraft, but this has some pretty significant applications in the future of energy research, energy production,</p>	<p>‘Star Trek dilithium crystals and plot fuel discussions,’ Unobtainium, No Blood for Uranium, and Scooping, 3 Movement, pp. 857-859</p> <p>“Abusing the Kardashev Scale” TV Tropes Feature Quote, 2 Technology, p. 701</p> <p>‘turning theory into technology,’ Engineering Proficiency, 3 Culture, pp. 387-388</p>

especially in inertial confinement systems and pulsed energy delivery. But I'm more interested in the propulsion side of things, and so is my company.

The original concept of antimatter propulsion, it was actually developed in the fifties by Eugen Sänger. And what he did was, he said: 'What if you had a clump of antimatter, you took it out in your spacecraft, and then you annihilated it in the rocket engine nozzle, and you're able to direct that energy flow, you're able to direct those gamma rays so that you have thrust in one direction.' This was cutting edge at that time, but there were really three problems, one of which was production. You can't create enough antimatter to do this, unfortunately. The other is that you can't trap the antimatter. Of course, that property of annihilation which is good for the energy density is really bad for being able to trap it. You need very high strength magnetic fields, and it just wasn't feasible, still isn't feasible, to trap large amounts of antimatter. The third problem with the original concept was directing that energy. Gamma rays are much higher energy than x-rays. Of course, if you go through the TSA in the airport, they x-ray your bag. X-rays tend to go through everything, and gamma rays even more so. Reflecting gamma rays is something that we can't do right now.

So, I started thinking about these problems in 2011, finishing up my PhD in positron physics. I realized that the real issue, the limiting factor, was when you went from hot positrons to cold positrons. Now state of the art in 2011: You had your source of hot positrons, and what you did, and still do, is to run it through a solid piece of material. What this does is, it's very thin, so that most of the positrons just travel right through, a very small number will actually stop inside the material. Of course, a large number of those will hit an electron because our matter is made of a lot of electrons, and they will lose it. A very small number, about one out of 1,000, will make it to the surface and be emitted as a cold positron.

So, you have to be able to create cold positrons in order to work with them. They come out at a million times hotter than the surface of the Sun, so you have to be able to cool them down. This process was very inefficient, so we started thinking of new ways to do this. My lab partner and I discussed this for about a year. We came out with a napkin sketch of an array moderator. Soon after that we made it an actual patent, and then asked for some money from a grant, and we were funded by the Steel Foundation to do the initial proof of concept on that moderator. This moderator now forms the heart of all our propulsion concepts, and that little piece up there is actually very tiny, it is about 3×3 mm, but it's the source for all of our antimatter concepts. ...

How do we get around those three issues: production, trapping and directing energy? The first two, production and trapping, are got around by having a very efficient moderator. We use a radioisotope source of positrons which continuously emits positrons. We run it through our little tiny moderator, and we can create a very high-intensity positron beam. The third challenge is directing the annihilation energy. In order to do that, we transfer the kinetic energy of the gamma ray into a charged particle via fusion reactions. And now we have a charged particle that's high energy rather than a gamma ray. And that's important because charged particles like to follow magnetic field lines, as you know from the Aurora Borealis. So, we use magnets like the one in the bottom right there, to actually direct the energy and produce thrust." – Ryan Weed, "Have you ever imagined how interstellar travel could work?" TEDxDanubia, Budapest, Hungary, May 2016.

<p><i>GGDM Commentary: Star Trek was probably the first major television or screen science fiction series to seriously posit using anti-matter as an energy source for a propulsion system, the Warp Drive. This is different from using it in a directed ejection system to move forward... like a rocket.</i></p>	
<p>Weigel, David</p>	
<p>Culture War:</p> <p>“There is policy here, but I think that you were talking about in CPAC runs this way: When Democrats were in opposition they were opposed to President Trump and the conservative movement; conservatives at this moment have sort of taken this advice that kind of carried from Andrew Breitbart to Donald Trump and is universal now, which is that politics runs downstream from culture, and culture is everything. So you are seeing attacks on Mr. Potato Head, attacks on the media, attacks on people being censored on Twitter, and none of those are people you can beat in an election, but the premise is that the conservative movement is not really fighting Joe Biden, it’s fighting all of that. It is fighting the entire infrastructure that we get our media from, but the final point I’ll make about that is that some of the censorship talk is a way to not discuss January 6th and how that ramped up the censorship; you’ll hear people talk about Twitter accounts being silenced, they won’t talk about January 6th as much. So it’s kind of creating a reality in which the policies are already right, the conservative movement and the Republicans have an electoral majority – which they don’t at the moment – but that’s the reason, they are running against the culture.” – David Weigel (Washington Post) reporting from the 2021 CPAC, on Brian Stelter “Reliable Sources,” CNN, February 28, 2021.</p> <p><i>GGDM Commentary: This isn’t just a “CNN,” “MSNBC,” “liberal,” or “left wing” narrative, in mid-2020, anti-libertarian Republican conservative host Saager Enjeti of Rising similarly commented that the Republican party risks becoming a ‘permanent minority party of cultural grievance’ and that it was what they seemed to be trying to accomplish. This also dovetails well with my comments on the failures of creationism in the courts, the boorish behavior of fundamentalist and Biblical literalists in the late 20th Century, late Cold War world of my youth (who are the ‘evangelical’ wing of current conservatism), and with their accelerating gradual loss of influence in our culture. There is a risk however, that in treating politics as secondary to culture, and attacking cultural icons, the conservatives are engaged in boxing their own shadows because as Weigel said, you can’t defeat Mr. Potato Head at the polls.</i></p> <ul style="list-style-type: none"> • Or as one on-air pundit said recently of the Republican party, ‘you cannot have a serious policy debate with someone who thinks everything is socialism.’ – which harkens back to seeing the devil in everything you don’t like, seeing an immigration threat in everyone who doesn’t have white complexion, and seeing culture war in every political debate. • MSNBC host Joy Reid held up a Mrs. Potato Head on her show on March 4, 2021, the day QAnon claimed that Trump would be inaugurated. Her guests commented that Mr. Potato Head is more important to conservatives (CPAC) than health care policy and that Mr. Potato Head is the GOP platform. Another guest comment was that ‘politics is about problem solving’ and not about attacking Dr. Seuss or Mr. Potato Head. 	<p>Cultural War, 5 Culture, pp. 428-429</p>

The Great Leap Forward discussion:

“As it turned out, Mao wasn’t really a man of engineering, or science-related really, he pushed Chinese farmers to melt down their tools in backyard furnaces to create steel, which is not how steel is made but don’t tell Mao. He launched a campaign to kill sparrows in China because he believed they were hurting agricultural output by eating seeds and crops, which, by the way, allowed locusts, the things they actually ate to explode in population, but then again, don’t tell Mao. And he signed off on the construction of a series of dams in Hunan Province.

Chinese workers at the time didn’t have any experience creating reservoir dams, but again, let’s not tell Mao. ... Chen Xing, the lead engineer of the project and a guy who actually knew what he was talking about said that the local geography of the dam was unsuited to the task of retaining water and indeed retaining too much water might increase the alkalinity of the soil, thereby rendering the surrounding farmlands unusable. He also said that the design of the dam was inadequate, proposing that the dam have twelve sluice gates for the purposes of releasing excess water in order to minimize the chances of the reservoir overflowing. Unfortunately for Chen, Mao was not a fan of criticism, Chen was denounced by CCP officials as a ‘rightist’ ... he was removed from the project and sent to another city and the officials in charge of the project arbitrarily reduced the sluice gates from twelve to five.... but it does illustrate the attitude toward the project that the CCP had: It wasn’t about safety, it wasn’t about science, it was about ideology, which is not a good thing when you are building a massive dam!” – Simon Whistler, “Banqiao Dam Failure: The Worst Technological Disaster in History,” Sideprojects YouTube Channel, October 29, 2020.

GGDM Commentary: *Likely this is the source of the title, from the Wikipedia Article: In May 2005, the Banqiao Dam failure was rated No.1 in “The Ultimate 10 Technological Disasters” of the world by Discovery Channel (the Ultimate 10 show), outranking the Chernobyl nuclear disaster. It is also notable that in total 62 dams collapsed at just about the same event (this is referenced in both the video and Wikipedia), and that the aircraft were used to intentionally destroy some dams before the water built up (this is referenced in the video). I also want to close with the fact that this disaster happened 15 years after the Great Leap Famine (or Great Chinese Famine) while Mao was still in power (until September 1976 when he died – as I stated in GGDM, death is the final refuge of the world in all things).*

Discovering and deciphering ruins, lost civilizations, racism, Lost Colonist Primal State:

“There’s also an inner wall and a passage between the two that leads to a conical 30-ft. tower that may have been a grain storage silo, a lookout and defensive position, or according to some cockeyed historians, a giant phallic symbol. ... When it was visited by European explorers in the 1800s, they were apparently so enamored with its splendor that they thought they’d found the famed city of Ophir, the purported location of King Solomon’s mines. For more than a century, the site was incorrectly attributed to more well-known ancient civilizations, like the Greeks, Venetians, and Romans, and it wasn’t until the early 20th Century that a renowned English archeologist concluded that the ruins were of African origin exclusively. But sadly, the residents of the Zimbabwe Stone Kingdom

The Illusion of Superabundance, 4 Commerce, pp. 1231-1232

Red Guards, 1 Order, p. 517

‘Maoist imitators,’ the Khmer Rouge, EN 4, 2 Disruption, p. 279

Getting Along, 3 Commerce, p. 1209

Dissonance, 2 Reformation, pp. 1392-1393

Lost Colonist, 6 Beginnings, p. 63

Race and Ethnicity, 5 Beginnings, p. 52

De-conjunction Junction and Roman Numerals Again, 3 Technology, pp. 713-714

Resources from Special Planets, 2

<p>up and vanished about 600 years ago.” – Simon Whistler, speaking about the ‘great enclosure’ at Great Zimbabwe, South Africa, “Five More Lesser Talked About Ancient Marvels,” Sideprojects YouTube Channel, December 5, 2020.</p> <p><i>GGDM Commentary: The site was ‘rediscovered’ in 1867 and the location was published in 1871; the site had been discovered in previous centuries by Portuguese explorers but largely forgotten (probably, because they were looking for gold, not ruins). The book <u>King Solomon’s Mines</u> by Sir H. Rider Haggard set in Africa, establishing the ‘lost world’ genre of literary fiction, was published in 1885. So, the Victorian mindset was to automatically attempt to associate any grand ruins with the ancient ancestors of their own civilization (can you spell r-a-c-i-s-m?), which is consistent with what we know of the time, the marked inability to allow that any other race had great ancient ancestors. Such a thing could happen within a GGDM game, especially those having Lost Colonist and Homeworld Primal States, however, the assumption would have to be made that diverse interstellar civilizations share enough physiological, cultural and language/symbolic similarities that by a stretch the ruins can be mistakenly attributed: On Earth, there is only one civilization-building animal.</i></p>	<p>Taxation & Census, p. 307</p> <p>Real Racism, 5 Diplomacy, p. 1155</p> <p>Jonathan Clements Feature Quote, 5 Fallen to Earth, top p. 1578</p>
<p>Martian Dust Storm discussion, creative Concierge Interventions:</p> <p>“‘People caught in their own yards grope for the doorstep, cars come to a standstill for no light in the world can penetrate that swirling muck, we live with the dust, eat it, sleep with it, watch it strip us of our possessions and the hope of possessions.’ This is Avers D. Carlson remembering first-hand the horrific realities of surviving through the Dust Bowl. For ten years millions of Americans suffered unimaginable hardship as a result of this tragic confluence of geography, weather, and human impact. A terribly unfortunate series of events in the preceding half century set the stage for a decade of destruction... The term ‘Dust Bowl’ most commonly refers to a series of droughts that struck the Great Plains of the central United States during the 1930s. Beginning in 1930 with a period of prolonged drought, severe dust storms became regular occurrences the following year lasting the entire decade. Though it is often referred to as though it were a single event, the Dust Bowl consisted of several episodes of drought that occurred in rapid succession. The regions affected were not able to recover from one drought before the next began, creating a cycle of chaos that affected the entire nation. The area heavily affected by the droughts and subsequent dust storms approximates to around 100 million acres. ... Tens of thousands of family farms were destroyed, crippling the economies of entire states. Over three million Americans were uprooted from their homes and forced to migrate... but the abysmal conditions in the mid-West were only incrementally better across the entire United States because the country was in the throes of the Great Depression. ... The estimated three and a half million Americans displaced as a result of the Dust Bowl makes it the single largest migration in U.S. history. ...</p> <p>With the onset of drought in 1930 the barren topsoil was left exposed with no grain or grasses to hold it down and strong winds picked up thousands of tons of dust. As the wind carried the dust, it turned into a fine powder and created gigantic dust storms; enormous dust storms became commonplace across the Great Plains in the early 1930s coating everything in their path with a powdery red dust. By 1934, 35 million acres of land previously used for farming had been rendered useless and an additional 125 million acres was losing its topsoil. In May 1934, a particularly powerful two-day dust storm rampaged across South Dakota and the powder carried some seven hundred miles east before depositing 12 million pounds of dust in Chicago. Within two more days, the same storm travelled another 800 miles east, dumping red powder across the east coast cities</p>	<p>Martian Dust and Pollution Potentials, 3 Taxation & Census, pp. 319-320</p> <p>Joseph Tainter top Feature Quote, 2 Culture, p. 362</p> <p>Edward Soja quote, 3 Culture, bottom p. 400</p> <p>Forced Migration:</p> <p>The Great Drama, 1 Expansion, pp. 880-881</p> <p>Youth Bulge, 3 Disruption, pp. 285-286</p> <p>Immoral History, 2 Disruption, p. 277</p>

<p>like New York, Washington D.C. and Boston.... In winter of the same year, red snow fell in New England. There are even several instances of red dust coating ships and the western Atlantic Ocean. Closer to the epicenter of these black blizzards, conditions were much worse, clouds of dust sometimes miles high, blotted out the sun for days at a time, the dust collected in drifts like an apocalyptic snowstorm and residents were often forced to clear the mounds of grainy earth with shovels. Even in the most well-built and sealed homes at the time the dust sought out any openings and infiltrated every surface in the building leaving a coating on floors, furniture, food, and even the unfortunate residents of such homes.</p> <p>The worst of all of the storms hit on April the 14th 1935. It's estimated that three million tons of topsoil gathered in the air above the Oklahoma panhandle on that day alone, and the dust from the storm carried east and coated several entire states. News reporting on the storm named the day Black Sunday for the ominous nature in which the sun disappeared behind a towering wall of darkness.” – Simon Whistler, “The Dust Bowl: Darkness in the Great Depression,” Geographics YouTube Channel, November 27, 2020.</p>	
<p><i>This goes with the Zulu discussion, forced movement from homestead farms to capitalism economy:</i></p> <p>“Homestead farms differ from European-style surplus agriculture because homesteaders only intend to grow enough crops to sustain themselves, with the ultimate goal of becoming self-sufficient permanent residents. As perspective Homesteaders settled across the Great Plains, the region experienced a prolonged period of heavy rainfall that skewed perspective positive in terms of ability to survive off the lands. It was a commonly-held belief among rural Americans at the time that ‘rain follows the plow’ and increased rainfall in the plains region reinforced this misconception that as more settlers cultivated the plains, conversion of land would alter the weather pattern and enact consistently higher rainfall than was previously recorded. ... Scientist, politicians, land speculators and homesteaders all agreed that cultivating the land would permanently affect the rainfall in the area and make the land more suitable for farming and Congress echoed this sentiment.” – Simon Whistler, “The Dust Bowl: Darkness in the Great Depression,” Geographics YouTube Channel, November 27, 2020.</p> <p><i>GGDM Commentary: The problem with homesteading from a civilization point of view is that it does not produce excess to allow population growth and specialization of non-agricultural trades. And since population growth occurs automatically anyway (à la Malthus), successful homesteading will eventually produce more population than it can support unless there is a religiously encultured, conscientious zero-growth policy (compare to Tainter’s discussion of Preclassic Mesoamerican culture, see EN 9, 2 Government Titles, pp. 604-605); this is most likely the case on low-population colonies (see Low Population Colonies, 4 Taxation & Census, p. 326 and Low Carb Colonies, 3 Taxation & Census, p. 320).</i></p>	<p>‘Zulu homesteaders,’ The Chain About Your Neck, 3 Order, pp. 546-547</p> <p>Programming Dilemma, 1 Culture, p. 352</p> <p>Donkey Cart, 4 Commerce, pp. 1229-1230</p> <p>‘homesteader position in GGDM,’ Sit ‘n Spin, 2 Taxation & Census, p. 309</p>
<p><i>Collateral Damage Effect of Ground Combat, Marketing, creative Concierge Interventions:</i></p> <p>“Almost immediately after introducing these new bills that further incentivized settlement of the plains region, World War 1 broke out in Europe. The bloodiest war in human history also destroyed much of the grain crop in Europe as a byproduct of such a messy conflict, so Europeans turned to their North American neighbors for both financial and agricultural support. The sharp decrease in European crops greatly increased demand for U.S. ones so farmers drastically increased cultivation across the Great Plains.</p>	<p>‘decrease in European crops as a result of WWI,’ Collateral Damage, 4 Combat, pp. 995-996</p> <p>Collateral Damage, 4 Carriers &</p>

<p>In some regions such as eastern New Mexico and northwest Texas, the amount of land cultivated went up six-fold between 1900 and 1930 to match the ever increasing demand for grain and other staple crops in Europe and the U.S. alike. In doing so, farmers enacted practices that left their land susceptible to large scale erosion, the most common methods of doing this were deep ploughing the field which completely destroyed native grasses that kept topsoil in place as well as leaving cotton fields bare in the winter months when winds were often strongest.” – Simon Whistler, “The Dust Bowl: Darkness in the Great Depression,” Geographics YouTube Channel, November 27, 2020.</p> <p><i>GGDM Commentary: Chinese authorities destroyed dams in WWII (and so did the Dutch) to slow enemy advance, flooding thousands of farms, and killing or displacing millions of people; these are examples of collateral damage for military defense purposes. Fear of this is what prompted the 1944 Battle of Hürtgen Forest. In many cases in WWII (Stalingrad, Monte Casino), offensive areal bombing caused collateral damage that made urban centers better defensive positions due to rubble. See also, Damnbusters Raid, May 1943.</i></p>	<p>Fighters, pp. 1087-1088²⁷</p> <p>‘destruction of Mesopotamian canal system,’ The Sack of Baghdad (1258 A.D.), 3 Commerce, pp. 1214-1215</p>
<p><i>Nathan Hale statue, infrastructure and crime, corruption of business and politics, the Prohibition as the source of heavily-armed and sophisticated criminal organizations, criminal social and economic forces creating a thriving wealthy colony on a less favorable habitability planet:</i></p> <p>“Normally gangsters don’t have monuments built in their honor, but if you were to travel to the Flamingo Hotel in Last Vegas, you would find one dedicated to Bugsy Siegel. Siegel was a prominent member of the Jewish mob throughout the 1930s and 1940s; he was an ally of fellow Jewish gangster, Mayor Lansky and together they established close ties to the New York Mafia governed by The Commission. Their criminal organization and several others were often grouped together as a loose confederation which the media dubbed ‘the national crime syndicate.’ Many of the most violent acts of this syndicate were often carried out by a ruthless group which had been co-founded by Bugsy Siegel, the infamous ‘Murder Incorporated.’ [Siegel’s boasting and criminal career discussion] Yet the legacy by which he is primarily remembered today has nothing to do with any of that, he is regarded as a smart businessman, even as visionary by some, who looked at a desert wasteland and saw the potential to turn it into one of the biggest gambling destinations in the world. Even today, Bugsy Siegel is often called ‘the man who invented Las Vegas,’ although as we will soon find out, this name is not accurate, but even so, Bugsy Siegel was undoubtedly one of America’s most notorious mobsters and played a huge role in the history of sin city.</p> <p>[Mayor Lansky saved Bugsy Siegel’s life at a craps game in New York City] Siegel and Lansky got away together and became close friends. Soon afterward, the two formed the Bugs and Mayor mob which would go on to become a powerful force in New York’s lower East Side. Lansky was not known to be a particularly violent man and usually preferred to delegate the dirty work, so he was considered the brains of the operation, while Siegel was the brawn. Initially, the members of the mob united together to ensure a strong Jewish criminal front against the rise of Italian and Irish gangs. However, Lansky was not one to pass up good business opportunities so his outfit soon started having dealings with Italian gangs particularly that of an up-and-coming mobster named Charles</p>	<p>‘Nathan Hale statue,’ Spy vs. Spy, 3 Special Operations, pp. 1323-1324</p> <p>‘Star Trek OS A Piece of the Action,’ EN 2 (The Power that Preserves), 1 Government Titles, p. 585</p> <p>‘The Commission,’ Confederation Structural Title, 2 Government Titles, p. 596</p> <p>Removal of distance/cultural homogenization:</p> <p>Spheres in Six Degrees and ‘merger of Public Spaces,’ Homogenized Milk, 3 Commerce, pp. 1220, 1222</p>

²⁷ I tried not to use the same section titles twice, but “Collateral Damage” section titles in both 4 Combat and 4 Carriers & Fighters got past me.

‘Lucky’ Luciano. ... The [Bugs and Mayor Gang] certainly did not shy away from murder either, and developed a particularly ruthless and violent reputation. In fact, the Bugs and Mayor mob started to become the go-to source for murder for hire services and as such, came to be regarded as the precursor to ‘Murder Incorporated.’

Bugsy Siegel was rising through the ranks of America’s criminal undergrounds during a period marked by turmoil, violence and shifting allegiances. There were a lot of turf disputes which led to a lot of bloodshed, which in created unwanted attention from the police and the media. And that didn’t help anyone. To try and resolve this, prominent criminal figures from all over the country gathered in one place to see if they could work things out. The Atlantic City conference held between May 13th and 16th, 1929, and hosted by Atlantic City political boss Enoch ‘Nucky’ Johnson.... This was considered the first crime summit to take place in the United States; the first of only a handful that we know about. Everyone of importance was in attendance [Al Capone, the Jewish Mob from Phili, the Purple Gang from Detroit, and reps from Kansas City, Boston, Cleveland and New Orleans and all Irish, Italian, and Jewish Mobs from New York City and the New Jersey Mob] ... Mayor Lansky was one of the men who organized the whole thing, so of course, he was there, and he was accompanied by Bugsy Siegel.... The general idea being promoted at the conference was that gang violence was bad for business for everyone, but the attention mainly focused on ongoing disputes. The first was one in Chicago, the infamous St. Valentine’s Day Massacre had only occurred a few months prior and it brought more attention to organized crime than any previous event. [Al Capone is boss of Chicago, no other party from Chicago attended, no likely further turf wars there] The same could not be said of New York City. Back then there was still the boss of all bosses who claimed dominion over all other Mafia families of the city; that was the way it was done in the old country, but the times, they were a changing. Those who attended the conference understood that the old ways could not work forever and that as long as one man would rule alone at the top there would always be another one gunning for his head. This is, in fact, exactly what was going on in New York at the time...

The conclusion at the end of the conference was that the ‘mustache Petes’ [old school Sicilian gangster bosses] of the world had to die out before any significant change could happen. It started with Masseria Joe, the boss was gunned down on April 15, 1931 ... betrayed by Lucky Luciano... [Bugsy Siegel may have been present as a hired gun] We also can’t positively say that Siegel took part in the assassination of Salvatore Maranzano which occurred only a few months later, but he has been connected to that murder as well. Now that both Masseria and Maranzano were dead, Luciano and his allies formed The Commission, the governing body of the American Mafia, which oversaw all of its criminal activities and was ruled by a board of directors instead of a single man. Seven crime families originally had a seat on the board, the five from New York City, plus Capone’s Chicago outfit and the Buffalo crime family, with everyone else being represented by one of the seven. Guys like Mayor Lansky and Bugsy Siegel could not be part of the official hierarchy ... because they were not Italian, but they still held powerful positions as associates, especially [because of] their association with Lucky Luciano....

[After the Commission formed] the Bugs and Mayor Mob disbanded as both men assumed various positions within this new larger organization. ... With Prohibition on the way out, Bugsy also found new avenues of revenue, but throughout the 1930s, his main occupation was still acting as a gunman whenever someone was making trouble ... [arrested for gambling in 1932, received a small fine, this is his only criminal conviction] but just because he was safe from the law didn’t mean nobody was out to get him. Even

‘homogenization historical process,’ 3 Entropy, p. 248

‘homogenization of the British Isles,’ Internal Disputes and Isolationism, 1 Special Operations, p. 1277

Three is a Crowd and Pan-galactic Civilization, 2 Diplomacy, pp. 1121-1122

‘Interpretatio graeca/ Interpretatio romana’
You know he doesn’t like that name, 4 Diplomacy, pp. 1148-1149

Corruption:

Real Corruption and Matt Egan Feature Quote, 1 Corporations, pp. 1239-1243

Feature Quote, top of 2 Corporations, p. 1254

Integrity Proficiency, 3 Culture, p. 390

Prohibition Era:

Flying the Banner, 4 Government Titles, p. 632

Clarence Darrow quote, EN 1, 2 Government Titles, p. 602

with powerful backing, Siegel still made murderous enemies and in the late 1930s, Lansky decided that New York was becoming too dangerous so he sent Siegel to the West Coast to set up a new syndicate racket there. [described situation in Los Angeles, relation to Mob Boss Dragner, dispute between Dragner and Michael Cohen from NYC] ... Back to Bugsy, he took an immediate liking to the glitz and glamor of Tinseltown and soon became a regular at all the lavish Hollywood parties. ... Siegel was soon rubbing elbows with movie stars, musicians, directors and big-time studio executives. [discussion of Bugsy's affairs and alleged adventures] These distractions made for entertaining stories, but for the most part, Bugsy stuck with what he was best at while he was in Los Angeles ... He still occasionally served as a gunman and in 1940 he was charged with murder.... although this became the most serious crime Siegel was charged with, ultimately he was not convicted due to insufficient evidence.

Although Siegel was acquitted ... all of the media attention ... made Hollywood stars a bit more apprehensive about associating with the mobster. However, this turned into a perfect opportunity for Siegel to look into a new business venture elsewhere. ... Siegel became increasingly engrossed with setting up a shop in Las Vegas and opening a luxury gambling resort for the rich and famous. He saw firsthand that such establishments were doing well because, contrary to popular belief, Siegel's hotel was not the first of its kind on the Las Vegas Strip....” – Simon Whistler, “Bugsy Siegel: The Mob Comes to Las Vegas,” Biographics YouTube Channel, December 2, 2020.

GGDM Commentary: From a GGDM point of view, I must point out that this story is only possible because of the transportation and communication infrastructure of the United States in the early 20th Century (the first transcontinental phone call was on January 25, 1915). That is, as we have learned, legitimate political and structural development, and increasing population and cultural complexity also serves to facilitate criminal organization, sophistication and violence. This same situation would be true – if your species is capable of crime, which is likely true of all sapient volitionals – as interstellar civilization's ties increase, with criminal organizations jumping from colony to colony. This quote is offered, in a game without literary characters, as an example.

Wikipedia

Much territory covered here: Pacifism, conquest-resources discussions, human need for meaning, resettlement, massacre/genocide, Minor Races, Great Migration & Monogols at Kiev:

“Lacking resources of cultural significance such as greenstone and plentiful timber, they found outlets for their ritual needs in the carving of dendroglyphs (incisions into tree trunks, called rakau momori). ... As a small and precarious population, Moriori embraced a pacifist culture that rigidly avoided warfare, replacing it with dispute resolution in the form of ritual fighting and conciliation. The ban on warfare and cannibalism is attributed to their ancestor Nunuku-whenua. ... This enabled the Moriori to preserve what limited resources they had in their harsh climate, avoiding waste through warfare, such as may have led to catastrophic habitat destruction and population decline on Easter Island. However, this lack of training in warfare also led to their later near-destruction at the hands of invading North Island Māori. Moriori castrated some male infants in order to control population growth.” – from Wikipedia article, “Moriori,” captured September 15, 2020.

Teleological Exercises, 1 Resolution, p. 1456

The Devil's Argument, 1 Entropy, p. 216

Humans Need Meaning, 1 Beginnings, pp. 23-24

Immoral History, 2 Disruption, pp. 277

Beyond the Pale, 3 Reformation, p. 1400

<p>“They proceeded to enslave some Moriori and kill and cannibalize others. With the arrival of the second group ‘parties of warriors armed with muskets, clubs and tomahawks, led by their chiefs, walked through Moriori tribal territories and settlements without warning, permission or greeting. If the districts were wanted by the invaders, they curtly informed the inhabitants that their land had been taken and the Moriori living there were now vassals.’</p> <p>A hui or council of Moriori elders was convened at the settlement called Te Awapatiki. Despite knowing that the Māori did not share their pacifism, and despite the admonition by some of the elder chiefs that the principle of Nunuku was not appropriate now, two chiefs – Tapata and Torea – declared that ‘the law of Nunuku was not a strategy for survival, to be varied as conditions changed; it was a moral imperative.’ Although this council decided in favour of peace, the invading Māori inferred it was a prelude to war, as was common practice during the Musket Wars. This precipitated a massacre, most complete in the Waitangi area followed by an enslavement of the Moriori survivors.” <i>Id.</i>, citing to Michael King, <i>Moriori: A People Rediscovered</i> (2000).</p> <p style="text-align: center;">***</p> <p>“A Moriori survivor recalled : ‘[The Māori] commenced to kill us like sheep.... [We] were terrified, fled to the bush, concealed ourselves in holes underground, and in any place to escape our enemies. It was of no avail; we were discovered and killed – men, women and children indiscriminately.’ A Māori conqueror explained, ‘We took possession... in accordance with our customs and we caught all the people. Not one escaped.....’” <i>Id.</i>, citing to Jared Diamond, <i>Guns, Germs and Steel</i> (1997), p. 53.</p> <p><i>See also, EN 9, 2 Colleges, p. 483 and EN 4, 4 Expansion, pp. 929-930 and Jared Diamond’s description of Polynesia, bottom Feature Quote, 3 Expansion, p. 918.</i></p>	<p>Genocide, 6 Combat, p. 1024</p> <p>Stepping Stones, 4 Fallen to Earth, pp. 1559-1560</p> <p>‘Māori youth bulge?’ Youth Bulge, 3 Disrup- tion, pp. 285-286</p> <p>Massacre/Geno- cide:</p> <p>Surviving the Horde, 5 Combat, p. 1016</p> <p>The Sack of Mag- deburg (1631 A.D.) and The Sack of Baghdad (1258 A.D.), 3 Commerce, pp. 1213-1215.</p>
<p><i>Currency discussions in GGDM, Tainter’s adding layers of complexity to solve problems argument:</i></p> <p>“The Federal Treasury was nearly out of gold in 1895, at the depths of the Panic of 1893. [J.P.] Morgan had put forward a plan for the federal government to buy gold from his and European banks but it was declined in favor of a plan to sell bonds directly to the general public to overcome the crisis. Morgan, sure there was not enough time to implement such a plan, demanded and eventually obtained a meeting with Grover Cleveland where he claimed the government could default that day if they didn’t do something. Morgan came up with a plan to use an old civil war statute that allowed Morgan and the Rothschilds to sell gold directly to the U.S. Treasury, 3.5 million ounces, to restore the treasury surplus, in exchange for a 30-year bond issue. The episode saved the Treasury but hurt Cleveland’s standing with the agrarian wing of the Democratic Party, and became an issue in the election of 1896 when banks came under a withering attack from William Jennings Bryan. Morgan and Wall Street bankers donated heavily to Republican William McKinley, who was elected in 1896 and re-elected in 1900.” – from Wikipedia article, “J.P. Morgan,” captured November 29, 2020.</p> <p>“...by November 7, 1907, the panic was over. The crisis underscored the need for a powerful oversight mechanism. Vowing never to let it happen again, and realizing that in a future crisis there was unlikely to be another Morgan, in 1913 banking and political leaders, led by Senator Nelson Aldrich, devised a plan that resulted in the creation of the Federal Reserve System in 1913.” <i>Id.</i></p>	<p>Feature Quote definition of “money” and Hri- mata Eleison!, 2 Taxation & Cen- sus, pp. 305-306</p> <p>Monopoly Money and Printing More Money, 2 Commerce, pp. 1205-1207</p> <p>On Being Roman, 6 Government Ti- tles, p. 654,</p> <p>The Bargain, 5 Culture, pp. 426- 428</p>

<p><i>This is very interesting on the issue of why we can't read anymore and how GGDM is written structurally in a modified outline format and short sections:</i></p> <p>“In 2018 the editors of the literary magazine n+1 identified Axios as an example of a new style of writing that ‘is simultaneously careful and strident, low-key and declarative’ in order to cater to impatient readers. They noted that ‘Axios, whose name is a cross between a defense contractor and an aggressive men’s deodorant, has dispensed with everything but theses and bullet points.’” – from Wikipedia article, “Axios,” captured August 8, 2020.</p> <p><u>GGDM Commentary:</u> <i>This relates to the discussion, which I thought I wrote down somewhere, of whether GGDM is perhaps more suitable for the modern audience, is accidentally written in a way that post-millennials might read it (as opposed to not reading a traditional non-fiction book). This arose from the base question, if I cannot any longer read a book (and there is much discussion of this phenomenon on the internet about why pre-internet adults can no longer read a book – are no longer mentally capable of reading a book) then how can I expect anyone to read GGDM?</i></p>	<p>A Secondary Person, 1 Fallen to Earth, pp. 1499-1501</p> <p>Timewaster and Andragogy, 1 The Big Bang, pp. 12-13</p>
<p><i>This is interesting in terms of GGDM discussions of both restorations and loss of prestige from military defeat:</i></p> <p>“The Battle of Baekgang was Japan’s greatest defeat in its premodern history. Japan’s losses were enormous. Japan also lost a key ally on the East Asian continent in Baekje as well as a direct link to continental technology and culture. Due to the scale and severity of their defeat, the Yamato court feared an invasion from either or both Tang or Silla. In response, they built a huge network of shore fortifications throughout the rest of the 600s. In 664, the Yamato court established frontier guards and signal fires in Tsushima Island, Iki Island, and northern Kyushu. Also, embankments storing water were built around the fortresses in Kyushu, which were collectively called the Water Fortress. In 665, the Yamato court sent Baekje generals and artisans to construct a rampart in Nagato province, and two ramparts in Kyūshū. In 667, a rampart was constructed in the Yamato region, another one at Sanuki, and yet another at Tsushima island. Unaware of the outbreak of the Silla-Tang War (670-676), the Japanese would continue to build fortifications until 701, after finding out that Silla was no longer friendly with Tang.” – from Wikipedia article, “Battle of Baekgang,” captured October 12, 2020.</p> <p><u>GGDM Commentary:</u> <i>Is there also a suggestion here that this contributed to Japan’s isolationism over the next thousand years? I think it would be a stretch to blame it entirely on one loss, but a cumulative effect as the Mongols invaded from China and Korea eight centuries later.</i></p>	<p>This Old House, 5 Government Titles, p. 638</p> <p>Samurai Crabs, 3 Government Titles, pp. 610-611</p> <p>‘47 Ronin,’ EN 15, 6 Combat, p. 1034</p> <p>‘Meiji Restoration,’ EN 9, 2 Combat, pp. 967-968</p> <p>Dirty Business, 3 Commerce, pp. 1217-1218</p> <p>Why Not?, 2 Disruption, pp. 269-270</p>
<p><i>Interpretations, rule making power exercise, stare decisis, hypocrisy (in light of 2020):</i></p> <p>“[Sen. Mitch] McConnell later called the question of whether the [Biden] rule should become Senate policy ‘absurd,’ stating that ‘neither side, had the shoe been on the other foot, would have filled [the vacant seat]’” – from Wikipedia article, “Merrick Garland Supreme Court nomination,” citing to Meet the Press, NBC, April 2, 2017.</p> <p><i>See, Keep the Sand in the Sandbox and Fancy Foreign Words and Universal Legislator, 2 Dreamtime, pp. 147, 148, 149</i></p>	
<p><i>Rote repetition argument, loss of meaning by cognitive fatigue & normalization:</i></p> <p>“By 1975, the song had a regular place as the finale of every Led Zeppelin concert. However, after their concert tour of the United States in 1977, Plant began to tire of</p>	<p>Religious Recitals, 2 Disruption, p. 271</p>

<p>‘Stairway to Heaven’: ‘There’s only so many times you can sing it and mean it ... It just became sanctimonious.’” – from Wikipedia article, “Stairway to Heaven,” captured November 30, 2020.</p> <p><i>See also, Propaganda and Lynn Montross top Feature Quote, 1 Diplomacy, pp. 1091-1092 and Encomienda, 3 Order, pp. 549-550.</i></p>	<p>Children’s God, 4 Fallen To Earth, pp. 1562-1563</p>
<p><i>Invading timelines, Cobertine mercantilism, power of sailing ships discussions:</i></p> <p>“On 8 August, the Governor held a council with his captains in which he invoked the necessity to secure the city in order to sever the flow of spices towards Cairo and Mecca through Calicut and to prevent Islam from taking hold. ...</p> <p>[Later] Some of the information suggests adaptations had already been made based on Portuguese maps plundered from the feitoria in 1509. With such knowledge, the Portuguese learned the path to the fabled ‘Spice Islands,’ and in November, Albuquerque organized an expedition of three <i>naus</i> and 120 men to reach them, under the command of António de Abreu, who had previously been in the command of the junk. He was the first European to sail into the Pacific Ocean.” – from Wikipedia article, “Capture of Malacca (1511).”</p> <p style="text-align: center;">***</p> <p>“The Portuguese conquest of Goa occurred when the governor of Portuguese India Afonso de Albuquerque captured the city in 1510. Goa was not among the cities Albuquerque had received orders to conquer: he had only been ordered by the Portuguese king to capture Hormuz, Aden, and Malacca. ... Unlike Almeida, Albuquerque realized that the Portuguese could take a more active role breaking Muslim supremacy in the Indian Ocean trade by taking control of three strategic chokepoints – Aden, Hormuz, and Malacca. Albuquerque also understood the necessity of establishing a base of operations in lands directly controlled by the Portuguese crown and not just in territory granted by allied rulers such as Cochin and Cannanore.” – from Wikipedia article, “Portuguese Conquest of Goa.”</p> <p><i>See also, Sailing Ships: Breezes of the Heavens, 1 Stardrive, pp. 779-780, Duo Decei Millenii, 1 Reformation, pp. 1380-1381, Naval Superiority, 1 Commerce, p. 1182.</i></p>	<p>Invading Time-lines, 4 Order, pp. 576-577</p> <p>Raymond Birn Feature Quote, Tariff Walls, and Before the Big Bopper, 2 Commerce, pp. 1195-1197</p> <p>After the Fall, 3 Kairotic Moments, pp. 1445-1446</p>
<p><i>War against Minor Races (i.e. races without stardrive technology or starships), Treasury, Natural Experiments of history discussion, primogeniture, noble sons without fief (e.g., Ottoman Timar or Timariot land grant system):</i></p> <p>“Albuquerque divided his forces in two groups, a smaller one under the command of Dom João de Lima and a larger one which he commanded personally. The landing commenced at 2 am. While the Portuguese fleet bombarded enemy positions on shore, the infantry rowed their boats onto the beaches on either side of the city’s bridge. They immediately came under artillery fire from the Malayan stockades, though it was largely ineffective. ...</p> <p>Protected by steel helmets and breastplates, and with the <i>fidalgos</i> clad in full plate armour in the lead, the Portuguese charged the Malayan defensive positions, shattering any resistance almost immediately. With the stockades overcome, the squadron of Albuquerque pushed the defenders back to the main street and proceeded towards the bridge, where they faced stiff resistance and an attack from the rear. ...</p>	<p>War of the Worlds, 4 Diplomacy, pp. 1144-1145</p> <p>Treasury, 2 Taxation & Census, p. 303</p> <p>Of Huns and Avars, 1 Resolution, pp. 1466-1468</p> <p>Powers Proficiency, 3 Culture, p. 396</p>

<p>[A day later] Unable to oppose the Portuguese any further, the Sultan gathered his royal treasure and what remained of his forces and finally retreated into the jungle.” – from Wikipedia article, “Capture of Malacca (1511).”</p> <p><i>See also, Jared Diamond quote, 3 Constructural Elements, p. 210 and The Insistence of Memory, 3 Temporal Technology, pp. 830-832.</i></p>	
<p>Warship Era Progression, Uber Alles:</p> <p>“An order-of-magnitude difference between two values is a factor of 10. For example, the mass of the planet Saturn is 95 times that of Earth, so Saturn is two orders of magnitude more massive than Earth. Order-of-magnitude differences are called decades when measured on a logarithmic scale.” – from Wikipedia article, “Order of Magnitude,” captured November 8, 2020.</p>	<p>Magnitude of Eras, 2 Combat, p. 952</p> <p>Uber Alles, 2 Eras, p. 767</p>
<p>Radicalization:</p> <p>“Probably encouraged by these dissensions among the men of Tabor, the Bohemian nobility, both Catholic and Utraquist, formed a league for the purpose of opposing radicalism, which through the victories of Tabor had acquired great strength in the Bohemian towns.” – from Wikipedia article, “Prokop the Great,” captured February 22, 2021.</p> <p><i>GGDM Commentary: The Hussite Wars provide a wonderful view into the anatomy of social movement radicalization which we have seen play out again in the last couple of decades. It begins with social and ideological discontent, which spurs new thinking. The new thinking is rejected and ultimately the authorities move either with force or trickery to crush and decapitate the burgeoning movement (e.g., the treacherous arrest and execution of Jan Hus, and the later Hussite Crusades). A violent counter-reaction ensues and the struggles of the social movement to enforce change surge.</i></p> <p><i>The prong of radicalization is that it occurs regardless of the success of the movement because it is inherently unreasonable, and unfettered by logic or restraint; if the movement fails, they conclude that they must be more dedicated, more radical to succeed and if the movement succeeds, they determine that the success was due to the radical nature of their ideas, and become more radical as radicalization filters down to the population. In the first case, you have a small, tight, incorrigible, frustrated, extremely radical group carrying on the endless self-perpetuating war against the ‘oppressors’ and in the second case, you have a radicalized population base propelling leadership toward more radicalization and apocalypse (e.g., the Anabaptist Münster Rebellion and the similar, more recent Islamic State, both of which are discussed in GGDM).</i></p> <ul style="list-style-type: none"> • I think the Church was caught in a trap of its own making and could not or would not for two centuries figure out how to get out of it. To repudiate the sale of special indulgences would not only destroy a major revenue stream (and the Church spent a lot of money on fancy churches, on armies of mercenaries), but would be an admission that the entire thing was a scam that had been perpetrated for generations on the wealthiest class of believers. And when that brick falls, the rest of the dam will probably break, collapsing the Church. 	<p>Radicalization Discussions:</p> <p>Robespierre Feature Quote, bottom p. 516 and Red Guards, 1 Order, p. 517</p> <p>The Dreyfus Affair, 3 Special Operations, p. 1309</p> <p>Tale of Two Revolutions, 3 Government Titles, pp. 606-607</p> <p>‘Algiers Uprising, radicalization is marginalization,’ EN 8, 2 Government Titles, pp. 604-605</p> <p>‘Anabaptist Münster Rebellion,’ EN 8, 3 Reformation, p. 1414</p>
<p>The Reformation, sale of indulgences, Hussites:</p> <p>“[Jan] Hus left reformatory writings. ... According to their book, the Church is not the clerical hierarchy which was generally accepted as ‘the Church;’ the Church is the entire body of those who from eternity have been predestined for salvation. Christ, not the</p>	<p>‘John Tetzal and the sale of indulgences,’ Insurance Agent, 3</p>

<p>pope, is its head. It is no article of faith that one must obey the pope to be saved. Neither internal membership in the Church nor churchly offices and dignities are a surety that the persons in question are members of the true Church.</p> <p>Hus' efforts were designed to rid the Church of its ethical abuses. The seeds of the Reformation are clear in Hus' and Wycliffe's writings. In explaining the plight of the average Christian in Bohemia, Hus wrote, 'One pays for confession, for Mass, for the sacrament, for indulgences, for churching a woman, for a blessing, for burials, for funeral services and prayers. The very last penny which an old woman has hidden in her bundle for fear of thieves or robbery will not be saved. The villainous priest will grab it.' (Macek, 16)." – from Wikipedia article, "Jan Hus," quoting Jan Hus, captured February 22, 2021.</p> <p><i>GGDM Commentary: Buried in a Wikipedia article is the most succinct description of the Protestant cause in the Reformation. One can easily trace a direct line from the writings of Jan Hus quoted here to Martin Luther a century later; this also demonstrates that objection to the sale of indulgences had preceded Martin Luther by at least a century and were a wide-spread sore issue, coupled with proto-governance by Papal authority. The reaction of the Holy Roman Emperor and the Pope in calling and leading crusades against the Hussites firmly tied – if not already established – the connection of perceived Church abuses with secular authority who were legitimized by the Church and were often, in Germany, both church leaders and princes (e.g., the Bishop-Princes of the Rhine discussed in GGDM).</i></p> <ul style="list-style-type: none"> Note: There is no historical connection between the famous Polish lancers known as Hussars (from the name of the type of horse they bred and rode) and Hussites, the Bohemian proto-Protestant followers of Jan Hus, just as there is no established connection between the city of Thebes in ancient Greece and the concurrent, but older, city of Thebes in ancient Egypt. 	<p>Reformation, pp. 1410-1412</p> <p>The Black Death, 1 Disruption, pp. 252-253</p> <p>Understanding the Question, 1 Reformation, pp. 1377-1378</p> <p>Anti-Hussite Crusades:</p> <p>Lynn Montross quote, EN 4, 3 Carriers & Fighters, p. 1077</p> <p>Unprintable Responses, 2 Dreamtime, pp. 150-151</p> <p>Lynn Montross Feature Quote, 2 Eras, middle p. 773</p>
<p><i>Space Debris hazards, pre-1st Era civilizations:</i></p> <p>"The Kessler syndrome (also called the Kessler effect, collisional cascading, or ablation cascade), proposed by NASA scientist Donald J. Kessler in 1978, is a theoretical scenario in which the density of objects in low Earth orbit (LEO) due to space pollution is high enough that collisions between objects could cause a cascade in which each collision generates space debris that increases the likelihood of further collisions. One implication is that the distribution of debris in orbit could render space activities and the use of satellites in specific orbital ranges difficult for many generations. ...</p> <p>Every satellite, space probe, and crewed mission has the potential to produce space debris. The theoretical cascading Kessler syndrome becomes more likely as satellites in orbit increase in number. As of 2014, there were about 2,000 commercial and government satellites orbiting the earth. It is estimated that there are 600,000 pieces of space junk ranging from 1 to 10 cm (0.39 to 3.94 in), and on average one satellite is destroyed by collision with space junk each year." – from Wikipedia article, "Kessler Syndrome," captured February 25, 2021.</p> <p><i>GGDM Commentary: I actually did a report on this in astronomy class in 11th grade (back in 1984?) but never knew it had a name until I saw a video posted by Astrum on YouTube in February 2021. However, the concept has appeared in science fiction, and is discussed in GGDM both in terms of the actual Kessler Effect and the hazards left over after large space battles between the player civilizations (or even ancient pre-game civilizations) that the Concierge may consider. There is also a list of garbage left on the</i></p>	<p>'combat debris field,' Space Debris, 1 Carriers & Fighters, p. 1051</p> <p>Close in Defense Weaponry, 2 Carriers & Fighters, pp. 1058-1059</p> <p>'razor rain in De-fiance TV Series,' Crappy Things Must Happen, 1 Entropy, pp. 216-217</p> <p>'Point Nemo space graveyard,' David Mosher bottom Feature Quote, 3 Construction, p. 683</p>

<p>moon, see <i>EN 14, 1 Stardrive</i>, p. 790 and the movie <i>Gravity (2013)</i> and the TV series <i>Destiny – the two most current fictional examples of the Kessler Effect</i>. Another November 25, 2018 video titled, “<i>End of Space – Creating a Prison for Humanity</i>,” on the <i>Kurzgesagt – In a Nutshell YouTube Channel</i> does an excellent layman’s job of explaining the problem without mentioning the term.</p>	<p>Deflection Dilemma, 2 Construction, pp. 669-670</p>
<p>Technological Device Patents, megastructures, enigma devices:</p> <p>“Stellar engines are a class of hypothetical megastructures which use a star’s radiation to create usable energy. The concept has been introduced by Badescu and Cathcart. Some variants use this energy to produce thrust, and thus accelerate a star, and anything orbiting it, in a given direction. The creation of such a system would make its builders a Type-II civilization on the Kardashev scale.</p> <p>Three classes of stellar engines have been defined:</p> <p>Class A (Shkadov thruster)</p> <p>One of the simplest examples of a stellar engine is the Shkadov thruster (named after Dr. Leonid Shkadov who first proposed it), or a Class A stellar engine. Such an engine is a stellar propulsion system, consisting of an enormous mirror/light sail – actually a massive type of solar statite large enough to classify as a megastructure—which would balance gravitational attraction towards and radiation pressure away from the star. Since the radiation pressure of the star would now be asymmetrical, i.e. more radiation is being emitted in one direction as compared to another, the ‘excess’ radiation pressure acts as net thrust, accelerating the star in the direction of the hovering statite. Such thrust and acceleration would be very slight, but such a system could be stable for millennia. Any planetary system attached to the star would be ‘dragged’ along by its parent star. For a star such as the Sun, with luminosity 3.85×10^{26} W and mass 1.99×10^{30} kg, the total thrust produced by reflecting half of the solar output would be 1.28×10^{18} N. After a period of one million years this would yield an imparted speed of 20 m/s, with a displacement from the original position of 0.03 light-years. After one billion years, the speed would be 20 km/s and the displacement 34,000 light-years, a little over a third of the estimated width of the Milky Way galaxy.</p> <p>Class B</p> <p>A Class B stellar engine is a Dyson sphere – of whichever variant – built around the star, which uses the difference in temperature between the star and the interstellar medium to extract usable energy from the system, possibly using heat engines or photovoltaic cells. Unlike the Shkadov thruster, such a system is not propulsive.</p> <p>Class C</p> <p>A Class C stellar engine, such as the Badescu-Cathcart engine, combines the two other classes, employing both the propulsive aspects of the Shkadov thruster, and the energy generating aspects of a Class B engine.</p> <p>A Dyson shell with an inner surface partly covered by a mirror would be one incarnation of such a system (although it suffers from the same stabilization problems as a non-propulsive shell), as would be a Dyson swarm with a large statite mirror (see image above). A Dyson bubble variant is already a Shkadov thruster (provided that the arrangement of statite components is asymmetrical); adding energy extraction capability to the components seems an almost trivial extension.</p>	<p>Technological Device and Enigma, 2 Patents, pp. 741-743</p> <p>Cosmic Impracticality, 3 Entropy, pp. 248-249</p> <p>‘Dyson-sphere like megastructure,’ Math Exercises, 4 Taxation & Census, pp. 326-327</p>

Caplan thruster

Astronomer Matthew E. Caplan of Illinois State University has proposed a type of stellar engine that uses concentrated stellar energy to excite certain regions of the outer surface of the star and create beams of solar wind for collection by a multi-Bussard ramjet assembly, producing directed plasma to stabilize its orbit, and jets of oxygen-14 to push the star. Using rudimentary calculations that assume maximum efficiency, Caplan estimates the Bussard engine would use 1015 grams per second of solar material to produce a maximum acceleration of 10–9 m/s², yielding a velocity of 200 km/s after 5 million years, and a distance of 10 parsecs over 1 million years. While theoretically the Bussard engine would work for 100 million years given the mass loss rate of the Sun, Caplan deems 10 million years to be sufficient for a stellar collision avoidance. His proposal was commissioned by the German educational YouTube channel Kurzgesagt.” – from Wikipedia article, “Stellar Engines,” captured March 25, 2021.

GGDM Commentary: Stellar engines are at the extreme, wild end of what is possible in GGDM, their ‘one of a kind’ or ‘one per system’ nature makes them in all respects, prime Technological Devices as discussed in the Patents section. Stellar engines have been the subject of two or three notable science fiction works listed in the Wikipedia article. There are really two ways to approach player civilizations building megastructures in GGDM play: Either they do at some point build the megastructure, or their entire game story-arc is geared toward the dream of building the megastructure but it is never allowed to actually happen in the game – the journey is their story. The discussion of stellar engines also provides material for the Concierge to introduce an enigma into the game.

- S4714, part of the Sagittarius A* cluster, is currently the fastest known star in the universe, moving at 8% of the speed of light around the giant black hole in the center of the Milky Way Galaxy.

Some house-cleaning issues: A debt for this entry is owed to watching “What If We Could Move The Stars?” on Unveiled YouTube Channel (dated March 24, 2021 and narrated by Peter); I had not previously heard of the Shkadov thruster or I would certainly have used it while writing about Technological Devices and Enigmas in GGDM. But in this case, I preferred the Wikipedia article on the subject to the narration in the video, and chose to quote Wikipedia. This also tangentially demonstrates the value of this Bible-on document in continuing to add new ideas and angles to the conversation inherent in GGDM.

Roman contractual religion, sacrificium intellectus, homo reciprocans, Fred Saberhagan’s Swords books and similar fantasy fiction, hierophany:

“In Latin, the word *sacrificium* means the performance of an act that renders something *sacer*, sacred. Sacrifice reinforced the powers and attributes of divine beings, and inclined them to render benefits in return (the principle of *do ut des*).” – from Wikipedia article, “Sacrificium (Xandria Album),” captured March 26, 2021.

“The formula *do ut des* (‘I give that you might give’) expresses the reciprocity of exchange between human being and deity, reflecting the importance of gift-giving as a mutual obligation in ancient society and the contractual nature of Roman religion. The gifts offered by the human being take the form of sacrifice, with the expectation that the god

‘contractual religion,’ Is the Religion Worshipful, Deferential or Philosophical and The Zero Sum Problem of Religion, 4 Fallen to Earth, pp. 1554, 1561-1562

‘sacrificium intellectus,’ Leap Into the Void and

will return something of value, prompting gratitude and further sacrifices in a perpetuating cycle. The *do ut des* principle is particularly active in magic and private ritual. *Do ut des* was also a judicial concept of contract law.

In Pauline theology, *do ut des* was viewed as a reductive form of piety, merely a ‘business transaction,’ in contrast to God’s unilateral grace (χάρις, charis). Max Weber, in *The Sociology of Religion*, saw it as ‘a purely formalistic ethic.’ In *The Elementary Forms of Religious Life*, however, Émile Durkheim regarded the concept as not merely utilitarian, but an expression of ‘the mechanism of the sacrificial system itself’ as ‘an exchange of mutually invigorating good deeds between the divinity and his faithful.’” – from Wikipedia article, “Glossary of Roman religion,” captured March 26, 2021.

GGDM Commentary: This little gem of an entry touches on several subjects discussed in GGDM. The concept of ‘sacrificium’ outlined in the first quote would imply that *sacrificium intellectus* really means to sacrifice the intellect to make it sacred and this reinforces the Abrahamic God. However, as the concept of *do ut des* was rejected by the Church Fathers as “merely a ‘business transaction,’” the Church could not imply that anything was expected in return for *sacrificium intellectus*, that it was a one-sided volitional act on the part of man alone. Thus, the concept that comes down to us is slightly altered from what it would have been understood in the late classical.

Du ut des is the formal name for the Roman ‘contractual’ religion described in *Fallen to Earth*; it is also almost universally the trait or relationship in Christian fiction between the ‘evil priest’ or evildoer and the demon, devil, or polytheistic or non-Christian deity, starting with the Faustian bargain. That is, on some level, they need each other, the deity needs the antagonist or ‘evildoer’ in the story to have power on Earth, and the evildoer or antagonist of the story needs or uses or bargains with the deity, demon, or devil to gain power on Earth (a Faustian bargain repeated *ad infinitum*) as opposed to the ‘pure Abrahamic’ vision of unilateral grace.

But more than that – and Fred Saberhagen took this to its logical conclusion – it implies that man is the creator of the gods and not the other way around, that humanity has the real power. And even though the Christian bible begins with the world being created by a word; that word comes from God, before man, so this is yet another reason why early Christianity found *do ut des* abhorrent. The fact that the Western Roman Empire converted late to Christianity and then fell must have only added to the seeming ‘rightness’ of this interpretation.

- What is interesting here is what selection forces were involved in creating *do ut des*? Certainly, I don’t think the Romans invented it, but they probably perfected it; rather, it seems to be a trait of religions going back to the first city states in Mesopotamia where high priests and kings ruled, and were often the same person. In Rome, religious ritual and holidays were state affairs and mandatory, and as I stated in GGDM, it would difficult to find two more incompatible cultures than Rome and the ancient Jews in Palestine and this discussion gets to the real root of their disagreement. But in terms of the origin of *do ut des*, it was probably a Spencerian selection force that served local and social purposes in both placing something in the hierarchy above the individual, clan, and tribe and also making those in higher power both accountable to the gods and ‘god-like’ in the same moment.
- I don’t think this little selection-adaptation was any sort of accident, it was a matter of negotiating the rules of power, like the Roman Principate of Augustus, nor

Philosophical Suicide, 3 Kairotic Moments, pp. 1448-1449, 1450-1451

‘homo reciprocans,’ Big Endian, Little Endian, 6 Diplomacy, pp. 1174-1175

‘heirophany,’ Encyclopedia.com quote, Problem to Solve, 4 Fallen to Earth, pp. 1558-1559

‘Spencerian Selection,’ see Jonathan H. Turner and Seth Abrutyn, [this document](#)

<p>was the Abrahamic dance around the subject in placing God’s words in creation before man an accident; it was likely in direct diametric reaction to the Egyptian, Hittite and other religions around the Levant in which the Israelites saw obvious abuse and corruption of religion.</p>	
<p><i>Meta-consciousness, drug abuse and the Existential Void, drugs used in religion and temple prostitution, sex as a tool of religion, Hippy counterculture:</i></p> <p>“Leuba was born in Neuchâtel Switzerland, and later moved to America. He took his Ph.D. at Clark University under G. Stanley Hall. His work was marked by a tendency to explain mysticism and other religious experiences in psychological terms. Philosophically, his position may be described as naturalism. His work points to similarities between religious mysticism and yoga or drug-induced mysticism; he does accept differences between these in terms of moral motivation and to what uses mysticism is put. His psychological study of religion aroused opposition from churchmen. He argued for a naturalistic treatment of religion, which he considered to be necessary if religious psychology was to be looked at scientifically. He was an atheist.” – from Wikipedia article, “James H. Leuba,” captured March 28, 2021.</p> <p><u>GGDM Commentary:</u> <i>James H. Leuba lived and worked from the late 19th Century to the mid-20th Century; he saw the World Wars.</i></p>	<p>‘what drug cures meta-consciousness? and drug counterculture,’ In the Mirror, I Meta Me, <i>et seq.</i>, and Insanity, 2 Constructural Elements, pp. 195-196, 198-199</p> <p>Neurotic Religion and Temple Prostitution, 4 Culture, pp. 412-415</p>
<p>Winters-Scott, Christy</p>	
<p><i>This goes to human civilization, the civilization is what we do comment:</i></p> <p>“You don’t need a written invitation to do what it is you do.” – Christy Winters-Scott, women’s college basketball game broadcast, Penn State vs. Indiana State, February 11, 2021.</p> <p><i>See The Ontological Terrorism of GGDM, 3 Fallen To Earth, pp. 1529-1530.</i></p>	
<p><i>Humanity going back into space, technology, technological regression, The Long Night:</i></p> <p>“The key is to not fall back, a butterfly does not crawl back into the cocoon.” – Christy Winters-Scott, women’s college basketball game broadcast, Penn State vs. Michigan State, February 13, 2021.</p> <p><u>GGDM Commentary:</u> <i>Christy Winters-Scott has some cute verbal conceits. See also, Asmovian Long Night discussions in Futurology, 7 Beginnings, pp. 68-69 and Entropy is not Constant, 1 Entropy, p. 215.</i></p>	<p>Neo-Luddites, 1 Technology, p. 686</p>
<p>Woo, Edward</p>	
<p><i>Bias, polling data, survey-number crunching in sociology:</i></p> <p>[showing WWII USAAF chart of where planes get shot, based on data from damaged planes that returned and landed safely, see below] “... and I want to push on it, because that’s why this conclusion is so weird and counter-intuitive. Isn’t this where planes got shot, and the answer is yes, but this isn’t a complete picture, is it? Because in fact planes get shot all over ... but if you get shot in these other areas [the areas without red dots] we never get that information [because the planes do not return, they are shot down]. Does that make sense? So we have a name for this ... we wouldn’t normally think of this as an issue of bias, we normally think your biased towards a kind of person, a kind of team, or whatever, right? This particular bias is called ‘survivorship bias,’ and the story of the person in WWII who discovered it, a guy named Abraham Wald ... So, this is not the</p>	<p>‘sociology as questionnaire design and data manipulation,’ Frank W. Elwell top Feature Quote, 3 Fallen to Earth, p. 1529</p> <p>(continued on next page)</p>

<p>only form of bias that sneaks in to data. For example, if you do a survey of people right, you don't get information for everyone, you only get information from the people who fill out the survey and sometimes that will bias you toward hearing from particular kinds of people. For example, restaurant reviews ... this is a classic thing you see on restaurant reviews ... why do you think that is? People only write if they're 'I had an amazing experience' or 'I felt sick, it was terrible, the service was awful.' If you're kind of here in the middle, you just kinda meh, that didn't draw any response from me that pushed me, motivated me to spend time to fill out a survey. So we call this the 'voluntary bias' ... because it's a volunteer thing, you don't get all of the information there. There's many different forms of bias." – Edward Woo (high school math teacher and popular author), recorded math lecture, "Survivorship Bias," Edward Woo YouTube Channel, March 6, 2020.</p> <p><i>GGDM Commentary:</i> You can see the famous illustration here: Survivorship-bias - Survivorship bias - Wikipedia. I wish I had a high school math teacher like Mr. Woo, my teacher was the football coach and if you weren't in the band, orchestra or on one of the sports teams, he didn't have time for you, frankly didn't care if you got it or not (see <i>Math Boy and EN 4</i>, 1 Entropy, pp. 221-222, 233).</p> <p>See also, 'anti-vaxxers, weltanschauung,' Bob Moser Feature Quote, <i>Selecting Bits and Gag Reflex</i>, 1 Information, pp. 1334-1335.</p>	<p>Worldview Bias:</p> <p>Echo Chamber, 3 Entropy, p. 245</p> <p>'negativity bias,' Jill Gabrielle Klein Feature Quote and EN 1, 6 Government Titles, bottom, pp. 649, 658</p> <p>'academic bias, Asch Effect,' Silly Space Game Fallacy and Appeal to Authority Fallacies, 2 Fallen to Earth, pp. 1519-1521</p>
<p>Young, Dannagal G.</p>	
<p>Why Creationism loses in court cases, shift from ecclesiastical courts, secular empiricism, echo chambers:</p> <p>"Also, lawsuits have a way of forcing people and entities to reckon with empirical facts and reality, because the judicial system is predicated on evidence, empirical verifiable reality. And when you are looking at the conservative media ecosystem, their dominant lens is driven by truthiness, intuition, gut and what feels right, and they are able to sort of cloak themselves in the First Amendment right? Freedom of Speech. And because these programs are opinion and analysis shows that, by the way, Fox does everything they can to try to hide that fact from viewers, viewers would be hard-pressed to recognize the distinction between the analysis programming and the news programming. And journalism as a profession has reputational and professional norms that are self-corrective in a way that outrage and opinion programming does not." – 'Danna' (Dannagal) G. Young, Associate Professor of Communications and Fellow of Political Science (U. Delaware) on Brian Stetler, "Reliable Sources," CNN, February 7, 2021.</p> <p>See also, <i>In Our Puddle</i>, 1 Entropy, pp. 231-232 and <i>The Trial of Joan of Arc</i>, 2 Government Titles, pp. 601-602.</p>	<p>Backdoor Evolution, 3 Technology, pp. 723-724</p> <p>Fracture and Complexity, 1 Reformation, p. 1377</p> <p>Giants on the Stage, 2 Reformation, p. 1391</p>
<p>YouTube Users</p>	
<p>Funny, cult of personality:</p> <p>"Trump cultists: 'He didn't say that. He didn't do that. And if he did, he was only kidding. And if he wasn't, then you just don't understand. And if you do, it's not a big deal anyway. And if it is, it's for the best. And if it's not, I still don't care.'" (from a YouTube post)</p>	<p>Symbolic Con-structural Element, 1 Con-structural Elements, pp. 176-177</p>

<p><i>Funny, Stupid people:</i></p> <p>“Debating Trump is like playing chess with a pigeon. He knocks over the pieces, shits on the board, then struts around like he won.” – comment on YouTube.</p>	
<p><i>Trump supporter on CNN, October 5, 2020 (CNN Reporter Donie O’Sullivan reporting):</i></p> <p>“There shouldn’t be any fact checking. Everybody should have a choice!”</p> <p><i>GGDM Commentary: YouTube posters commented that this is one of the dumbest things they ever heard, like fact checking takes away your choices? Unless you prefer conspiracy theories.</i></p>	<p>Media Fact Checking, 3 Information, p. 1370</p>
<p><i>Warhammer 40K universe background, epic world building:</i></p> <p>“Our story begins with a god-like being of immense power known only as the Emperor uniting the warring factions of Earth and embarking on The Great Crusade to reunite all of mankind’s lost colonies. He did this by creating 20 legions of post-human genetically engineered badasses known as Space Marines, each with an even more ridiculously OP Primarch to lead them. Unfortunately, the 4 Gods of Chaos who weren’t really into that sort of thing intervened and scattered the Primarch’s across the universe while still in their infancy. Rather annoyed by this, the Emperor lead the legions across the galaxy, reclaiming, subjugating or annihilating every world they could find, gradually picking up the lost Primarchs along the way.</p> <p>Eventually the Emperor decided there were more important things to do and retired from his career of galaxy plundering to go and muck about with ancient science back on Earth, leaving his favoured Primarch Horus in command of The Crusade. All was going well until the Chaos-tainted Chaplain Erebus engineering a plot in which Horus would also fail to Chaos. Already suffering from some pretty serious Daddy issues, Horus gathered half the Space Marine legions to his side and set about waging civil war against the Emperor. This conflict would be known as the Horus Heresy and culminated in a massive invasion of Earth. The Emperor, knowing that his forces were outnumbered and on the verge of losing the battle, teleported to Horus’ flagship to engage him in mortal combat but being a sentimental old sod, could not bring himself to kill his favoured son. Horus having no such qualms, beat the snot out of him. Finally seeing sense, the Emperor killed him with mindbullets and the loyalists were victorious.</p> <p>Near death, The Emperor was placed in a huge machine known as The Golden Throne which maintained his psychic essence at the bargain price of the souls of 1000 unlucky sods every single day. The Imperium fell into a state of technological regression and brutal dictatorship and for 10,000 years has been under siege from all sides by every single nasty the universe can throw at it. Basically life sucks, there is only war and you’re probably going to get eaten by Tyranids. Have fun!” – YouTube video “LORE – Warhammer 40k Lore in a Minute!”</p>	
<p><i>Description of the Battle of Lutzen by YouTube Channel Gripen, March 11, 2015:</i></p> <p>~The 30 years war~</p> <p>On a field outside the small German town of Lützen, a King became lost in a mixture of fog and black gunpowder smoke. He was a product of his time, he was a warrior and he held a significant amount of personal courage. It was not the first time he had charged</p>	<p>Fog of Lutzen, 4 Colleges, pp. 510-511</p>

<p>the enemy with weapons in his hands, it was the early 1600's and his name was Gustavus Adolphus, King of Sweden.</p> <p>He got lost in the deafening mess that was created when the Swedish and Imperial armies crashed together like rhinos. He was not completely alone though. With him rode the chamberlain Creilsheim, the servants Truchsess and von Schulenberg, the 18-year-old boy named Leubelfing and the Kings lifeguards Anders Jönsson and Erland Lindelöf.</p> <p>Suddenly, they get surrounded by heavily armoured German cuirassiers with pistols. A bullet hits the King above the left elbow and crushes the bone. Streiff, his horse, gets scared and difficult to control. Gustavus grasps the reins with his right hand and tries to get control over Streiff but then loses his sword. A shot goes off and hits the King in the back under the right scapula. After a previous gunshot wound at the Battle of Dirschau the King can no longer wear armor. He therefore wear a sort of leather jacket made of elk skin instead, but it cannot stop the bullet. It punctures his right lung. The King is now badly wounded and collapses in his saddle.</p> <p>Many of the King's entourage have either fled or been killed. The lifeguard Anders Jönsson tries to support the wounded King and protect him from the stabbing cuirassiers. He fights desperately and valiantly against greater odds, but is ultimately cut down. Erland Lindelöf takes a shot in the neck and falls off his horse, and with this, the King immediately falls to the ground and remains lying. Streiff finds his way back to the army with empty and bloody saddle. The young servant Leubelfing is now the only one left, and he is trying to help Gustavus up on his own horse to save him, but it is difficult and he is heavy. The King has probably lost consciousness by now.</p> <p>Leubelfing is cut down, seriously wounded, but he survives to later be able to tell what happened. Imperial riders, who certainly do not understand who it is they have found, shoot the King through the head at close range. Gustavus had been worth more alive than dead to them. But this is how King Gustavus Adolphus face his death on the battlefield, and the time is shortly before 13:00 on the day. It is a merciless and brutal affair.</p> <p>When the King's body later was taken care of, wearing only a bloody white shirt, the pharmacist who embalmed Gustavus could count to five gunshot wounds, three stab wounds and a crushed bone in the left upper arm.</p> <p>His leather jacket with the bullet hole can today be seen, along with his horse Streiff, in a museum at the Royal Armoury in Stockholm, Sweden. It is the best preserved and oldest stuffed horse in the world.</p>	
<p><i>Pets in space discussion:</i></p> <p>“Low-Tech Spacefaring Civilizations’ I was thinking about cats. They build no homes yet they live in houses and someday someone will bring them into space without them developing any technology.” – User Lord of Chaos, Inc. on YouTube.</p>	<p>The Life of a Flea, 1 Information, p. 1334</p>
<p><i>Funny:</i></p> <p>“Stop pissing on my leg and trying to tell me it’s raining.”</p>	
<p>Zakaria, Fareed</p>	
<p><i>Prestige, image, Nationhood Proficiency, etc.</i></p> <p>“The part of the problem is that this is very different from anything America has experienced in the past. Because, this is not about what America does, it’s about who we are; you know in the past, people have criticized American foreign policy, the Iraq War, the</p>	<p>Nationhood Proficiency, 3 Culture, pp. 393-394</p>

<p>Vietnam War, but that was about what America did. What Trump has represented for a lot of the world, for most of the world, is the idea that America is not what it, what they, had imagined it to be, this shining beacon of democracy, of pluralism, of diversity. At some fundamental level what everybody thinks, admires about America around the world is that we are somehow able to bring all these people from all over the world together and make this first universal nation. Well, Trump stands in fundamental opposition to that...” – Fareed Zakaria on Anderson Cooper 360, CNN, October 24, 2020.</p> <p><i>See also, Esteem & Prestige, 3 Government Titles, p. 614 and EN 8, 3 Diplomacy, p. 1138.</i></p>	<p>Symbolic Con- structural Ele- ment, 1 Construc- tural Elements, pp. 176-177</p>
<p>Zaman, Ridwan (narrator)</p>	
<p><i>Sub-light travel, all news in space is old news, Tabby’s Star:</i></p> <p>“Betelgeuse is one of the closest supernova candidates to Earth, situated 700 light years away ... this supergiant star is extremely active and in the final stages of its life. Betelgeuse is easily visible in the night sky, it is the tenth brightest star ... and is more than eleven times the mass of the Sun. Travelling to Betelgeuse would be impossible using current technology, it would take you more than ten million years to get there at the speed of NASA’s New Horizon’s spacecraft.... Betelgeuse is only ten million years old, astronomers suspect it would live for another 100,000 years after which its core would collapse into a super dense neutron star; this super nova explosion might appear as bright as the full moon ... this brightness will last for several months and would even be visible during the day. Since the star is 700 light years away from Earth, the light that left from the star in the year 1320 is reaching us now. ... the star undergoes irregular dimming and brightening and has been known to do so for many years.” – Ridwan Zaman (narrator, credited on YouTube page), “Visiting Supergiant Betelgeuse,” Astrogeekz YouTube Channel, March 15, 2020.</p> <p><i>GGDM Commentary: Alright, so if it would take us ten million years to reach Betelgeuse and the star will likely collapse in 100,000 years ... well, that’s the essence of the sub-light travel problem! It would be like trying to outrun a nuclear blast. The irregular dimming and brightening is not unusual for a dying supergiant like Betelgeuse, but it was cause for speculation and investigation (and a Kickstarter project) when the same occurred in a much younger, but farther away F-class star, KIC 8462852, which is 1,470 light years from Earth. Imagine if humanity survives to the day to witness the Betelgeuse supernova!</i></p>	<p>‘planets available within sub-light speed range,’ Realspace, 2 Expansion, pp. 901-902</p> <p>‘all news in space is old news,’ Datastream, Freeze Frame, and Taking It All Down, 2 Information, pp. 1340, 1341, and 1343</p> <p>‘Tabby’s Star KS project,’ top Feature Quote, 2 Expansion, p. 890</p>