



# laetus in praesens

Alternative view of segmented documents via Kairos

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## Imminent Collective Communication "Info-death"?

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Part I of *Collapse and Renaissance of Civilization: dilemma of communication and engagement understood otherwise*

## Introduction

Much is currently made of an impending collapse, whether the focus is on that of the economic system (as some kind of replica of 1929 or 2008), of the ecosystem (notably as a consequence of climate change), or of overpopulation and other post-peak implications (notably the exhaustion of non-renewable energy resources), as can be variously recognized (*Checklist of Peak Experiences Challenging Humanity*, 2008). Dystopian fiction has extensively explored the process. Possibilities envisaged include [extinction of the human race](#) as currently known.

The rise and fall of civilizations has been extensively studied -- but not that of a "global" civilization. It is necessarily a preoccupation of macrohistorians ([Johan Galtung](#) and [Sohail Inayatullah](#), *Macrohistory and Macrohistorians: perspectives on individual, social, and civilizational change*, 1997). Appropriately for the times, it is the theme of a video game (*Civilization VI: Rise and Fall*, 2018)

The process of collapse has been studied by [Jared Diamond](#) (*Collapse: How Societies Choose to Fail or Survive*, 2005). Through a study of the decline of the Roman Empire, the focus has been placed on energy by [Thomas Homer-Dixon](#) (*The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization*, 2006). Civilizational collapse is potentially implied by the many current warnings of imminent collapse of the global financial system -- most recently that of [Gordon Brown](#) (*Gordon Brown in dire warning about the next financial crisis*, *BBC News*, 13 September 2009). He argues that the breakdown in international co-operation means nations would be unable to act in a concerted way to tackle the many future threats:

This is a leaderless world and I think when the next crisis comes, and there will be a future crisis, we'll find that we neither have the fiscal or monetary room for manoeuvre or the willingness to take that action. But perhaps most worrying of all, we will not have the international co-operation necessary to get us out of a worldwide crisis.

Rather than the conventional understanding of "energy", the focus here is on "information" as it might be understood by physics as being more fundamental than "energy". A similar point could be made with respect to other resources by which humanity is variously nourished, including "finance" and "knowledge", especially in relation to creativity and innovation. The more fundamental issue is then neither the consequence of overpopulation, nor that of environmental degradation in any tangible sense. It is rather the information analogues of these.

The accumulation of non-degradable waste in the environment is indicative of the condition, notably the accumulation of [orbiting space debris](#) and the oceanic [gyres](#) -- the trash vortices of marine waste ([Great Pacific Garbage Patch](#), [Indian Ocean garbage patch](#), [North Atlantic garbage patch](#)). Whether through the massive swirls of factoids, the psychosocial analogues to such gyres are tragically

suggested by the lines of a classic poem of a century ago:

*Turning and turning in the widening gyre  
The falcon cannot hear the falconer;  
Things fall apart; the centre cannot hold;  
Mere anarchy is loosed upon the world,  
The blood-dimmed tide is loosed, and everywhere  
The ceremony of innocence is drowned;  
The best lack all conviction, while the worst  
Are full of passionate intensity.  
(W. B. Yeats, *The Second Coming*, 1919)*

The irony of this focus is that, if anything, considerable pride is cultivated in the emergence of a global knowledge-based civilization -- variously enhanced and supported by the development of information and communication systems. These are shortly to be further enhanced by widespread deployment of artificial intelligence systems.

However the argument here is that there are non-technical aspects of the implied communication which are widely neglected, although readily evident. It is the ever increasing influence of these which is seen as undermining the uncritical promotion of techno-optimism and the surprises its promises may hold (*Forthcoming Major Revolution in Global Dialogue: challenging new world order of interactive communication*, 2013).

Global civilization is characterized by ever greater specialization of every kind. At the same time much is made of the purported "equality" of human beings, as solemnly enshrined in various declarations and religious principles (*Cultivating the Myth of Human Equality: ignoring complicity in the contradictions thereby engendered*, 2016). The conflictual relations between one system of belief and another, whether religious or ideological, confirms the perception of inequality in practice -- acknowledged in the extraordinary "inequality" with respect to income and control of resources, whether or not this is deplored. As currently framed there is little likelihood that these understandings will be modified to any degree.

Such factors, together with the conflicting claims made, are evident in loss of confidence in communication systems. This is exemplified by the increasing levels of insecurity created by invasive surveillance and misleading information (possibly framed as fake news, but as readily recognized in the questionable claims of advertising, and the promotion of competing ideologies). This dimension is notably deplored in the ever greater loss of trust in conventional authorities, whether political, religious, or scientific -- seemingly disguised by promotional gloss (*Credibility Crunch engendered by Hope-mongering*, 2008). A variety of conspiracies of silence conceal what remains unsaid (*Global Strategic Implications of the "Unsaid"*, 2003; *Social Reminders from Psychosocial Remaindering*, 2011).

This "loss of confidence" is accompanied by an ever greater focus on the shortest-term. This necessarily excludes the longer-term considerations within which the trends towards collapse are more readily recognized. It could be described as a systematic blinking seen as necessary to handle [information overload](#). As a consequence, complacent [cocooning](#) is variously encouraged, whereby each retreats into a comfort zone -- a personal bubble or bunker in cognitive terms, with or without others, whether consciously or unconsciously (*Pricking the Bubble of Global Complacent Complicity*, 2017). Such bubbles may well be understood as vehicles for escape into orbit or to other planets -- understood metaphorically or otherwise (*Combining Clues to 'Ascent' and 'Escape'*, 2002; *Towards an Astrophysics of the Knowledge Universe: from astronautics to noonautics?* 2006).

Following earlier preoccupation with alienation, this process is variously recognized through studies of the degrees of isolation paradoxically enabled by the exponential development of internet communication. The collapse can be explored more specifically and recognizably in terms of individual and collective attention and the many competing efforts in the "[attention economy](#)" to attract and exploit that ultimate resource (*Investing Attention Essential to Viable Growth*, 2014).

In the dynamics towards collective "info-death", it may however be argued that increasingly attention will be withdrawn from the processes which depend on communication and on the confidence with which it may be associated. Experientially to some degree, the cognitive dynamics in the progression towards collapse are necessarily evident to those considering suicide.

As a rapid loss of communication "oomph" in qualitative terms, the civilizational collapse invites comparison with the much-studied [gravitational collapse of stars](#). Other analogues of interest are the understandings of [brain death](#) (as might apply to any notion of the [global brain](#)) or cessation of the heart beat (as might apply to the "economic heart" of any community). Understood as a collapse of the communication universe -- a Big Crunch -- the eventual "[heat death](#)" of the physical universe, with loss of capacity for effective work, also offers a source of insight.

As with the hypothesized eventual collapse of the universe, the question is then what form any Renaissance of global civilization might take. This is the theme of a further development of this argument (*Post-Apocalyptic Renaissance of Global Civilization: engaging with otherness otherwise?* 2018) which reframes a potential relation to the environment (*Cognitive Embodiment of Nature "Re-cognized" Systemically*, 2018).

## Information death of the global brain

[Information-theoretic death](#) as described by *Wikipedia* is the scrambling of information within a brain to such an extent that recovery of the original person becomes theoretically impossible. The term is an attempt to define death in a way that is permanent and irreversible, namely independent of any future medical advances, no matter how distant or improbable they may be. According to the *H+Pedia*, the term [info death](#) (or information death), is often related to [cryonics](#) in that it can describe as permanent death a condition in which the brain's structure is destroyed in an irreversible manner, where no information can be recovered.

Given the preoccupation of cryonics, this is notably characteristic of the period subsequent to that when too much damage has occurred to a brain, that either most or all of its information is no longer retrievable due to the forces of entropy, as variously described:

- A person is dead according to the [information theoretic](#) criterion if their memories, personality, hopes, dreams, etc. have been destroyed. If the structures in the brain that [encode memory](#) and personality have been so disrupted that it is no longer possible in principle to recover them, then the person is dead. If they are sufficiently intact that inference of the state of memory and personality are feasible in principle, and therefore restoration to an appropriate functional state is likewise feasible in principle, then the person *is not dead*. (Ralph Merkle, *The Technical Feasibility of Cryonics, Medical Hypotheses*. 39, 1992, 1, pp. 6-16).
- We will soon need to scrap the brain death standard in favor of a much more tentative, probabilistic, information-theoretic understanding of death as the loss of identity-critical information. (J. J. Hughes, "The Death of Death". In: C. Machado and A. Shewmon, *Brain Death and Disorders of Consciousness, Advances in Experimental Medicine and Biology*, 550, 2004, pp. 79-88)

For any collectivity there can be an understanding of a "brain" -- a "group brain" -- associated with the manner in which its collective identity is held, especially as increasingly sustained by information systems. This is variously recognized in discussion of [collective consciousness](#) and [collective intelligence](#) (Stafford Beer, *Brain of the Firm*, 1981), With respect to the information theoretic criterion, there is clearly a sense in which an individual's memories, personality, hopes, and dreams may be deliberately destroyed by use of controversial psychological techniques for purposes of so-called "[brainwashing](#)". Deliberate [dumbing down](#) may be a less controversial way of phrasing this. Euphemistically or otherwise, this may also be variously known as mind control, menticide, coercive persuasion, thought control, thought reform, and re-education.

With respect to global civilization, there is extensive interest in understandings of a "[global brain](#)". This is a neuroscience-inspired and futurological vision of the planetary information and communications technology network that interconnects all humans and their technological artifacts (Francis Heylighen, *What is the global brain?. Principa Cybernetica Web*; Peter Russell, *The Global Brain: speculations on the evolutionary leap to planetary consciousness*, 1983; G. Mayer-Kress and C. Barczys, *The global brain as an emergent structure from the Worldwide Computing Network, and its implications for modeling. The Information Society*. 11, 1995, 1, pp. 1-27). The understanding of information-theoretic death, and the sense of "[brain death](#)", as recognized with respect to individual identity, is then relevant to the death of any collective and to global civilization more generally.

As discussed with respect to the *Memetic and Information Diseases in a Knowledge Society* (2008), it is appropriate to reflect on the diseases to which it may be vulnerable (cf *Knowledge "corruption" and possible "diseases" of the global brain in Simulating a Global Brain -- using networks of international organizations, world problems, strategies, and values*, 2001). Such concerns may be especially appropriate in the light of the threat of "memetic warfare" (*Missiles, Missives, Missions and Memetic Warfare: navigation of strategic interfaces in multidimensional knowledge space*, 2001). The issues might also be related to what could be termed the "diseases of collective intelligence" of which "silo vision", "tunnel vision" and "groupthink" are examples (*Groupthink: the Search for Archaeoraptor as a Metaphoric Tale missing the link between "freedom fighters" and "terrorists"*, 2002).

Given the recognized capacity to wipe electronically stored information through the use of [nuclear electromagnetic pulse weapons](#) (EMP, NEMP), the continuing threat of global nuclear warfare clearly also has the potential to ensure an information death of global civilization from which recovery would be impossible (William A. Radasky, *High-Altitude Electromagnetic Pulse (HEMP): a threat to our way of life, IEEE USA Today's Engineer*, September 2007). Protecting civilian infrastructure from electromagnetic pulse has been intensively studied in many countries.

Curiously this possibility is not one of the [global catastrophic risks](#) explicitly identified in *Wikipedia* -- most of which could potentially result in "info-death". These are clustered as:

- Anthropogenic: Artificial intelligence, Biotechnology, Cyberattack, Global warming, Environmental disaster, Mineral resource exhaustion, Experimental technology accident, Nanotechnology, Warfare and mass destruction, World population and agricultural crisis
- Non-anthropogenic: Asteroid impact, Extraterrestrial invasion, Natural climate change, Cosmic threats, Geomagnetic reversal, Global pandemic, Volcanism

Seemingly missing is the ever increasing human infertility, potentially leading to human extinction (*Trends of male factor infertility, an important cause of infertility, Journal of Human Reproductive Science*, 8, 2015, 4; *Infertility as a Metaphor Heralding Global Collapse: essential impotence disguised by performance and "being great again"*, 2018).

## Evident collective communication challenges

Rather than as a consequence of an EMP conflict, the information death of civilization may be engendered more subtly by the cumulative global effect of other processes. The concern here with communication is evoked by experiences such as:

- sense of information overload in dealing with that to which one is already fully exposed
- a lesser degree of exposure to potentially valuable / insightful / relevant information with which it is impossible to engage
- recognition of the ever increasing quantity of interesting information with which it will be impossible to engage
- particular insights it would be good to communicate more widely
- predictable resistance of all to insights which are not of a preferred style or wavelength -- or from a source not considered credible
- extent of absorption with information which can be framed from other perspectives as misleading or unfruitful
- a sense that the variety of insights of potential relevance to a perspective is now several orders of magnitude greater than the capacity to recognize or process them -- books in bookshop
- a sense that arguments can now be found (or engendered) in support of any position, or opposed to it

It could be readily assumed that such issues are only explored selectively (however intensively) -- and typically only for very specific purposes (such as marketing), if at all. There are seemingly few studies of:

- assumptions made more generally relating to (claims of) the percentage of information read (viewed, heard, etc) and to what degree (whether minimally, sampled, scanned, in depth, etc)
- degree of (mis)comprehension evoked by any such experience, or attributed to it, or as a consequence of it
- techniques variously applied by everyone (for their information "survival") to minimize engagement with non-essential new information to which they are exposed -- namely using avoidance, selectivity, pretence, etc)
- the related implications for follow-up of contacts, whether potential, made or proposed

"Communication" is understood here to encompass a variety of forms of engagement -- whether involving reading, viewing, listening, touching, smelling, etc -- as these may apply to contacts via email, telephone, doorstepping, or button-holing -- or to those implied by communications from the past (libraries, museums, monuments) or elsewhere (other cultures). Understand generally in this way, it includes engagement with the arts (dance, crafts, photography, video, etc), nature (walking, gardening, etc), sports and games, as well as the simplest behaviours to which significance may be attached (a "kind word", a smile, or gestures of respect).

A particular concern here is with the potential naivety of any assumption relating to the receptivity by any "audience" (of whatever scope) of an idea, plan, discovery, method, proposal, invention, vision, inspiration, creative product, or the like. In practice such lack of engagement takes the form of explicit or discrete indications of indifference -- caricatured by recognition of "[eyes glazing over](#)" when information exposed to any subject of little interest. Typically this is evident when presented with information in a mode distinct from that preferred (visuals to those preferring music, schematics to those preferring text, etc). Clearly it is also evident when the information is held to be incomprehensible or simply boring.

One aspect of the process has been succinctly described in [Doris Lessing's](#) fictional description of the poignant encounter of a "development specialist" from an advanced galactic culture with a leading representative of a "developing" planet:

To say that he understood what went on was true. To say that he did not understand -- was true. I would sit and explain, over and over again. He listened, his eyes fixed on my face, his lips moving as he repeated to himself what I was saying. He would nod: yes, he had grasped it. But a few minutes later, when I might be saying something of the same kind, he was uncomfortable, threatened. Why was I saying that? and that? his troubled eyes asked of my face: What did I mean? His questions at such moments were as if I had never taught him anything at all. (*Re: Colonised Planet 5 - Shikasta*, 1979, pp. 56-57).

The question is how both attraction and indifference are to be understood in a communication process -- with the former evoking engagement behaviour and the latter evoking avoidance and manifestations of disinterest. Of particular interest is how this manifests across information modalities, and over time, in addition to within any mode at a given moment.

Manifestation of indifference relates notably to the nature of resistance to the reception of information and the possibility that it may be framed as lacking novelty, an overly familiar pattern, possibly to be caricatured as "rediscovery of the wheel". As such it may be recognized as having been (un)successfully communicated by others previously in a form of greater or lesser sophistication. The experience is especially frustrating to those seeking to communicate a panacea: "The Truth", "My Plan", "The Method", etc.

There is the further concern that (whether held to have been rediscovered or not) the discoverers of similar insights typically engage in especially problematic dynamics regarding claims of precedence and intellectual copyright. This is of course framed otherwise when the "discovery" is made in a learning mode -- by an infant.

The concerns highlighted here initially featured in a sub-project on [Forms of Presentation](#) (FoP) of the Goals, Processes and Indicators of Development (GPID) project of the United Nations University. Aside from the possibility of a pattern language, they have been variously explored subsequently (*Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008; *Eliciting a Universe of Meaning -- within a global information society of fragmenting knowledge and relationships*, 2013; *Hyperaction through Hypercomprehension and Hyperdrive: necessary complement to proliferation of hypermedia in hypersociety*, 2006; *Engaging with Insight of a Higher Order: reconciling complexity and simplicity through memorable metaphor*, 2014).

## Schematic articulation of constraints on collective communication

**Communication preferences and biases:** There is a naivety to the assumption that the needs of global communication are being met by the development of technology and the capacity of everyone to be able to communicate with everybody -- or to track their efforts to do so.

Typical issues are evident from the contrasting preferences for modes of communication and the dissociation this may create between people and between groups. Examples of such contrasting preferences include

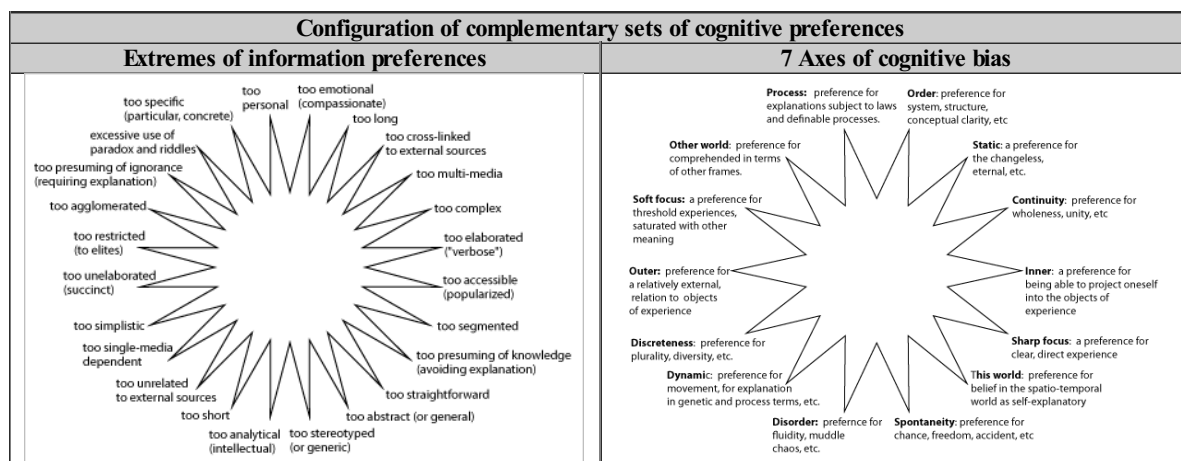
- too long vs too short
- too cross-linked to external sources vs too unrelated to external sources
- too multi-media vs too single-media dependent
- too complex vs too simplistic
- too elaborated ("verbose") vs too unelaborated (succinct)
- too accessible (popularized) vs too restricted (to elites)
- too segmented vs too agglomerated

- too presuming of knowledge (avoiding explanation) vs too presuming of ignorance (requiring explanation)
- too straightforward vs excessive embodiment of paradox and riddles
- too abstract (or general) vs too specific (particular, concrete)
- too stereotyped (or generic) vs too personal
- too analytical/intellectual vs too emotional/compassionate

These preferences are reinforced by, or combined with, cognitive biases which may be variously distinguished (\*\*\*) . The following axes of bias derive from the philosophical work of W. T. Jones (*The Romantic Syndrome: toward a new method in cultural anthropology and the history of ideas*, 1961):

- *Order vs disorder*: Namely the range between a preference for system, structure, conceptual clarity, etc. and a preference for fluidity, muddle chaos, etc.
- *Static vs dynamic*: Namely the range between a preference for the changeless, eternal, etc. and a preference for movement, for explanation in genetic and process terms, etc.
- *Continuity vs discreteness*: Namely the range between a preference for wholeness, unity, etc and a preference for discreteness, plurality, diversity, etc.
- *Inner vs outer*: Namely the range between a preference for being able to project oneself into the objects of one's experience (to experience them as one experiences oneself), and a preference for a relatively external, objective relation to them.
- *Sharp focus vs soft focus*: Namely the range between a preference for clear, direct experience and a preference for threshold experiences, felt to be saturated with more meaning than is immediately present.
- *This world vs other world*: Namely the range between preference for belief in the spatio-temporal world as self-explanatory and preference for belief that it is not and can only be comprehended in terms of other frames.
- *Spontaneity vs process*: Namely the range between a preference for chance, freedom, accident, etc and a preference for explanations subject to laws and definable processes.

The two sets of preference can be depicted otherwise, with the challenge of how to design any communication with the hope that it will be widely received:



Missing from the above depictions is how the distinctions made impact on each other systemically, reinforcing or detracting from their effects. Simulations might detect the characteristics of viable modes of communication, although these may be as elusive as sustainably is proving to be.

## Efficacy of global communication uptake?

Much is made of the questionable inequality implied by the control of the world's resources by "the 1%" and the consequences for the "99%". Most recently this has been highlighted by the example of Amazon (*No CEO should earn 1,000 times more than a regular employee*, *The Guardian*, 18 March 2018; *US bosses now earn 312 times the average worker's wage, figures show*, *The Guardian*, 16 August 2018).

Less recognized in an already emergent global information society is the so-called **1% rule of Internet culture**. This is a rule of thumb pertaining to participation in an internet community, stating that only 1% of the users of a website actively create new content, while the other 99% of the participants only lurk. One variant, the 1-9-90 rule, states that in a collaborative website such as a wiki, 90% of the participants of a community only view content, 9% of the participants edit content, and 1% of the participants actively create new content.

**Information overload?** Many readers of this document (if any) are faced with choices regarding their use of time -- faced with information overload. The apparent success of email and web usage obscures the fact that there are apparently no studies (other than for marketing purposes) of whether links in emails and web documents are followed, or whether more than the subject line of an email is read. No one has time to process more than a select number of emails. As a percentage of the number of emails an individual or group receives:

- how many are simply blocked, blacklisted, filtered into spam or automatically deleted?
- how many receive an automated response?

- how many are simply ignored, on the basis of the sender?
- how many are only read as far as the subject line?
- how many are opened, but only briefly glanced at?
- how many are processed only after a planned or inadvertent delay (days, weeks?)
- how many, offering links or attachments, are actually accessed?
- what proportion of attachments accessed are actually read?
- what proportion of any content can be remembered -- a day, week, or month later?
- what proportion elicit a considered response?
- how long does a typical exchange last before cessation of engagement of one or other party, unsubscription from a list, or being dropped from contacts?

**Due attention?** In response to each question, how likely is it to be claimed and assumed that due attention has been given to such communications even though this is not reflective of reality? The question is framed in the light of an early survey of readership of academic journals which indicated that the average number of readers of an academic paper was something like 3. Of interest in this respect is the approach of search engines to registering for marketing purposes "bounce back" and "length of time on site" and "click through" from web pages. No such studies are made for email communications.

How will this situation develop as ever more people are able to send and receive communications? The question can be framed otherwise through noting the worldwide increase in scientists from 5 million in 2002 to 8 million in 2013, with an annual growth rate of 4% -- of which 60% are in industry. There are 25,000 journals publishing 1 million articles per year (Jeremy J. Baumberg, *The Secret Life of Science*, 2018).

What then will be the consequence with respect to communication of new insight into critical problems or communication regarding previously unrecognized problems of the greatest urgency? Who is able to give due attention to what -- especially when collective attention is required?

Of particular interest here is how the complex of issues above might be fruitfully articulated -- possibly as a [pattern language](#), as discussed separately (*Communication Constraints and Possibilities in a Global Context: towards a pattern language to defer global collapse of communication*, 2018).

**Competing attractors:** Fundamental to engagement in the communication process, as noted above, is the effort to attract attention -- most notably for "marketing" purposes, whether understood in economic, political, religious, or advocacy terms. Those producing documents necessarily have some level of desire that they should be read -- as with those producing music and other creative works. Advertisers employ a very high order of creativity in rendering their products attractive.

Clearly there is already intense competition in the process of attracting attention. "Honey pots" are evident everywhere -- recalling the competition of flowers for pollinators in nature. This can be explored in terms of the "attention economy", as noted above. However, as with the marketing of food and other products, there is a multiplicity of competing offerings as in any supermarket. The producers of such products are typically dependent for their survival on the response of customers.

**Restrictive intellectual copyright?** issues of intellectual copyright are now a primary factor in the economics of information dissemination. How is who expected to benefit from new insight under such circumstances if those with rights to its reproduction wish to derive exorbitant compensation for its use? Who will not be enabled in this respect? How will this affect the uptake of those insights?

## Disaster-engendering constraints on collective communication?

**Arrogation of authority:** The development of the information society has curiously enabled many to give themselves the authority to address whomever they believe will receive their communications. World leaders have been obliged to place themselves in a similar mode -- as with use of Twitter by Donald Trump and the Pope. Few advocacy groups would now fail to use this mode.

The obvious difficulty is that each effectively claims authority -- and possibly unique authority -- with respect to a worldview, or a strategy considered essential. "My Way"! The communication frequently has the implication that if only everyone would do what is framed as appropriate therein, all would then be well. This includes advocating the special merits of particular groups (possibly under divine mandate) and the consequent need to eradicate those who disagree. For some it is simply a matter of "if you are not with us, you are against us".

The claim of authority can notably be made with gravitas -- suggesting an unexplored relation between arrogance and gravity, as noted below. The claim can be reinforced by imposing some form of censorship, as was traditionally formalized in the Roman Catholic Church (*Index Librorum Prohibitorum, imprimatur*, etc). A related issue is that some receiving communications will only engage with them if they come from a source held to be credible or accredited -- all others being filtered out.

**Overriding busyness model:** There is a largely forgotten historical relationship between business models and what might be termed "[busyness models](#)". Many take great pride in being busy, with the businesses with which they are engaged. Being full of commitments is naturally associated with recognition of information overload and lack of time -- even of "quality time" and the time required for creative reflection. Both business and busyness are managed by selective attention to what is thereby deemed relevant -- with the consequent inattention to what is not. An obvious trick in achieving this is to focus on the immediate present and the short-term, with the longer term thereby framed as effectively irrelevant.

A significant consequence is the erosion in the capacity for effective institutional oversight. Legal and legislative systems are typically overloaded to a remarkable degree, if not distorted by "packing" as remarkably instanced by the SEC in relation to the 2008 crash \*\*\*. Potentially of the greatest significance is that regulatory authorities with vital oversight responsibility are necessarily severely handicapped

in what they are able to process -- rather than what they would claim to be able to process.

**Closure and isolation:** It is increasingly noted that people are ever more isolated within communication space, despite the acclaimed merits of worldwide communication. As with the emergence of gated residential communities -- the fortresses of the period -- this may be understood as an increasing degree of cognitive closure and gatedness (*Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society*, 2004). This naturally results in a resistance to information from other perspectives (Hemant Mehta, *Christian Textbook Urges Readers To "Keep a Closed Mind"*, *Friendly Atheist*, 25 August 2017).

The larger implication is that the understanding of "we" (as in "we the peoples") is increasingly restricted -- in contrast to those distinguished as "others", namely "not we" and not part of the "circle of trust". The catchment area of any potential "we" is now necessarily limited -- and, more specifically, the possibility of "universal" uptake of any new insight or strategy.

This raises the question of whether the possibility of any effective global consensus -- based on a larger "we" -- is potentially to be recognized as a dangerous form of illusion, comparable with superstition as widely deprecated (*The Consensus Delusion: mysterious attractor undermining global civilization as currently imagined*, 2011).

**"Incarceration" of knowledge and insight:** The situation is exacerbated by the proprietary approach to insights -- especially of any gated community. Echoing the challenges of territoriality, this is evident in the remarkable preoccupation with possession and ownership of intellectual property, even that which might be vital to addressing the challenge of a collapsing civilization, as variously discussed (*Future Coping Strategies: beyond the constraints of proprietary metaphors*, 1992; *Universal Declaration of Patent Responsibilities: a draft proposal*, 2007).

Scientific publishing as practiced could be considered a remarkable metaphor for the organized inaccessibility of knowledge (George Monbiot, *Scientific publishing is a rip-off*. *The Guardian*, 13 September 2018). \*\*\* Controversial EU copyright change faces key vote.

Is there indeed a sense in which knowledge -- both new and old -- is increasingly "incarcerated" -- possibly because of fears of its disruptive capacity in relation to the prevailing order? Indicative of forms of incarceration include: censorship, secrecy, access, paywalls, copyright, sacred knowledge, embodiment of insight in art, complexification and obfuscation, misleading oversimplification, obsolescence of requisite technology, encryption.

Use of the incarceration metaphor invites systematic exploration of processes of imprisonment and prison reform as they apply to knowledge and creativity. Examples might include:

- "visiting rights" in relation to knowledge -- possibly framing the nature of "conjugal visitation rights" as they might apply to fruitful creativity?
- "prison visitor" registration, now paralleled by systematic registration of all online search requests, as has been the case with library book requests.
- "prison culture" and its exacerbation of violence between imprisoned sets of insights, including "molestation" of the weak by the strong
- "prison guards", for which the parallel of "gatekeepers" has long been recognized
- "radicalization" as a process of concern in undermining "rehabilitation" of knowledge
- "overcrowding" as is evident in the case of libraries challenged by limited shelf-space and lack of resources to extend it
- "death row" as a particular condition in which knowledge is held prior to being "shredded", as is the practice with archives
- "recidivism" as a consequence of abusive (re)exploitation of knowledge when otherwise unconstrained
- "occupational therapy" understood as a need to keep the imprisoned occupied

Such incarceration effectively inhibits cross-fertilization, except under questionably pre-defined circumstances. This is strangely reminiscent of the legendary "lady in the tower" -- locked there awaiting a (princely) hero capable of skillfully bypassing such ivory tower constraints.

To the extent that any form of global rebirth is recognized as desirable, inhibition of psychosocial fertility is a matter of concern (*Infertility as a Metaphor Heralding Global Collapse: essential impotence disguised by performance and "being great again"*, 2018). This inhibition can be recognized in terms of the interplay between the purported quest for "new thinking" (or "lost knowledge"), the "incarceration" of any detected, and the resulting blindspots (*Inhibition of creativity through incarceration of knowledge*, 2018).

Associated with such incarceration, is the primary emphasis placed on right of access to knowledge, rather than the value of the associated insights -- namely the appropriate accreditation of those seeking access to knowledge rather than on their ability to develop its implications and "run with the ball". The sense in which the world is thereby held to ransom in time of crisis is increasingly obvious.

**Manipulation of information, memetic warfare and unreliability of evidence:** There is increasing recognition of the extent to which information is manipulated, especially the manner in which statistics are "massaged". Whether as fake news or otherwise, challenging information may be suppressed or exaggerated inhibiting its reasoned consideration, as separately discussed (*Vital Collective Learning from Biased Media Coverage: acquiring vigilance to deceptive strategies used in mugging the world*, 2014).

The situation has now been transformed into a preoccupation with information warfare and memetic warfare -- possibly to be extended to knowledge warfare (Philippe Baumard, *From Infowar to Knowledge Warfare: preparing for the paradigm shift*, 1996). The challenges are exacerbated by hacking and cyberwarfare. Whereas traditional warfare has focused on the destruction or conquest of physical resources, such warfare will necessarily focus on destroying the credibility and viability of knowledge structures -- thereby engendering widespread confusion, with unfortunate analogues to collateral damage.

The issues are already widely publicized with respect to Internet neutrality, censorship of content (notably with respect to "evil"), and the imposition of filter bubbles by search engines -- namely is a state of intellectual isolation that can result from personalized searches when

a website algorithm selectively guesses what information a user would like to see based on information about the user, such as location, past click-behavior and search history. Related search engine developments include invasive advertising, questionable rankings of content, and ensuring the presence of backdoors for questionable purposes.

This complex of factors is fundamental to erosion of presumed characteristics of "hard evidence" or "concrete proof", as may be variously argued (*10 Demands for Concrete Proof by We the Peoples of the World*, 2012). The situation has gone beyond the point at which those having the power to lie can no longer prove that they have not. Increasingly a lie can no longer be distinguished from truth, and many may not care to make such a distinction when assertion of truth and allegation suffices to achieve a purpose (*Existential Challenge of Detecting Today's Big Lie: mysterious black hole conditioning global civilization?* 2016).

More provocative is the recognition of deliberate distortion of the communication process as may be a feature of "dirty tricks" and **cover-up** instigated by governments and corporations in support of particular agendas (*Vital Collective Learning from Biased Media Coverage*, 2014; *Wrecking an International Project: notes from a saboteur's vade mecum*, 1972)

**Loss of overview and inability to detect any challenging root cause:** As can be variously argued, there is a dramatic loss of insight into systemic connectivity, especially that requiring an interdisciplinary perspective (*Time for Provocative Mnemonic Aids to Systemic Connectivity?*, 2018). Potentially more dangerous is the indifference to the challenge of acquiring such overview, notably by cultivating the assumption that it is adequately acquired -- irrespective of blindspots periodically highlighted.

Specialization is valued, the greater the better. Eclectic cross-boundary inquiry tends to be deprecated, on the assumption that an integrative perspective will be obtained by undefined means, through unidentified authorities, with unquestioned competence. Irrespective of any process of "**dumbing down**" of the potentially critical masses, there is therefore a corresponding process of "dumbing up".

The condition is aggravated through surreptitious manipulation of language, as argued by Kenn Orphan (*The Power of Language in the Anthropocene*, *CounterPunch*, 20 September 2018):

Historically, language has always served as a means for social control. Colonized indigenous peoples understand this all too well. One of the first actions by colonizers was to erase indigenous history. The next was to erase the language. Today the 1% have imposed a culture of obfuscation and use of language that is intentionally duplicitous.... a parlance of pale, placating euphemisms numbs us to our own oblivion. And it is done with such staggering precision and ease that it has become ever more difficult to decipher and parse. But in the end not even the most viral of memes or clever of hashtags will be able to eternally hide atrocity or cloak the stench of a dying world.... . The beginning of dissent and resistance, then, lies in learning a different tongue.

There is increasing avoidance of inconvenient truths whether of scientific, military, religious or of psychosocial nature more generally (*An Inconvenient Truth -- about any inconvenient truth*, 2008). This is compounded by the challenge of **detecting root causes** dependent on faint signals deemed to be of low probability -- highlighted by the incidence of "false flag" operations and other forms of deception (*Picking up the faint signals*, *The Telegraph*, 2 February 2006; Franco Salvetti, et al, *A Tangled Web: the faint signals of deception in text*, 2016). Again the challenge is readily ignored on the assumption that root causes are readily detectable, if not obvious.

## Increasing unreliability of collapsing communication

**Insecurity: loss of credibility, confidence and trustworthiness:** Much is made of the extent to which a **culture of fear** has been engendered in support of political and military agendas -- a continuation of that cultivated by religion with respect to **fear of God** and **fear of the afterlife**. Given the urgency of the concerns raised by climate scientists, there is some irony that the culture of fear is also framed in terms of "climate of fear".

One strategic response to this fear has been the military preoccupation with national security, exemplified in its most extreme form by the preoccupation of the USA with **full-spectrum dominance** and the maintenance of military bases in most countries of the world to that end. This quest has become especially evident as a result of invasive security provisions and the development of CCTV coverage of all public spaces.

As recognized otherwise, this insecurity is evident in the widespread loss of confidence in authorities and a degree of breakdown in confidence in local communities -- a progressive erosion of the community spirit, more especially in urban areas. This devastation has been highlighted by the challenges of "building trust" as fundamental to "building community" in communities and nations devastated by conflict.

The vital importance of trust has been extensively emphasized with respect to the financial system. Increasingly problematic has been the recognition that the law can be readily ignored by some and that international treaties can be variously breached, as separately discussed (*New World Order of Walk-away Wheeling and Dealing: creating strategic dependency and vulnerability through confidence tricks*, 2018).

The emerging condition is already characterized by obsession with the "positive" as a euphemism for "good" and beneficial (**Barbara Ehrenreich**, *Bright-sided: how the relentless promotion of positive thinking has undermined America*, 2009; *Smile Or Die: how positive thinking fooled America and the world*, 2010). With negativity framed as "bad", as discussed separately it has become ever more difficult to cultivate the **critical thinking** capable of the positive and negative feedback vital to effective governance (*Being Positive Avoiding Negativity: management challenge of positive vs negative*, 2005). Ironically critical thinking as itself been effectively reframed as "negative". The deficiency is all the greater with respect to higher orders of feedback characteristic of the subtler insights of **second-order** and **third-order cybernetics** (Roberto Gustavo Mancilla, *Third Order Cybernetics and a Basic Framework for Society*, *Journal of Sociocybernetics*, 56, 2011, 9, pp. 35-56).

**Dependence on the hypothetical:** There is increasing recognition of the surreal nature of global civilization and its dynamics (*Surreal nature of current global governance as experienced*, 2016). This invites speculative framing of [hyperreality](#) as a more appropriate framework for global civilization -- whatever that may come to mean (*Engaging with Hyperreality through Demonique and Angelique? Mnemonic clues to global governance from mathematical theology and hyperbolic tessellation*, 2016).

That argument followed from recognition of the increasing degree of "demonisation" of others -- duly reciprocated -- and the suggestion that this process might be better focused on the problems with which governance sought to engage. Given the continuing widespread belief in angels -- reinforced by the continuing role of what are effectively theocracies -- a corresponding case can also be made for the "evangelisation" of solutions.

In both cases this switches attention away from those controversially held to embody the demonic or the current focus of evangelical preoccupations. More obvious is the response in terms of various agendas for a New World Order and anticipation of the arrival of a saviour of some kind. This may be framed as a new mode of authoritative leadership, as argued by [Yehezkel Dror](#) (*For Rulers: Priming Political Leaders for Saving Humanity from Itself*, 2017).

Other salvatory possibilities optimistically envisaged include technological breakthroughs, artificial intelligence (and the associated [singularity](#)), extraterrestrials, a prophesied Messiah, or some other form of divine intervention framed by "end times" scenarios. These may well be more appropriately explored as metaphors for a cognitive shift (*Emerging Memetic Singularity in the Global Knowledge Society*, 2009).

Each of these constitutes a preferred optimistic focus for quite distinctive constituencies. At the time of writing, for example, with the anticipated disaster of Hurricane Florence -- defined as a "monster" -- divine intervention has been invoked (*Televangelist Pat Robertson Casts 'Shield Of Protection' Ahead Of Hurricane Florence*, *The Huffington Post*, 11 September 2018). For those questioning the credibility of that modality for some, it is sobering to note that Hurricane Florence was downgraded from Category 3 to Category 2 on 13 September, and downgraded again to Category 1 on 14 September.

This is usefully contrasted with other arguments (Robert Meyer and Howard Kunreuther, *The Ostrich Paradox: why we underprepare for disasters*, 2017; [Karen A. Cerulo](#), *Never Saw It Coming: cultural challenges to envisioning the worst*, 2006)

Especially relevant is the contrast between doom-mongering, as widely practiced and variously deprecated, and hope-mongering as seldom challenged (*Credibility Crunch engendered by Hope-mongering: "Credit crunch" focus as symptom of a dangerous mindset*, 2008).

**Systemic fragility and vulnerability:** Optimism of various forms naturally places emphasis on the robustness of both environmental systems and humanity. Any focus on systemic failure tends to be narrowly constrained by sector, with little attention to a wider range of possibilities relevant to a global system (*Variety of System Failures Engendered by Negligent Distinctions*, 2016).

There is an unchallenged reliance on human ingenuity to respond to any crisis, including that at the global level. This ingenuity may not be adequate to the nature of environmental and civilizational collapse, as argued by Thomas Homer-Dixon (*The Ingenuity Gap: facing the economic, environmental, and other challenges of an increasingly complex and unpredictable future*, 2002).

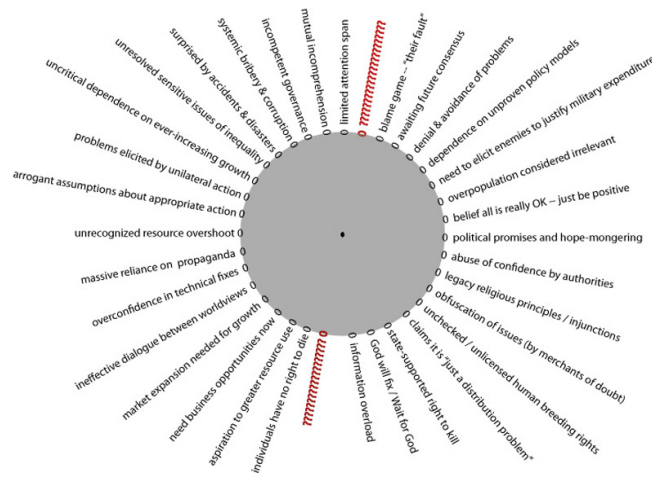
Missing at this time is widespread comprehension of current global civilizational vulnerabilities with respect to dependence on vital sectoral processes including: environment, energy, food and agriculture, medical supplies, information and communication facilities, military and security facilities, and waste disposal (*Strategic dependencies and vulnerabilities*, 2018). Such dependence can be readily disrupted, notably as a consequence of national self-interest, aside from the unforeseen disasters and "surprises" as highlighted by [Nassim Nicholas Taleb](#) (*The Black Swan: the impact of the highly improbable*, 2007).

Possibly triggered by warfare, potentially most obvious in the event of any major crisis is the collapse of the information system on which global civilization is so currently dependent. This is especially evident with respect to the controversies surrounding Google and Facebook and Internet neutrality, compounded by their potential implications in cyberwarfare and their vulnerability to it. The potentially disastrous consequences of hacking isolated systems may constitute but the "tip of the iceberg" in relation to global vulnerability -- appropriately to be considered in the light of the assumptions which gave rise to the sinking of *RMS Titanic* -- proclaimed to be unsinkable. Most obvious is the potential impact of electromagnetic pulse weapons already developed in anticipation of [electronic warfare](#), including their [nuclear enhancement](#) (*U.S. Air Force confirms Boeing's electromagnetic pulse weapon*, *Digital Trends*, 26 May 2015). These would disrupt electronic equipment and have the potential to wipe the digital memories which are now the main repository of knowledge-based global civilization.

## Mind mapping global civilizational collapse

A previous exercise presented a map indicative of why nothing is happening in response to global challenges (*Mind Map of Global Civilizational Collapse*, 2011). From there a *Two-D projection: exemplifying the nature of cognitive flatland* is reproduced below

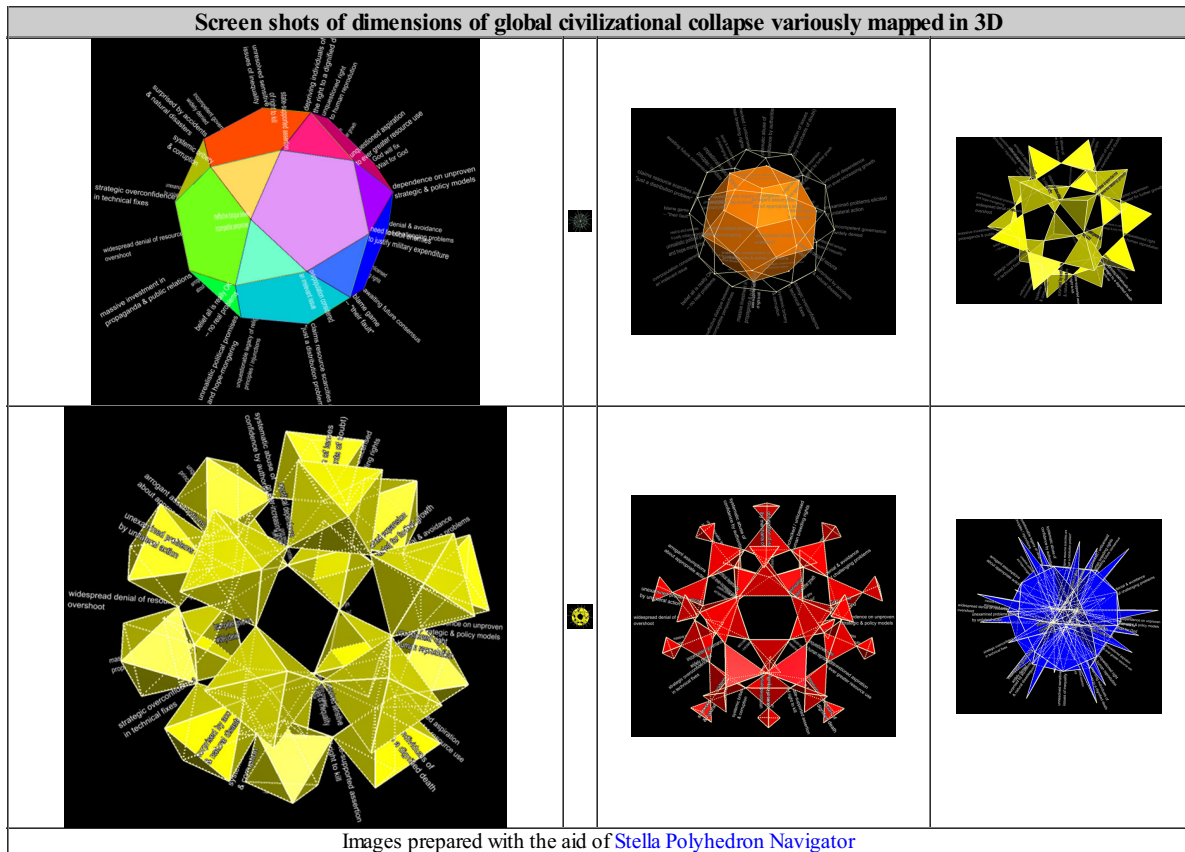
**Indicative map of global civilizational collapse**  
Configuration of factors undermining fruitful action



The above image followed from previous experiments in offering a single image, notably as presented in:

- *Mapping the Global Underground: articulating Insightful Population Constraint Consideration (IPCC)* (2010)
- *Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity* (2009)

The earlier exercise explored possible **3D maps employing the above dimensions** -- but consistent with the "global" nature of civilization as currently conceived. Selected screen shots from that exercise are reproduced below offering a way of conceptualizing the communication space which is vulnerable to imminent collapse.



The visual contrasts are a deliberate challenge to the imagination in anticipation of the subsequent argument (*Post-Apocalyptic Renaissance of Global Civilization: engaging with otherness otherwise?* 2018). The selection forms help to raise the question as to the form onto which it may be useful to map the connectivity of a global communication space, especially in anticipation of any collapse (*The Territory Construed as the Map: in search of radical design innovations in the representation of human activities and their relationships*, 1979).

Of some relevance to this argument, the earlier mapping exercise also explored *3D Projections embodying disintegrative dynamics as fundamental to integrative design*. A potential merit of this visual approach is that it suggests ways of exploring both how a coherent pattern of global communication may collapse, but also of how it may re-emerge in a "renaissance" phase of a what might then be recognized as a cyclic process. This would in turn be consistent with hypothesized **Big Bounce** cosmological models of an oscillatory universe and with related hypotheses of **Eternal Return**. A striking animation is offered by Natalie Wolchover (*How the Universe Got Its Bounce Back*, *Quanta Magazine*, 31 January 2018).

A cyclic process can be explored in terms of packing and unpacking of nested polyhedra as a "pumping" dynamic of cognitive mapping

templates (*Psychosocial Implication in Polyhedral Animations in 3D: patterns of change suggested by nesting, packing, and transforming symmetrical polyhedra*, 2015). This offers images and animations in virtual reality of:

- Relative movement of nested Platonic polyhedra: pumping and rotation
- Packing and unpacking of 12 semi-regular Archimedean polyhedra
- Rotation and pumping of nested Chinese "puzzle balls" as symbolizing "worlds-within-worlds"

Such depictions suggest that there may be a degree of order to the manner in which a global civilization collapses -- as with any understanding of the progressive loss of the pattern of synaptic connectivity in individual senility and dementia (*Alzheimer's Disease: connections between brain cells destroyed in early stages of condition*, *Independent* 30 November 2015; *Studying loss of connections between brain cells*, *Alzheimer Society*). Given the role that "post-it notes" play as the condition progresses, there would seem to be the need for an equivalent to mitigate the effects of a collapsing collective communication space -- as it "downsizes" through a second childhood. The staged decommissioning of a nuclear reactor suggests a relevant perspective -- especially in the light of the challenge of radioactive waste disposal.

In anticipation of the subsequent argument, the cognitive implication of such experimental animations have been developed further (*Time for Provocative Mnemonic Aids to Systemic Connectivity?* 2018), notably with respect to:

- Increasing the dimensionality of the archetypal Round Table?
- Necessity of encompassing a "hole" -- with a dodecameral mind?

## Expanding communication universe prior to a "big crunch"?

**Cosmological metaphors:** If some form of irreversible collapse is to be envisaged as argued above, one need is for insightful metaphors to frame that process, as with any prospect of imminent death (*Metaphors To Die By: correspondences between a collapsing civilization, culture or group, and a dying person*, 2013).

In referring to the communication universe of a knowledge-based civilization, there is a case for exploring cosmology and astrophysics as a source of such metaphors (*Towards an Astrophysics of the Knowledge Universe: from astronautics to noonautics?* 2006). The physical universe is discussed there as a **mnemonic device** -- a "memory palace". An annex to the document is of relevance to this argument (*Diversity of understandings of any universe of information*, 2006). A distinctive argument is also of relevance (*Entering Alternative Realities -- Astronautics vs Noonautics: isomorphism between launching aerospace vehicles and launching vehicles of awareness*, 2002).

Many cultures have developed "cosmologies" which provide frameworks through which a form of coherent "global" comprehension is provided as an explanatory context, whatever functions may be attributed to deities in the creation process -- and to any process of decline. For many the current era attaches greater significance to the insights into cosmology as derived from astrophysics.

**Information as fundamental to cosmology:** The argument here is that the elements in play in a knowledge/information civilization could be informed by insights into the fundamental role of energy and information as understood by astrophysics and cosmology -- as in the early approach of the [Society for General Systems Research](#). The question is whether there are dynamics hypothesized in relation to the ultimate fate of the universe which will cause global civilization to collapse "under its own weight". Is there a "heat death" of an information-based civilization to be envisaged, as suggested by the language relating to that of the universe:

The **heat death of the universe** is a plausible ultimate fate of the universe in which the universe has evolved to a state of no thermodynamic free energy and therefore can no longer sustain processes that increase entropy. Heat death does not imply any particular absolute temperature; it only requires that temperature differences or other processes may no longer be exploited to perform work. In the language of physics, this is when the universe reaches thermodynamic equilibrium (maximum entropy).

The factors and dynamics, including the confusion of subjectivity and objectivity for any observer, are strangely echoed in the intimate experience of ageing, notably conditions associated with senility (Alzheimer syndrome, etc). Such dysfunctionality can be usefully explored as a source of metaphor for a global civilization. Is global civilization on the verge of senility or of being constrained by a form of collective Alzheimer syndrome? (*Societal Learning and the Erosion of Collective Memory a critique of the Club of Rome Report: No Limits to Learning*, 1980).

How might this be recognized given the tendency to denial and "positive thinking"? Alternatively, how might this relate to religious insights into "end times" scenarios and the manner in which it expected to experience them as a singularity?

**Shape of communication universe?** In a knowledge-based civilization metaphorical references to the "information universe" or the "knowledge universe" are common currency -- as with reference to the collective "communication space". It is therefore intriguing to note that an ongoing debate amongst cosmologists concerns the **shape of the universe**. Cosmologists distinguish between the **observable universe** and the global universe. The former consists of the part of the universe that can, in principle, be observed by light reaching Earth within the age of the universe. Debate regarding the global structure of the universe includes:

- whether the universe is infinite or finite in extent
- whether the geometry of the global universe is flat, positively curved, or negatively curved
- whether the topology is simply connected like a sphere or multiply connected, like a torus

**Collapse into a singularity -- or through?** Given the emphasis on the globality of civilization, it is perhaps curious that the question as to the "shape of the information universe" is not a major concern. It is of course the case that various maps are available of web traffic

and other network structures ([semantic web](#), [concept map](#), etc). The "shape", as it is of importance to cosmologists, is not a focus. The question is of some relevance to hypothesized singularities -- a phenomenon valuable to astrophysics (*Dynamics and Singularities in the Knowledge Universe*, 2006; *Cognitive singularities*, 2005).

Any process of irreversible collapse could indeed be recognized in terms of the well-studied dynamics of the astrophysical analogue, as argued separately (*Emerging Memetic Singularity in the Global Knowledge Society*, 2009). As varieties of singularity of potential relevance, the latter noted: [Technological singularity](#) / [Cognitive singularity](#) / [Metasystem transition](#) / [Communication singularity](#) / [Globality as singularity](#) / [Symmetry group singularity](#) / [Subjective singularity](#) / [Spiritual singularity](#) / [Singularity of planetary consciousness](#) / [Metaphorical singularity](#).

Irrespective of any deprecation of the perspective, it is intriguing to note the current focal role for the Abrahamic religions of Jerusalem - of a significance beyond question (*Jerusalem as a Symbolic Singularity: comprehending the dynamics of hyperreality as a challenge to conventional two-state reality*, 2017). There is already a probability that "Jerusalem" may prove to be the black hole through which global civilization collapses.

**Event horizons of global governance?** Of particular interest to any related insights is the extensive study of the astrophysics of [black holes](#) and the associated recognition of [event horizons](#), This is a region in spacetime beyond which events cannot affect an outside observer, namely the boundary at which the gravitational pull of a massive object becomes so great as to make escape impossible.

Major significance is now associated with what are frequently described as financial black holes (*Definition of black hole*, *Financial Times Lexicon*; *The Black Hole of Finance*, Edge, 2013). Is seeing "outside" any such a black hole, beyond the event horizon of the singularity, already an impossibility?

As a constraint on global insight, the metaphor is potentially indicative of significance in other domains (*The Black Hole metaphor and the American Way of Life (AWOL)*, 2003; *Is the World View of a Holy Father Necessarily Full of Holes? Mysterious theological black holes engendering global crises*, 2014).

**Clues from stellar evolution?** A related metaphor of potential value can be recognized in stellar evolution and the lifecycle of stars. In this case the dynamics of a sun in the closing phases of its life could offer insights into those of a civilization in its final phases. Appropriately the *Wikipedia* entry on the [Timeline of the far future](#) has sections on both [Future of the Earth, the Solar System and the Universe](#) and on [Future of Humanity](#). Given the role of so-called [gravity models in the social sciences](#), the concepts distinguished in the astronomical process of [star formation](#) and [gravitational collapse](#) merit attention with respect to a civilization, especially a global civilization:

A star is born through the gradual gravitational collapse of a cloud of [interstellar matter](#). The compression caused by the collapse raises the temperature until [thermonuclear fusion](#) occurs at the center of the star, at which point the collapse gradually comes to a halt as the outward [thermal pressure](#) balances the gravitational forces. The star then exists in a state of [dynamic equilibrium](#). Once all its energy sources are exhausted, a star will again collapse until it reaches a new equilibrium state.

An interstellar cloud of gas will remain in [hydrostatic equilibrium](#) as long as the [kinetic energy](#) of the gas [pressure](#) is in balance with the [potential energy](#) of the internal [gravitational force](#). Mathematically this is expressed using the [virial theorem](#), which states that, to maintain equilibrium, the gravitational potential energy must equal twice the internal thermal energy. If a cloud is massive enough that the gas pressure is insufficient to support it, the cloud will undergo [gravitational collapse](#). The mass above which a cloud will undergo such collapse is called the [Jeans mass](#).

Is an analogue to the [Hertzsprung-Russell diagram](#) of astrophysics to be envisaged as offering insights into civilizational evolution and collapse?

**Global collapse ensured by arrogance?** [Hubris](#) describes a dangerous overconfidence, typically synonymous with arrogance. In its ancient Greek context, it was used to describe behaviour that defies the norms or challenges the gods, thereby bringing about downfall. It could be readily understood that the dynamics of global civilization encourage and enable arrogance in many domains. The "norms" defied may be those which would be appropriate to sustainable development -- thereby constituting a "challenge to the gods". Of relevance is the argument of [Claudio Naranjo](#) (*Civilization as Hubris*, 2010).

Given the extent to which gravity is a focus of research, and given recognition of gravity models in the social sciences, there is then a case for exploring how arrogance may function in a manner similar to gravity, as discussed separately (*Arrogance as an analogue to gravity -- equally fundamental and mysterious*, 2015). Of particular interest is the mysterious nature of both, despite their extreme familiarity. As noted there, little attention is however accorded to arrogance in psychosocial systems, and specifically with respect to that associated with the promoters of particular systems and models in which others are enjoined to believe.

Associated issues of egotism are only a matter of anecdote in explaining the problematic failure of many promising initiatives to reconcile conflicting perspectives. Typically unmentionable, for example, is the challenge to sustainable paradigm shifting and social transformation as can be variously explored (*Reframing Personal Relationships between Innovators or Leaders*, 1998; *Knowledge Processes Neglected by Science -- insights from the crisis of science and belief*, 2012). Consequently, as can be readily argued, the collapse of civilization is being enabled by misleadership and the problematic relationship leaders at every level of society (*Emergence of a Global Misleadership Council?* 2007) -- despite the insights of [Yehezkel Dror](#) (*The Capacity to Govern: A Report to the Club of Rome*, 2001; *For Rulers: Priming Political Leaders for Saving Humanity from Itself*, 2017).

Especially intriguing is the manner in which arrogance might then be understood as fundamental to any sense of being "right" (even understood locally as "upright"), irrespective of the degree to which other constituencies are distinctively "right" -- and "upright"

according to their own norms. In a global context, there is then the strange inability to reconcile the contrasting orientations by which "upright" is held to be unquestionable, seemingly through cultivation of a "flat Earth" perspective (*Irresponsible Dependence on a Flat Earth Mentality -- in response to global governance challenges*, 2008). From an astrophysical perspective, the metaphor can be extended to other planets and other solar systems, if not to other galaxies -- each with its focal gravitational attractor. Others in disagreement are readily held to "be on another planet", if not inhabiting a different universe. The question is then whether there the complex manifestations of arrogance in global civilization are together drawing collective communication into a singularity amounting to "info-death".

**From Big Bang to Big Crunch:** The cosmological metaphor, in accordance with some creation scenarios, necessarily lends itself to comparison with the **Big Bang** hypothesis of the cosmology of astrophysics. The equivalence is evident in the widely recognized explosion of information and a form of expansion of knowledge and communication space readily comparable to understandings of an **expanding universe**.

Far less evident is whether any collapse of civilization through some form of information death could be informed by insights from consideration of the corresponding **Big Crunch** hypothesis of cosmology. *Wikipedia* offers a **Graphical timeline from Big Bang to Heat Death** which could be experimentally populated with corresponding stages in relation to a global knowledge-based civilization.

Is a Big Crunch to be usefully compared to the prophesied **Apocalypse** to which religions variously accord the greatest attention -- however its precursors may be variously envisaged *Armageddon*, *Acharit Hayami*, *Yawmid Din*, *Ragnarok* and *Götterdämmerung* (2004)? The question is relevant to the manner in which global governance is currently framed divisively in terms of a response to evil (*Evil Rules: guidelines for engaging in Armageddon now*, 2015)

**Collapsing capacity for "work"?** Use of such a metaphor could be explored in thermodynamic terms as the increase of **negentropy** as the degree of order and connectivity of a global civilization increases -- prior to the subsequent increase in **entropy** as that order is variously undermined.

This is currently most evident in the **Holocene Extinction** in the natural environment -- a rapidly degrading natural environment over which global civilization proudly claims mastery, dominance and stewardship. There is however little discussion of the loss of psychodiversity of which the loss of biodiversity may prove to be both a valuable metaphor -- if not an indicator as yet to be recognized. Arguably this loss of psychodiversity is evident in the rapid rise of populist worldviews and the associated heavy investment in binary thinking associated with it and in response to it, as usefully articulated by Nick Cohen (*In today's Britain, compromise is spurned in a bid for brutal victories*, *The Guardian*, 22 September).

Especially intriguing is the manner in which the capacity for "work" decreases in the approach to heat death, when it becomes impossible in thermodynamic terms -- as may be the case in some corresponding sense in the final stages of the collapse of global civilization. Put succinctly there is then the implication that the communication processes on which civilization depends, most notably in economic terms, would progressively cease to "work". As with final stages of individual senility, civilization would become ever more exhausted.

This reference to work can be considered in relation to the capacity of global governance to "work" as is already in question (*Ungovernability of Sustainable Global Democracy?* 2011). This might be exemplified by the complaint of **Tony Benn**, newly crowned as UK Secretary of State for Industry, who indicated that he had "all the levers of power arrayed before him" but finally recognized that, although "he could pull on them at any time", the issue was that "they were not in fact connected to anything". At what point does governance cease to "work"?

**Psychosocial metaphors of collapse:** Related metaphors of possible value in comprehending the process of collapse include an extension of the notion of the "flowering" of civilization as a "Big Bang" increase in psychocultural diversity -- only to be followed by some corresponding form of "deflowering" (*Flowering of Civilization -- Deflowering of Culture: flow as a necessarily complex experiential dynamic*, 2014).

Use of the metaphor is in accordance with widespread reference to the "rape" of societies and cultures. A more complex extension derives from any sense in which a complex civilization may eventually be effectively driven to "rape itself", potentially indicated by the tendency to **self-harm** and the indulgence in other excesses. The increasing incidence of corruption could be explored in this light, together with occasional reference to "**intellectual masturbation**" in a knowledge-based society.

Rather than being a purely hypothetical exercise, an understanding of collapse could be recognized in the widely discussed disastrous effects of President Trump's actions as *de facto* leader of global civilization. However, from a systemic perspective, greater insight might be derived from interpreting his role in terms of the **trickster archetype** of which the Norse deity **Loki** is perhaps the most relevant example. As portrayed operatically by Richard Wagner, Loki's ambition is to destroy the realm of the Gods -- **Valhalla** in Norse mythology. In the final opera *Götterdämmerung*, the realm of the Gods is indeed set on fire, resulting in their destruction. Mythology aside, "Valhalla" then lends itself to recognition as the realm of the highest human values -- arguably now in process of global collapse. An allusion to fire is evident in the title of a documentary film on the psychosocial context engendering the election of Donald Trump (**Michael Moore**, *Fahrenheit 11/9*, 2018). This deliberately recalls the title of a renowned dystopian novel alluding to the temperature at which book paper catches fire, and burns (Ray Bradbury, *Fahrenheit 451*, 1953).

**Civilizational collapse as a collapsing wave function?** Of particular interest are the challenges to conventional understandings of identity emerging from considerations of quantum reality as articulated by **Alexander Wendt** (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015; [video](#); [interview](#)). He argues that quantum consciousness theory is speculative, but compared to the alternative its simplicity is hard to beat (p. 292). He concludes with a bold claim: "whatever their current force as explanatory virtues, the coherence, breadth, and simplicity of the quantum hypothesis make it *too elegant not to be true*". (p. 293).

As one of the currently most eminent of scholars in international relations theory and its implications for security, he argues provocatively that conventional understanding of the existence of nation states is questionable (notably from the hypothetical perspective

of extraterrestrials):

In contrast, social structures are mind-dependent, and so no as yet un-invented technology will enable ETs to see them. Indeed, even if ETs could scan our brains they would not see them, since social structures are not "in" our brains either, but in our minds. This is not to say that, through careful study of our behavior and perhaps extrapolation from their own experience, ETs could not infer the presence of states. But that would mean coming to see them as we do, by learning to read our minds. Short of that, the ETs would have to report back home that while Earth was teeming with life, perhaps even intelligent life, nowhere were there any states. (pp. 24-25)

Curiously the challenging nature of "existence" can then be even more strikingly argued with respect to the "international community" to which so many appeals are made and which is considered a key to global governance (*International Community as God or Sorcerer's Apprentice? Strategic chaos in the absence of an interlocking temporal pattern of longer-term cyclic processes*, 2015). As discussed separately, for Wendt individuals (if not collectives) then merit understanding as wave functions (*On being "walking wave functions" in terms of quantum consciousness?* 2017).

Such a perspective would completely reframe understandings of civilizational collapse and how it might be experienced by any "walking wave function". Is global communication collapse to be understood as some form of [collapse of a wave function](#)?

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