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*“It from bit. Otherwise put, every it – every particle, every field of force, even the space-time continuum itself – derives its function, its meaning, its very existence entirely – even if in some contexts indirectly – from the apparatus-elicited answers to yes-or-no questions, binary choices, bits. It from bit symbolizes the idea that every item of the physical world has at bottom – a very deep bottom, in most instances – an immaterial source and explanation; that which we call reality arises in the last analysis from the posing of yes-no questions and the registering of equipment-evoked responses; in short, that all things physical are information-theoretic in origin and that this is a participatory universe.”*

– John Archibald Wheeler, *A Journey Into Gravity and Spacetime* (1990)  
(emphasis in original)

**Hologram Universe:** Although John Archibald Wheeler was a theoretical physicist, and thus was probing the *first order of natural phenomena*, his “it from bit” idea might also be applicable to psychogenesis and noogenesis thought, see Order of Genesis, 1 Order, p. 522 and Scaling Eras, 1 Eras, pp. 755-756, *supra*.

The *it from bit* argument seems to have morphed into the idea that we are living in a hologram or computer simulation; that is, the universe is acting in holographic ways or that our current knowledge of the universe allows it to be reasonably interpreted as a hologram or computer game. It all started with *Tron*... The media pronouncements of Elon Musk aside, there seems to be some serious intellectual engagement with the developing idea that the universe is a hologram, to wit:

- ✓ “This paper argues that *at least one* of the following propositions is true: (1) the human species is very likely to go extinct before reaching a ‘posthuman’ stage; (2) any posthuman civilization is extremely unlikely to run a significant number of simulations of their evolutionary history (or variations thereof); (3) we are almost certainly living in a computer simulation. It follows that the belief that there is a significant chance that we will one day become posthumans who run ancestor-simulations is false, unless we are currently living in a simulation. A number of other consequences of this result are also discussed.” – Nick Bostrom, “Are You Living in a Computer Simulation,” *Philosophical Quarterly* (2003), Vol. 53, No. 211, pp. 243-255.
- ✓ “Do we live in a 2D hologram? There’s no short answer, but physicists believe it may be possible. The holographic principle – a property of particle physics’ string theory – proposes that information about a region of space can be ascertained by the information on the surface that surrounds it – much like you can determine, say, currents in water by the eddies on the surface. But does this actually mean that our universe is an optical illusion created by light diffraction?

Fermilab has just switched on a machine that may help a team of researchers figure it out: the Holometer, the most sensitive instrument ever built to measure the quantum jitter of space. They liken the idea to a television, where pixels become less cohesive the closer you get to the screen. Those tiny pieces of data, however, holistically form a recognisable image when you move away from the screen; the researchers believe the universe may be contained in the same way, with the ‘pixel’ size of space roughly

10 trillion times smaller than an atom – the smallest distance possible in the universe, called the Planck length.

The Holometer uses a pair of interferometers – devices used to superimpose waves to compare them – placed close together to each send a one-kilowatt laser (equivalent to 200,000 laser pointers) at a beam splitter and down two 40-metre arms arranged in a perpendicular L-shape. The light is reflected back to the beam splitter, and, if there is motion, this will cause fluctuations in brightness. It is these fluctuations that the researchers will analyse, looking for holographic noise.” – Michelle Starr, “Is the universe a 2D hologram? Fermilab intends to find out,” August 26, 2014, CNET.

**Participatory Universe:** GGDM is a participatory universe defined by many yes-no questions; sandbox games and ‘discard to play a card’ tabletop games, such as Race for the Galaxy, where making something a fact (eigenstate) in the game eliminates other possible futures – seem to reflect an evolving modern understanding of reality. At least in GGDM, the *Bits* in your brain become the *Its* in the game. The modern duality is that we live in a world where facts are facts, things that are unknown currently can be derived or guessed at based on facts, math, and experience, some things are unknowable in any case; but at the same moment, there are scientifically-based understandings that reality is not what it has always seemed; that it is based on probabilities, the universe, solid matter, is mostly filled with – nothingness – and that consciousness may have some part to play in determining what is real: Making us responsible for our reality.

- ✓ See previous looking and wave collapse discussion, Peek-a-Boo, 2 Expansion, p. 893, *supra*.

**Crop Circles:** Information is that which tends to inform the receiver of the surrounding environment, events, memories, impressions, facts that cannot be directly sensed, the thoughts of others, or of what came before or is expected in the future. Information is then, dependent on the receiver (and sender, if any) for context, and is transmitted by energy or matter and received by sensors, senses. When information is transmitted from a sender to a receiver, the sender and receiver must be intelligent and must share a set of common meanings (and sensory range) for the information to be communicated successfully.

I am quite certain, however, that the use of the word ‘information’ is much different now than it was fifty years ago, and most certainly, in the last five hundred years; the Merriam-Webster definition (feature quote, p. 1330, *ut infra*) is very broad, overlapping and confused – a sign of undirected, unrestricted, rapid development and changing of word meaning as it filters through many similarly rapidly developing, unbounded avenues of thought. It seems that our sense of information has changed almost imperceptibly by small degrees even as its volume has increased exponentially by generations. Some of the change is most assuredly tied to the modern time sense. In so many instances of common, daily speech, I now hear ‘information’ being used in a context where it appears to be a thing onto itself, objective – independent of the sender and receiver, and co-existent with the matter and energy used to transform, store, and transmit the information.

- ✓ “Thought has a sound, and a sound has a form...” – Dune (1965).
- ✓ “The Traveller used his thoughts to alter warp fields. Thoughts became reality. Now I’m in a warp field. Could my thoughts have changed this reality?” – Dr. Beverly Crusher, Star Trek TNG episode, “Remember Me” (1990).

Information is not ‘intelligence’ in any sense. Intelligence, at the very least, implies and requires the ability to process information, and in so doing, make it mean or reveal more than the sum of the individual pieces and bits. Intelligence looks for information when it matters. ‘Raw’ information, as any member of the intelligence community would state, is not ‘intelligence’ in any military sense. Raw information needs context. Even the dictionary entries for intelligence and information, seems to confuse news, information, and intelligence as if they were interchangeable.

- ✓ It is important to understand that dictionaries are a sort of journalism, they do not ‘create’ word meanings, but rather, they try to form a definition of a word from current and past usage, both technical and common. There is, of course, a feedback loop; reference to dictionary definitions tend to ‘stiffen’ or set meanings of words that are in flux or loose otherwise in a way similar to how the printing press in part ‘locked down’ the ‘correct’ spelling of words.

Military, political, and law enforcement ‘intelligence’ requires the application of human cognition – processing, organizing, deep learning (like AI Deep Learning, see The AI Problem excerpts in Corporations, *supra*) – to information collected by various means. Informants provide just that, information. Someone has to put the pieces of the puzzle together into a useful picture, extract patterns, meanings, facts, interpretations, and implications. One of the main errors of intelligence agencies is that they have often forgotten that intelligence requires application of intelligence, and does not solely consist of satellite images. Intelligence requires the collection, arrangement, collaboration and interpretation of information, it is not the information itself, but the creative, analytical thought applied to information.

Information is what the Concierge provides, intelligence is what the players make of it, what they bring to the game.

- ✓ “Intelligence is massively inconvenient. It actually typically steals some of the decision space of the president. So you are walking in there making things difficult because of what you are presenting. And you are limiting the choices because once it’s heard it is heard and it exists.” – Susan Gordon, CNN interview, December 3, 2019.

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*“Information is the resolution of uncertainty; it is that which answers the question of ‘what an entity is’ and thus defines both its essence and nature of its characteristics. Information relates to both data and knowledge, as data represents values attributed to parameters, and knowledge signifies understanding of a concept. Information is uncoupled from an observer, which is an entity that can access information and thus discern what it specifies; information may exist beyond an event horizon, for example. In the case of knowledge, the information itself requires a cognitive observer to be obtained. In terms of communication, information is expressed either as the content of a message or through direct or indirect observation. **That which is perceived can be construed as a message in its own right, and in that sense, information is always conveyed as the content of a message.** ... The uncertainty of an event is measured by its probability of occurrence and is inversely proportional to that. **The more uncertain an event, the more information is required to resolve uncertainty of that event.** The bit is a typical unit of information, but other units such as the nat may be used. ... The concept of information has different meanings in different contexts. Thus the concept becomes related to notions of constraint, communication, control, data, form, education, knowledge, meaning, understanding, mental stimuli, pattern, perception, representation, and entropy.”*

– from Wikipedia article, “Information,” July 26, 2019 (emphasis added)

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**Processing... Please Wait:** Solving algebra problems in high school (you remember doing that right?) is an act of information creation – the algebraic process is a resolution of uncertainty (i.e. what is the value of X?). Framing information as the answer to “what an entity is” (*ut supra*) or what an ‘appearance’ is links information to both phenomenology and ontology. That is, something must appear first (i.e. the area of concern of phenomenology) before we can ask the question and the ‘is-ness’ is a term of being, existence (i.e. the area of concern of ontology). Thus:

- ✓ “In computer science and information science, an ontology encompasses a representation, formal naming and definition of the categories, properties and relations between the concepts, data and entities that substantiate one, many or all domains of discourse. Every field creates ontologies to limit complexity and organize information into data and knowledge. As new ontologies are made, their use hopefully improves problem solving within that domain. Translating research papers within every field is a problem made easier when experts from different countries maintain a controlled vocabulary of jargon between each of their languages.” – from Wikipedia article, “Ontology (information science),” July 26, 2019.

With this description of ontology in information science, the discussion has now reached back around to the outer edges of epistemology. Duplicate information resolves only veracity.

The primary barrier to humanity is the individual organic and the super-organic processing of information. Electronic computing has aided us somewhat, but we must know the correct questions to ask to shortcut the process, and it is knowing those questions that lead to cognitive understanding and not the speed of computers. However, computers are a far step from organic information processing evolution, they are the training wheels on your first bike.

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**Definition of information**

*1: the communication or reception of knowledge or intelligence*

**2a**

*(1): knowledge obtained from investigation, study, or instruction*

*(2): intelligence, news*

*(3): facts, data*

**2b:** *the attribute inherent in and communicated by one of two or more alternative sequences or arrangements of something (such as nucleotides in DNA or binary digits in a computer program) that produce specific effects*

**2c**

*(1): a signal or character (as in a communication system or computer) representing data*

*(2): something (such as a message, experimental data, or a picture) which justifies change in a construct (such as a plan or theory) that represents physical or mental experience or another construct*

**2d:** *a quantitative measure of the content of information, specifically: a numerical quantity that measures the uncertainty in the outcome of an experiment to be performed*

**3:** *the act of informing against a person*

**4:** *a formal accusation of a crime made by a prosecuting officer as distinguished from an indictment presented by a grand jury*

– Merriam-Webster online dictionary, July 26, 2019

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**Media Overkill:** The ‘information game’ overlaps, but is not entirely congruent with the ‘special operations game.’ The Special Operations part of the game occurs mainly later in the game rather than early in the game. The ‘information game’ however, plays constantly throughout the game as positions continually attempt to gather information on other positions and the local Galactic Space. It is not limited to activation of the Special Operations Power for the purpose of Reconnaissance, rather, the information game also involves Scouting by activation of the Expansion and possibly Combat Powers, as well as email diplomacy and communications between positions, and postings on the forums.

- **Poking and Pinging:** Reconnaissance in GGDM refers specifically to activities that would be called passive ‘listening’ or ‘observation’ (Surveillance, maintaining a presence) and active military reconnaissance (Probing, without the overt deception of Black-ops) against known or discovered alien locations. Reconnaissance and the ‘information game’ in GGDM does not refer to cyber warfare, hacking, or backdoor electronic surveillance, all of which would be more appropriate as Black-ops, see 1 and 2 Special Operations generally, *supra*. Counter-Operations Missions (COMs) (see CIT, 3 Special Operations, p. 1320, *supra*) are ineffective against Reconnaissance activations of the Special Operations Power and Special Operations Missions (SOMs) (see SOM-COMS, 2 Special Operations, p. 1289, *supra*) are not used or required (or even considered) in Reconnaissance activations.

Reconnaissance in Special Operations overlaps somewhat with Scouting in the Expansion Power, except that Scouting only works until the system is successfully explored and might not be specifically directed against or find alien locations. However, it may also be possible to cleverly pair activations of the Special Operations Power for Reconnaissance and Black-ops in the same Regular Turn and location so that they complement each other, but in any case, those are always two separate functions.<sup>1</sup>

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**Sorceress:** *If I could look, what else would I see in there?*

**Ancient One:** *Confusion.*

**Sorceress:** *You tease me!*

**Ancient One:** *But it’s true. There’s the past, the future, the present, parallel worlds, the Big Bang, the second Big Bang, and the one to come. There’s even worm holes. It’s all terribly confusing.*

– *The BeastMaster* (TV series, 1999-2002)

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**Many Names of Merlin:** The Ancient One in the uchronic BeastMaster television series has always reminded us of Merlin, which is likely quite intentional.

- ✓ “There are other worlds. This one is done with me.” – Excalibur (1981).

There is even a possible continuity between the reason given for the Ancient One’s disappearance at the end of Season 2 and Merlin’s actions in the Arthurian legends.

- ✓ The idea of multiple Big Bangs arises from debates about the possible cyclic universe and how the current universe might end. However, in the Dr. Who episode, “The Big Bang” (2010) ... he resets the universe (he can read the ‘source code’ of the universe on a cell phone) with the ‘second Big Bang.’ Dr. Who has, of course, been the modern Merlin of sci-fi television.

- ✓ See also The Cosmic Cycle excerpts, Wheel in the Sky, *infra*.

**Seeing is Bell-ieving:** There is a lot of information in this game, the game is admittedly information intensive and an exercise in understanding and analyzing information. The Concierge will freely report to players, as appropriate, information that is open and obvious to them, that can be seen by their units or that would be otherwise knowable to the position. For example, if **alien** Colony Ships arrive in the Capital Colony’s system, and were not somehow protected from detection, then it would be reported to the players of the respective positions by the Concierge as appropriate. Such reporting may not take the form of an Information Bulletin; rather, certain events such as the arrival and departure of ships will simply be reflected on the Public Spaces or elsewhere on the position’s information and will be up to the players to ‘look’ for and discover on their own. Therefore, players will have to look and study their turn results as they would in any other PBEM game.

- **Information Bulletin:** Rarely the Concierge may need to report important information to players of a position by email when the information would not be obvious by studying the Public Spaces. The subject line of these emails will be “Information Bulletin” which should not be confused with the special News Event posting by the Concierge on the News Event forum, called a “Special Bulletin.”

- ✓ Game information is a design problem inherent in what GGDM is (or isn’t depending on your view). People like games because the information is boxed and packaged and not overwhelming, the possible choices are both fairly clear-cut and important within the game context. GGDM, as a holistic simulation of civilizations has tended to become – naturally – like what it simulates; our civilization is experiencing currently information overload and publication proliferation and our previous cognitive systems are struggling to keep up as they slowly adapt over the next two centuries.

For example, in my experience in the legal profession, I learned from doctors that it is literally impossible to read even all of the critically important articles published in their sub-specialty, and ‘publish or perish’ (and routine CV inflation) has begun to damage our system in ways similar to credentialism and other related ills discussed in Wossamotta U, 3 Disruption, p. 287, *supra*. GGDM is the creature of its time and place, such a game would not have been possible half a century ago when I was born, due to the ability or inability of our worldview and technology to process voluminous information and keep it fairly clear cut, packaged and consequential within the game.

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*“At present, human scientists are attempting to communicate outside our species to primates and cetaceans, and in a limited way to a few other vertebrates. This is inordinately difficult, and yet it represents a gap of at most a few SQ points. The farthest we can reach in our ‘communication’ with vegetation is when we plant, water, or fertilize it, but it is evident that messages transmitted across an SQ gap of 10 points or more cannot be very meaningful. What, then, could an SQ +50 Superbeing possibly have to say to us?”<sup>2</sup>*

– Robert A. Freitas, Jr.

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**Xenology:** Though Mr. Freitas is best known in the nanotechnology field, publishing many articles on nanomedicine, and is a senior research fellow at the Institute for Molecular Manufacturing, he also holds a Juris Doctorate, and has published works on the legal implications of SETI, Xenology, and Metalaw. The paper, “Metalaw and Interstellar Relations” (supporting Dr. Fasan) is available on his website (xenology.info) as is his paper on Sentience Quotient as part of his book *Xenology* (1<sup>st</sup> Edition) that is free on the site as well. He also worked as a SETI researcher.

- ✓ “Xenology may be defined as the scientific study of all aspects of extraterrestrial life, intelligence, and civilization. Similarly, xenobiology refers to the study of the biology of extraterrestrial lifeforms not native to Earth, xenopsychology refers to the higher mental processes of such lifeforms if they are intelligent, and so forth.

The xeno-based terminology was first coined for this usage by the renowned science-fiction author Robert A. Heinlein (starting in *The Star Beast ...* 1954), though the first use of the related word ‘xenologist’ is apparently attributable to L. Sprague de Camp (‘The Animal-Cracker Plot,’ *Astounding Science Fiction* 69 (July 1949); ‘The Hand of Zei,’ 1950). This usage was subsequently defended by Heinlein and Harold A. Wooster in a 1961 article published in the journal *Science* (R.A. Heinlein, H. Wooster, ‘Xenobiology,’ *Science* 134 (21 July 1961):223-225) and by Robert Freitas in a 1983 article published in the journal *Nature* (R.A. Freitas Jr., ‘Naming extraterrestrial life,’ *Nature* 301 (13 January 1983):106).

The latter article drew a complaint (‘Xenology disputed,’ *Nature* 302 (10 March 1983): 102) from four specialist researchers claiming to represent ‘20 research groups in at least eight countries’ who preferred to retain use of ‘xenology’ for the study of xenon concentrations in meteorites (an argument that would not apply to other uses of the xeno- prefix) but their plea has largely failed. By December 2008, Google listed 20,600 entries for ‘xenology’ of which only 1140 referred to xenon and most of the rest referred to the extraterrestrial usage. Online dictionaries (e.g., Webster’s New Millennium Dictionary of English, 2003-2008) now typically define ‘xenology’ as ‘the scientific study of extraterrestrials, esp. their biology.’” – from *Xenology.info*, a website owned by Robert Freitas.

- A fascinating if petite study in how words tussle, develop and spread in our language.

**Xenobiology Section:** The ability of a position to accurately, more or less, estimate the Habitability Class and Maximum Habitability of a planet relative to another species, either as a result of exploration or observation, is at the judgment of the Concierge. The Concierge will take into account the technical expertise and capabilities of the position, as well as, the quality, quantity, and length of contact with the other species, including relevant Reverse Engineering attempts (see 3 Technology, p. 712, *supra*). For example, if two species have had First Contact but have not encountered each other’s colonies, the chances of accurately determining the suitability of a planet for colonization by the other species is lower than if the two species have shared colony planets and colony systems for an extended period of time and/or have a large Diplomatic Space.

- ✓ This issue comes into play during situations where a position might observe a planet as described in the next section, 2 Information, *infra*, or use Information Operation activations of the Special Operations Power to obtain xenobiological information.



- The Life of a Flea: Insofar as we can determine, the life of a flea consists of biting, breeding and migrating; no one seriously thinks of fleas as persons or of having any ‘purpose’ other than as a ubiquitous pest. And according to our intellectual scheme in which persons are valued most highly, we regard fleas as being very low on the scale and their individual deaths as being meaningless (or even good, from our point of view). But imagine that in contact between alien sapient species, whether First Contact, or Balkanization of a colony planet, that a few unnoticed fleas might mean the extinction of the other population (depending on biology). It may also mean that we cannot take our pets with us into space; even if no sapient species are encountered, the spread of fleas – alien to the biosphere of a new planet – could destroy the native life.
  - ✓ Pets rarely appear in space-opera fiction; there may be a few practical reasons – for example, life support systems, but mostly I suspect it is simply the focus on *humanity* going to the stars, *human* interstellar adventure. I was never a fan of Muffit in the original *Battlestar Galactica*; I know they were trying new things ... and it was 1970s television, they were doing the family in space, and if there was a (preadolescent) boy in the program he had to have a dog, and the dog had to heroically save them<sup>3</sup> ... but the robotic dog-like creature, especially as a recurring character, always felt corny, contrived and elicited eye-rolls. Mercifully, they omitted the daggits, both real and robotic (and chimp actors), and any mention of, from the reimagined *Battlestar Galactica*, but there was at least one real dog on *New Caprica* whose dish was flipped, though you never saw dogs elsewhere in the series. Which brings us right back to where we were in the beginning...

We have plenty of experience in this with the spread of species through colonization (the Columbian Exchange) or deliberate transplant from continent to continent on our world, which have often proved catastrophic for the local flora and fauna.

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*“But what makes extremists extreme – whether they’re leftists, right-wingers, fundamentalist Christians, or anti-vaxxers – is a ferocious resistance to anything that contradicts their worldview. When you spend some time with young white nationalists on YouTube, Reddit, or 4chan, you understand that counter-information is nothing but fodder for validating their beliefs. And an attempt to force it on them only reinforces the whole weltanschauung of the new white supremacists: that there’s a massive global conspiracy to disempower white people and destroy Western civilization, accomplished by clamping down on free expression and hiding the dirty ‘truth’ about race, gender, global finance – everything.”*

– Bob Moser, “How YouTube Became the World Wide Leader in White Supremacy,” *New Republic*, August 21, 2017 (emphasis in original) <sup>4</sup>

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**Selecting Bits:** Worldview is in large part a process of selecting which information we accept and rejecting other information if it doesn’t fit. Worldview is thus a discrimination.

We all do it, including myself. It is related to confirmation bias. It is possibly a defense mechanism of our cognition, and the current form may be a response to increasing complexities (see Tom Nichols excerpt, *The Campaign Against Expertise*, *Colleges*, *supra*) and/or a failure of culture to constructively fill the Existential Void. Worldview is thus, very much an information

game, often with consequences. The modern consequences are seen in the recently exhumed various forms of extremism and populism.

Our civilization has many levels at which it selects bits of the worldview. Peer review and editors select the bits which appeal to certain specialized or educated parts of the worldview. The news media (notably with editors) has long formed the layer below peer-review and learned journals. For a long time, there wasn't another layer until social media and filter bubbles formed that select only what we want to hear.<sup>5</sup>

- ✓ “In our founding documents, Billy Graham explains that Christianity Today will help evangelical Christians interpret the news in a manner that reflects their faith.” – Mark Galli, Editor, “Trump Should Be Removed from Office,” December 19, 2019.
- ✓ See Willful Ignorance, 2 Information, p. 1353, *infra*.

➤ Gag Reflex: I watched the two-minute trailer for the animated series *Ronja, the Robber's Daughter* and instantly decided I wasn't interested in an anime that flippantly tries to tell us how great life is and how wonderful is the world (I made it about half way through *Brave* (2012)). Now, if you accuse me of filtering, I plead guilty; I am not one to watch Hallmark special 'heart-warming' group huggy-type movies (whether for the holidays or otherwise). And like most guys, I don't go for roms or rom-coms very much, or teenage 'coming of age' movies, of which the *Ronja* anime seemed to be all three (to the level of gag reflex).

As a cynical adult male (e.g., GGDM), I have understood the world as petty, stupid, rude, nonsensical, dishonest, negligent and careless, sometimes dangerous, ruled by threat of force, and not fair (and not a lot of other things humans want to think) and my preferences in reading, music, and movies probably serve as *confirmation bias*; in this capacity, history (and the 24-hour news cycle which is the first draft of the next history book) is unequalled. I am simply not interested in being told that the world is wonderful, that life is a happy miracle, that everything is just fine, and that humanity is better than we think we are (which would mean that I am dead wrong on all counts) and that somehow I have missed out.

Such arguments are for children and adults with young minds, and they can hold onto them until the universe hits them over the head a few times.

- ✓ My 'teachable moment' long ago fell into one of the millions of black holes scientist tell us permeate the universe.
- ✓ Now, does that make me an extremist (in the non-militant sense, I am not planning on blowing up Toys 'R Us stores)? Or just a curmudgeon? The “ferocious resistance” described by Bob Moser above is not limited to the groups he names. *Confiteor*.

The point of this is that we all filter information to form our worldview. Being told or shown things that contradict our experience and view of the world, of reality, is like having to listen to the same lies over and over (they are lies because you already know they are).

- ✓ “Sometimes it happens that a man's circle of horizon becomes smaller and smaller, and as the radius approaches zero it concentrates on one point. And then that becomes his point of view.” – David Hilbert quoted by Constance Reid, Hilbert-Courant (1984), p. 174.

*“Peer review is the process that decides whether your work gets published in an academic journal. It doesn’t work very well any more, mainly as a result of the enormous number of papers that are being published (an estimated 1.3 million papers in 23,750 journals in 2006). There simply aren’t enough competent people to do the job. The overwhelming effect of the huge (and unpaid) effort that is put into reviewing papers is to maintain a status hierarchy of journals. Any paper, however bad, can now get published in a journal that claims to be peer-reviewed. ...*

*The only people who benefit from the intense pressure to publish are those in the publishing industry. Hardly a day passes without a new journal starting. My email inbox is full of invitations to publish in a weird variety of journals. They’ll take just about anything. The US National Library of Medicine indexes 39 journals that deal with alternative medicine. They are all ‘peer-reviewed,’ but rarely publish anything worth reading. The peer review for a journal on homeopathy is, presumably, done largely by other believers in magic. If that were not the case, these journals would soon vanish.”*

– David Colquhoun, “Publish-or-perish: Peer review and the corruption of science,” *The Guardian*, September 5, 2011 <sup>6</sup>

## Endnotes.

<sup>1</sup> Commentary: The Information Section was originally titled Intelligence (around 2000), but was changed to broaden the scope and to avoid confusion with Special Operations. While final editing the Expansion section in June 2018, I discovered a remaining reference to the “Intelligence Section” of the rules.

<sup>2</sup> Commentary: We may, in fact, be part of some superbeing’s ant farm. I might also be sitting in a padded cell fantasizing that I am an expendablewannabeintellectualparalegalgameretailerhomeowneragingfailure. It’s an intriguing idea, but like the recent ideas that the universe may be a hologram or a computer program, it is not immediately clear how that knowledge is useful or how it would change our worldview. Our musings about such things – like religion – likely *matter more than any actual confirmation of our musings*.

✓ See discussion of *a priori*, Crack in the Temple 1 Beginnings, p. 27, *supra*.

<sup>3</sup> Commentary: Similar to the rule that every serious movie and or adventure/police television show – except Westerns – had to have a car-chase scene. Which is what made the beginning and ending of *The Gambler Returns: The Luck of the Draw* (1991) so amusing – the movie, set in 1906, begins with a Western horse chase scene, and ends with a car chase scene.

✓ The Gambler Series through the 1980s, was the last hurrah of the television Western movie or TV series, and fittingly, the Gambler IV in 1991 featured cameo appearances of nine aging 1960s Western TV series stars at the ‘final’ poker game in San Francisco. There certainly was a feeling through the 1970s into the 1980s that the United States was no longer a ‘frontier country’ and that attitudes, music, dress, had become urbanized. We no longer culturally identify with the Old West or the frontier ‘values’ and this is what irks conservatives most. The fictional, idealized Old West had run its course, there are only so many times you can tell the same basic story set in the 20-30 year period (about 1865-1895) of the classic Old West.

✓ I remember thinking that the Pet Shop Boys “West End Girls” (1985) was a parody of the fading of the Old West from our culture, the end of frontier society. I apparently completely misunderstood the lyrics on the radio and it doesn’t appear that anyone else heard it that way (I never saw the music video).

<sup>4</sup> Commentary: I found this in a comment section of an alien invasion movie video on YouTube:

- ✓ “I get the fact this is science fiction...BUT!!... the truth is... The Luciferians are manipulating and brain-washing Us to prepare to accept the coming ‘alien invasion’ or...Revealing, announcement of ‘contact’! and it’s going to Rock everyone’s mind! especially when they affirm that they’re our REAL creators! and viola’ the great biblical ‘falling away’ will increase across the earth, and your average Catholic is going to crumble!! Because the Pope will be behind this deception!”

Uh, yeah, ok. Sure. Because it’s posted on YouTube, it’s hard to tell if the poster is being serious or just violating Poe’s Law (notice no emojis) while trying his comedic hand a provoking nutcase responses in a comments section. Either option is somewhat concerning; the poster should probably just work this into a novel instead. Maybe the poster was doing ‘Biblical research’ on alien invasions on YouTube?

<sup>5</sup> Commentary: War movie clips involving East-West battles have become a favorite target; if you scroll down the comments of just about any of the clips, you will shortly find a racist snipe, e.g., a foreign movie clip about the Siege of Plevna in 1877 has a comment below, “Those days when Europeans knew it [sic] how to talk with barbarians unfortunately gone...” It seems that the *militant wannabe brand of racist* seeks their jollies in B-rated war film clips on YouTube featuring Europeans vs. anyone else when the Europeans are winning and inflicting carnage.

<sup>6</sup> Citation: “Frequent publication is one of the few powerful methods at scholar’s disposal to demonstrate academic talent to peers. Successful publication of research brings attention to scholars and their institutions. This in turn may bring in more funding for the institute and also ensure an individual’s progress through their field. Academic institutions and university frequently use the number of publication to an individual’s credit as the measure of competency. ...

The emphasis on publishing has decreased the value of the resulting scholarship as scholar must spend time scrambling to publish whatever they can manage, rather than spend time developing significant research agenda. The pressure to publish-or-perish also detracts from the time and effort professors can devote to teaching undergraduate and post-graduates. The rewards for exceptional teaching rarely match the rewards for exceptional research, which encourages faculty to favor the latter whenever they conflict. ...

This pressure to increase the number of publications has led to unethical practices and waste full [sic] research. The increase in the number of publications has led to the growth of many new journals. In 2006 alone, approximately 1.3 million peer reviewed scientific articles were published, aided by a large rise in the number of available scientific journals from 16,000 in 2001 to 23,750 by 2006. The increasing scientific articles have fuelled the demand for new journal. There is a ridiculous proliferation of scientific journals of all kind. Every other day we see a new journal cropping up. So the question arises, are we heading in the right direction? The acceptance and appreciation of a publication is frequently gauged by citation index. Only 45% of the articles published in 4500 top scientific journals are cited within the first 5 years of publication, a figure which appears to be dropping steadily. Only 42% of the papers receive more than one citation, 5-25% of these are self-citation by the authors or journals. Majority of the publications still goes uncited. This means that neither they are appreciated by the peers nor they are of any importance to the industry or patient. Research is essential to carry science forward. It importance in improving patient care cannot be denied. However, equally important is the fact that the research done actually benefits patient, physician and community at large. Most of the published research works are done just to improve the curriculum vitae (CV) of the researcher and they do not find any merit in practical terms. A thought must be spared by the researchers for the quality of research being carried out. ‘Publish or perish’ is now becoming the way of life. It is race to get more and more publications to one’s credit. The current trend is forcing scientists to create publishable research. This is giving rise to fraudulent researches. Fraud research may corrupt scientific medical literature and ultimately harm our patients.

The increasing number of publication have led to rise in unethical practices, dubious research practices such as salami slicing, plagiarism, duplicate publication, fraud, ghost authors etc. Fraud is defined as fabrication or falsification in performing or reporting research results. No one could forget the famous fraud of Piltdown man. In this forgery, the lower jawbone of an orangutan combined with the skull of a fully modern man and touted as the discovery of the missing link postulated as the intermediary in the evolution of hominids from apes. The skull was found in a gravel pit at Piltdown in England by Charles Dawson in 1912. It was only in 1953, almost 40 years later, that it was exposed as a forgery.

It is frequent to find that the head of departments and senior professors are producing a dozen publications in a year. This means that the person have conceived idea, submitted protocol, got Institutional review board clearance, done the research, wrote the paper and published it every month. It is virtually impossible for a human being to do this.

Being a professor/consultant sometimes automatically implies that whatever papers goes for publication from their department will bear their name. But this is unethical practice and should be discouraged at all levels.” – Seema Rawat and Sanjay Meena, “Publish or perish: Where are we heading?” *Journal of Research in Medical Sciences*, February 2014.

- ✓ “Research fraud, more politely termed questionable research practices, has been receiving increasing attention in the academic literature and in journal editorial circles. The Journal of Marketing Channels (JMC) Editorial Review Board and originality checking software (i.e., CrossCheck) have found several instances of questionable research practices ranging from submitting a paper for publication already published elsewhere (i.e., self-plagiarism) to a paper whose front end had many problems followed by a discussion and conclusions section that was state of the art. CrossCheck flagged the discussions and conclusions section as being verbatim from an unusual source: an article already published by completely different authors (i.e., plagiarism).

[Note 1] As I live and work in a multicultural, multilingual environment in Hong Kong, I should also mention that self-plagiarism would include publishing the same paper in a different language.

Plagiarism and self-plagiarism are particularly troubling questionable research practices for journal editors as we have a responsibility to strictly adhere to applicable copyright laws of the United States, especially as articles published elsewhere and then republished in whole or in part a second time in a different journal are likely to violate copyright restrictions associated with the prior publication. Editors, reviewers, and authors simply must not knowingly violate the publisher’s guidelines regarding the exclusivity and proprietary nature of other authors’ intellectual contributions. Consequently, every submission and revision at JMC is checked for originality with the CrossCheck software. ...

I have already mentioned plagiarism and self-plagiarism as ethical violations of considerable concern. Related to self-plagiarism is dual submission, which involves publishing the same or almost the same results in two or more journals. This practice often involves using the same results or the same data sets with slightly different twists in multiple articles that probably do not justify additional publication: results that are closely related should be published in the same article.” – Neil C. Herndon (Editor), “Research Fraud and the Publish or Perish World of Academia,” *Journal of Marketing Channels*, July 14, 2016.

- And perhaps this title from Shanghai Daily, October 10, 2011, says it most concisely: “‘Publish or perish’ leads to fraud and paper bubbles in research.” China has the same problem as Arizona State University, e.g., “Plagiarism professor stripped of prize,” *China Daily*, February 11, 2011. See Paper Bubble, 2 *Technology*, p. 709, *supra*.
- I spent a week in Hong Kong in July 1988 docked at the British Naval Base HMS [Her Majesty’s Shore] Tarmac, I remember the hydrofoil ferries, the enormous harbor, the China Fleet Building and learning that ‘arcade’ meant something different in Brit dialect. I brought back a copy of Stephen R. Donaldson’s Mordant’s Need, Vol. 2 (1987) which I still have in the original yellow plastic bag from The Times Book Centre.
  - As mentioned previously in No Conspiracy Here, 3 The Big Bang, p. 19, *supra*, GGDM has not been peer reviewed (I am not even sure who would or could in any event – commercial copy editing is not peer review – I have done my own copy editing so any goofs are on me) *and when I eventually perish, it won’t be for lack of publication of GGDM!* The abundant quotes and citations show both that my originality is sparse and ignoble, and that I – very conscientiously – do not engage in plagiarism. GGDM is a work done the ‘old way’ – a lifetime ‘research’ project just because ... with the vain hope it means something.