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Spike-endowed Global Civilization as COVID-19

Humanity "bristles" as the world "burns"

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Introduction

There is intensive research by specialists worldwide into the nature of COVID-19 as a miniscule virus which is currently threatening global society in all its magnitude -- to the point of evoking an armed response (Manlio Dinucci, *NATO in Arms to "Fight Coronavirus"*, *Global Research*, 9 April 2020). As a virus it is however necessarily invisible to unaided human eyes. Its existence can only be inferred by its effects.

The following argument explores the sense in which the very form of the virus -- with a "corona" of protein spikes -- effectively mirrors the nature of global civilization at this time. To an interesting degree it could be asked whether COVID-19 "is" global civilization -- or whether global civilization "is" COVID-19. Like it or not, **does the coronavirus effectively define the identity of global civilization as humanity has chosen to engender it?**

The argument is developed from the extent to which global civilization can be understood as endowed with a wide variety of "spikes", just as COVID-19 is characterized by a widely depicted set of [protein spikes](#) by which it interacts so aggressively with human cells -- more aggressively than most viruses. The purpose of this argument is to explore that variety of behavioural spikes as a means of understanding how global civilization indulges in an habitual pattern of [self-inflicted injury](#) with which such spikes can be fruitfully associated. This exercise is necessarily speculative in quest of imaginative ways in which the tragic situation can be understood otherwise.

In the case of global civilization, with respect to such "spikes", it is argued here that it could be said that **humanity "bristles" while the world "burns"**. Aside from its appropriateness to the challenge of [global warming](#), this usefully recalls the famous reference to the [Emperor Nero "fiddling" while Rome burned](#), currently compared to the actions of President Donald Trump (Maddy Shaw Roberts, *Did Nero really fiddle while Rome burned, and why are people linking this to Donald Trump?* *Classicfm*, 10 March 2020). Somewhat more relevant to the following argument, it is widely recognized that the acclaimed leader of the world's superpower effectively "bristles" in reaction to any criticism (*Trump bristles amid questions about testing, states' supply requests*, *PBS News Hour*, 30 March 2020; *Trump bristles at reporter's questions on Ukraine*, *Reuters*, 3 October 2019).

With leaders of other countries, institutions, religions and disciplines readily recognized as "bristling" in a similar manner in response to primitivism of the principles they uphold, the question here is whether the "spikes" with which this is associated can be understood as a

widespread behavioural pattern whose form is strangely shared to a degree with the coronavirus. What other forms of psycho-social behaviour could then be usefully seen as taking the form of "spikes" -- even to the extent of being recognized as such with the use of that term? Is global civilization as vulnerable to such spiking behaviour as it is to COVID-19?

From a more fundamentally radical perspective, in its current condition, **is global civilization readily to be understood as COVID-19?** With the coronavirus understood as a metaphor, and following the insight of [Gregory Bateson](#) that "we are our own metaphor", is our identity indeed strangely entangled with the form of the coronavirus ([Mary Catherine Bateson, *Our Own Metaphor: a personal account of a Conference on the Effects of Conscious Purpose on Human Adaptation.*, 1972](#))?

The argument here follows from an earlier exploration of whether imaginative engagement with the form of the coronavirus is preferable to a fearful cognitive mindset inhibiting emergence of new thinking enabling a more fruitful response ([Reimagining Coronavirus in 3D as a Metaphor of Global Society in Distress: crowning pattern that connects spiky organisms, satellite constellations, nuclear explosions, and egomania?](#) 2020; [Cognitive Engagement with Spike Dynamics of a Polyhedral Coronavirus: alternation between assertive arrays and systemic patterns of comprehensible coherence](#), 2020). The images and animation there helped to frame the question regarding the appropriate form of global organization and knowledge architecture required in a response to any pandemic -- and any crisis of other crises.

It was suggested that there were insights to be gained from the form of the coronavirus in 3D. In particular this highlighted the possible **isomorphism** between the configuration of spikes on the viral form and psychosocial forms potentially characterized in terms of "spikes". This approach was framed as consistent with the original inspiration of the [Society for General Systems Research](#). The argument through visualization was then further developed ([Coronavirus -- Global Plan, Doughnut, Torus, Helix and/or Pineapple?](#) 2020; [Engaging Playfully with Coronavirus through "Organizing" Global Governance?](#) 2020).

With governments placing their countries on a wartime footing and framing the response to COVID-19 as a war, it is appropriate to recognize what amounts to a paradigm shift into **memetic warfare** ([Noopolitics and memetic warfare within the noosphere](#), 2014). This is understood as a form of **information warfare** and **psychological warfare** involving the propagation of **memes** on **social media** through **platform weaponization** -- as argued from a NATO perspective ([Jeff Giese, *It's time to embrace memetic warfare*, NATO Strategic Communications Centre of Excellence, 2020](#); [Brian J. Hancock *Memetic Warfare: the future of war*, *Military Intelligence Professional Bulletin*, April-June 2010](#)).

Exploration of the pandemic from a memetic perspective is especially relevant given the obvious importance attached to the genetic remedies from which memetic insights originally derived ([Memetic and Information Diseases in a Knowledge Society](#), 2008). This is especially evident given the recognized level of misinformation inhibiting a coherent response as articulated by the UN Secretary-General ([Secretary-General's video message on COVID-19 and Misinformation](#), 14 April 2020; [Hatred going viral in 'dangerous epidemic of misinformation' during COVID-19 pandemic](#), *UN News*, 14 April 2020). The coronavirus and its mutations therefore merit recognition as being entangled in a complex manner with global civilization and its mutation -- if only in cognitive terms.

Nature of a "spike" in behavioural and experiential terms

As noted, there has been intensive work on the nature of a protein spike on COVID-19. Scientists have excitedly announced a very recent breakthrough in that regard ([Jacinta Bowler, *New Study of The Coronavirus 'Spike' Protein Could Help Explain Its Immense Spread*, *ScienceAlert*, 31 March 2020](#); [Jian Shang, et al, *Structural basis of receptor recognition by SARS-CoV-2*, *Nature*, 30 March 2020](#); [Victoria Rees, *Researchers map vital atomic-scale protein on COVID-19*, *Drug Target Review*, 20 February 2020](#)). Unusually this discovery has been enabled by a network of volunteers using their personal computers ([Alex Hern, *Volunteers create world's fastest supercomputer to combat coronavirus*, *The Guardian*, 15 April 2020](#)).

Given this degree of focus, it could be asked why such enthusiasm is not applied to comprehension of the nature of behavioural and experiential "spikes" -- however these may be "understood". This failure is all the more ironic in that such computer networks of volunteers have previously been used for collaborative detection by astronomers of extraterrestrial life in terms of **technosignatures**. Arguably there is motivation to discover life on a galactic **megascale** and to determine its nature on a **microscale**, but little to explore the behavioural and psychological patterns which are ensuring the potential death of human civilization -- on an intermediary **mesoscale** ([Superquestions for Supercomputers: avoiding terra flops from misguided dependence on teraflops?](#) 2010). How might the nature of spikes be simulated in behavioural terms?

The focus in this argument is on the nature of any "spike" as a behavioural pattern to be readily recognized or in personal experiential terms. The earlier discussion had a section on *Psychosocial "global implication" of a "pattern that connects"?* which speculatively explored what might be characterized as a global "pattern of spikes" -- understood in their most generic terms, whether offensive or defensive ([Reimagining Coronavirus in 3D as a Metaphor of Global Society in Distress](#), 16 March 2020).

A confusion in terminology between **static spikes** and **spiking dynamically** was noted as relevant to any such consideration. Specifically spikes may emerge and collapse, therefore to be understood as potentially in a latent state to which they may return.

The following presentation extends and adapts that earlier section.

Military weaponry and framing of behavioural spikes

There is an obvious sense in which many weapons take the form of spikes, especially in the early development of military technology -- stakes, spears, lances, arrows, swords. Subsequent development of ballistic weapons have included rifles, rockets and missiles. These developments have encouraged the development of military metaphors, as discussed separately ([Enhancing Sustainable Development Strategies through Avoidance of Military Metaphors](#), 1998).

A parallel or complementary development has been evident in institutions, especially those of a religious nature, however this has been inspired by a military mindset, as with the Catholic theological cultivation of *Ecclesia Militans*. It is therefore intriguing to note the degree to which Christianity has influenced the development of associated terminology fundamental to the operation of organizations, most obviously [missive](#) and [mission](#), and by extension [missionaries](#) and [missiles](#). Each of these embodies to different degrees a sense of a behavioural spike, especially when "missive" is recognized as a "missile". Religions have notably made historical use of a stake in acts of immolation.

It is intriguing to note the extent to which the response to the COVID-19 pandemic has been framed in military terms, whether metaphorically or otherwise (Manlio Dinucci, *NATO in Arms to "Fight Coronavirus"*, *Global Research*, 9 April 2020; ANZAC spirit in battle of COVID-19, *The Australian*, 16 April 2020/)

The media and political focus on the coronavirus pandemic occurs in a period in which the famous [Doomsday Clock](#), maintained since 1947 by the members of the *Bulletin of the Atomic Scientists* has been reset. Originally set at seven minutes to midnight in 1947, the clock was set at two minutes to midnight in January 2018, and left unchanged in 2019 due to the twin threats of [nuclear weapons](#) and the increasing [effects of global warming](#). On 23 January 2020, it was moved forward to 100 seconds (1 minute 40 seconds) before midnight, based on the increased threats to global stability posed by "a nuclear blunder", exacerbated by the rate of climate change.

The earlier exploration used animation to offer a visual comparison between a COVID-19 spikes and a global pattern of nuclear explosions (*Coronavirus representations compared with a global pattern of nuclear explosions*, 2020). As a visual metaphor, the suggested a comparison between the "spikes" on the coronavirus with the widely publicized depictions of the mushroom cloud of a nuclear explosion. A nuclear "doomsday" would see a pattern of such explosions around the globe -- suggestively reminiscent of the pattern of spikes around the coronavirus. Of some relevance to that seemingly unusual comparison made is the focus of an interview with [Jeffrey Lewis](#) (John Krzyzaniak, *How the coronavirus outbreak is like a nuclear attack: An interview with Jeffrey Lewis*, *The Bulletin of Atomic Scientists*, 20 March 2020).

Given the degree of conflation between missile and mission, it is therefore also to explore the sense in which their nature as spikes is embodied in (or carried by) further development of usage in emission, omission, permission, admission, remission, and demission, as separately explored (*Sins of Hot Air Emission, Omission, Commission and Promission: the political challenge of responding to global crises*, 2009).

The argument with respect to "spike" is usefully extended by recognition of "bristling" in animals, and metaphorically as ["bristling with rage"](#), as a form of [agonistic behaviour](#) -- as noted above in the case of Donald Trump:

- [Putin bristles at Western criticism of 1939 Soviet-Nazi pact](#) (*AP News*, 21 December 2019)
- [NATO Allies Bristle Over U.S. Tariffs Pinned to Security Threats](#) (*The Wall Street Journal*, 6 June 2018)
- [China bristles at US trade probe threat](#) (*Nikkei Asian Review*, 15 August 2017)
- [Bahrain Bristles as U.S. Threatens to Move Fleet](#) (*U.S. News and World Report*, 19 May 2015)
- [China bristling at threat from 'external forces'](#) (*Canberra Times*, 19 November, 2011)
- [Tonga bristles at airline threat](#) (*Pacific Islands Report*, 12 January 2008)
- [Bush bristles as U.N. 'allies' balk](#) (*New York Post*, 23 October 2002)
- [Talk of NATO growth leaves Yeltsin bristling](#) (*The Sun Sentinel*, 6 December 1994)

The extension of spike framing to sport is evident in the extensive commentary on a declaration of President Obama:

President Obama made the following statement regarding his decision not to show dead body of Osama bin Laden to the public: "I think that Americans and people around the world are glad that he is gone. But we don't need to spike the football. And I think that given the graphic nature of these photos, it would create some national security risk. (*What does President Obama's phrase "We don't need to spike the football" mean?* *English Language and Usage*, 4 May 2011)

Indicative of the problematic usage of spike language is the extensive commentary on a declaration of a Republican senator [Scott Wagner](#) (*Scott Wagner to Pennsylvania Gov. Tom Wolf: 'I'm going to stomp all over your face with golf spikes'*. *USA Today*, 12 October 2018; *Scott Wagner Now Says Threat To Stomp Opponent's Face With Golf Spikes Was Just A Metaphor*, *Inquisitr*, 14 October 2018).

Spike-adaptation of the Law of the Instrument (Abraham Maslow)?	
If all one has is a hammer, every problem looks like a nail	If all one can see is a spike, every viable strategy looks like a hammer

Information, misinformation and trends -- as spikes in memetic warfare?

There is frequent reference to "spike" with regard to media coverage, the news and trending topics on social media -- and most obviously with respect to spikes in fashion and design:

- Alex Wilhelm: [Stocks drop as unemployment spikes](#) (*TechCrunch*, 4 April 2020)
- Sheikh Saaliq: [Death toll spikes to 24 from Delhi riots during Trump trip](#) (*The Diplomat*, 27 February 2020)
- Massoud Hayoun: [Muslim Americans see a major spike in hate crimes -- and political participation](#) (*Pacific Standard*, 18 July 2018)
- Steve Warren: [As Witchcraft Spikes in America, author warns 'Spirit of Jezebel' is alive, Christians should take it seriously](#) (*Christian Broadcasting Network*, 28 October 2019)
- [Christian persecution spikes in Hindu-nationalist India](#) (*Baptist Standard*, 26 November 2019)

Given the trend towards increasing censorship, the associated notion of "spiking" in journalism is also evident. Less evident is the reverse of a spike -- a permanent "dip" or "de-trend", namely "out of fashion".

Any such spikes have become confused with that relating to misinformation and fake news. The process is clearly exploited and aggravated by corporate marketing, government propaganda, and the promotion of particular agendas by those with vested interests. Missing in contrast to "information" is what might be understood as "outformation" (*Vocabulary: Feedback of information and outformation, Quaternity*).

The nature of such a spike has been usefully articulated by Mark Blevis (*Base load, spikes and surges: measuring online activity like a power distribution system*, 29 August 2012):

A spike is a very brief, seemingly instantaneous, peak of hyper-activity on a particular theme or issue. Spikes are brought about by a particular event. While spikes attract the participation of people connected to or affected by the issue, most peaks can be viewed as a pile-on; an opportunity to join a movement or be part of group-think (whether a noble cause or a mob). The online discussion about US health care spiked 2,149% from the base load to 580,242 online mentions on June 28 of this year. Like most, this spike had something of a half-life and petered out over the following five days for an average of 180,630 online mentions. Some spikes will be the catalyst for a surge.

As noted above, with governments placing their countries on a wartime footing and framing the response to COVID-19 as a war, it is appropriate to recognize what amounts to a paradigm shift into *memetic warfare* (*Noopolitics and memetic warfare within the noosphere*, 2014). So framed, this is understood as a form of *information warfare* and *psychological warfare* involving the propagation of *memes* on *social media* through *platform weaponization* -- as argued from a NATO perspective (Jeff Giese, *It's time to embrace memetic warfare*, NATO Strategic Communications Centre of Excellence, 2020; Brian J. Hancock *Memetic Warfare: the future of war*, *Military Intelligence Professional Bulletin*, April-June 2010).

Memetic warfare can be understood as a feature of *noopolitics*. itself understood as an information strategy of manipulating international processes through forming in the general public a positive or negative attitude by means of mass media -- as became evident in the *Facebook-Cambridge Analytica data scandal* in early 2018. The aim is to reframe external or internal policy (of a state or block of states) such as to create a positive or negative image of ideas and promulgated moral values (David Ronfeldt and John Arquilla, *The promise of Noöpolitik*, *First Monday*, August, 2007; A. V. Baichik and S. B. Nikonov, *Noopolitik as Global Information Strategy*, 2012; Tom Ascott, *How memes are becoming the new frontier of information warfare*, *The Strategist*, 19 February 2020).

As a curious parallel to the COVID-19 disease with its focus on genetics, an emerging "memetic disease" merits attention (*Memetic and Information Diseases in a Knowledge Society Speculations towards the development of cures and preventive measures*, 2008). In systemic terms, a degree of correspondence is now evident, as recently reported:

Interacting contagious diseases like influenza and pneumonia -- and perhaps coronavirus too -- follow the same complex spreading patterns as social trends, like the adoption of new slang or technologies. This new finding could lead to better tracking and intervention when multiple diseases spread through a population at the same time. (*Complexity scientists present 'meme' model for multiple diseases*, *Science News*, 24 February 2020)

The question meriting attention is the nature of human disease in relation to entanglement with the environment -- of which a pandemic is necessarily a feature (*Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2009). What might be the interplay between the mutation of disease and the mutation of civilization. The question is pertinent to anticipation of mutations of the coronavirus triggering future pandemics -- COVID-21, COVID-22, COVID-NN (Nathan Wolfe, *COVID-19 Won't Be the Last Pandemic. Here's What We Can Do to Protect Ourselves*, *Time*, 15 April 2020; Susan Desmond-Hellmann, *Preparing for the Next Pandemic*, *The Wall Street Journal*, 3 April 2020).

However, given the manner in which earlier insights to that effect have been ignored, it is arguably a "spike-related behaviour" that merits attention (Allen G. P. Ross, et al, *Planning for the Next Global Pandemic*, *International Journal of Infectious Diseases*, 38, September 2015; Richard Hall, *Obama administration asked for funding to tackle future pandemics but Republicans refused*, *The Independent*, 17 April 2020; .Garrett Graffback, *An Oral History of the Pandemic Warnings Trump Ignored*, *Wired*, 17 April 2020).

Problematic and resolutique -- as complexes of spikes

The two terms "problematic" and "resolutique" were highlighted in early studies of the Club of Rome, as described separately (*Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007):

- **Problems as spikes, globally configured as a "crisis of crises"**: The problems variously recognized by society could be usefully understood as spikes, notably as spiking dynamically -- and even in cycles. This is notably to be recognized in the concern with "peaks" -- *peak oil*, etc (*Checklist of Peak Experiences Challenging Humanity*, 2008).

These are profiled online in the *World Problems Project*. A question is how these are best understood as configured globally rather than the subject of focus in isolation one from the other. How are the recognized problems connected -- and who recognizes that connectivity, other than in simplistic reference to "complexity" and "everything is connected to everything"

- **Strategies as spikes, potentially configured globally**: Problems recognized as a threat, potential or otherwise, necessarily evoke

strategies which could themselves be usefully understood as spikes, again as potentially activated or deactivated -- even in cycles of sensitivity. Strategies may well be understood as pre-emptive. Such strategies are profiled online in the [Global Strategies Project](#). Again the question is how these are to be understood as configured globally -- exemplifying assumptions and expectations with regard to global governance. Obvious examples are the UN's set of [Sustainable Development Goals](#), as successor to the [Millennium Development Goals](#), and [Agenda 21](#). These frame the obvious question as to what is omitted from such configurations -- indicative of zones of vulnerability in any global configuration. The configurations envisaged by the United Nations -- spiking successively -- are a reminder that other agencies have envisaged other sets and configurations of strategies. Given the consequent lack of global coordination, is each such set to be understood as a "mega-spike" in its own right, competing with other such spikes?

Values, principles and axes of bias -- as configurations of spikes?

Given the French derivation of "problematique" and "resolutive", a case could be made for extending any configuration of value-related spikes to "axiomatique" (although "axiology" is used in English):

- **Human values as spikes, potentially configured globally:** Individual values can be recognized as "spiking" dynamically in response to problems and in support of strategies, as experimentally ordered by the [Human Values Project](#). Curiously, as with "peak" problems, highly valued experiences can be defined in terms of "peak experiences".

They can also be understood as configured globally, as with the UN's [Universal Declaration of Human Rights](#). However, as with the sets of strategies, this particular set of aspirational "spikes" can be understood as challenged or matched by others variously recognized ([Universal Declaration of Human Responsibilities](#), 1997; [Universal Declaration of Human Rights -- in the light of God's renewed Will](#), 2004; [Universal Declaration of the Rights of Human Organization -- an experimental extension of the Universal Declaration of Human Rights](#), 1971; [Universal Declaration of Responsibilities of Human Intercourse](#), 2007). Are such sets of spikes then to be recognized as spiking in response to one another -- as complements?

The question could then be asked as to how the spiking of values, individually or collectively can be explored in terms of "hope-mongering" in response to the value negativity recognized as doom-mongering, scare-mongering or fear-mongering? ([Credibility Crunch engendered by Hope-mongering](#), 2008).

- **Principles as spikes configured globally?** Given the argument with respect to values, this might be extended to principles, raising the question as to how many principles are fundamental to the coherence of a society, an organization, or an individual -- and whether they can be understood as configured globally as "spikes" to safeguard that integrity. Sets of principles are variously articulated and recognized, as with sets of values.

The controversial practice of wearing hair-shirts in celebration of religious principles and beliefs could be explored in relation to the spike argument, most obviously the [cilice](#) ("hair-shirt") of Catholic [corporal mortification](#) (Malcolm Moore, [I use spiked chain, says senator in Opus Dei](#), *The Telegraph*, 9 March 2007). Given the argument with respect to information, there is some irony to recognition of "spike" in that connection (Owen Bowcott, [Catholic church sex abuse ruling could cause big spike in compensation claims](#), *The Guardian*, 1 March 2013; Bill Donohue, [Support for Religious Exemptions Spikes](#), *Catholic League for Religious and Civil Rights*, 16 April 2020).

- **Aphorisms, morals and fables as spikes configured globally?** The possibility is further clarified when principles are embodied in [aphorisms](#) and [fables](#) -- each with a moral. This is true to a degree in the case of sets of traditional fables, as with [Aesop's Fables](#) and the [Jataka Tales](#). Arguably these each constitute a pattern of systemic understanding whereby the viability of a collectivity is sustained, as separately discussed ([Fabulous Traditions of Managing Psychosocial Change](#), 2019; Victor S. M. De Guinzbourg, [Wit and wisdom of the United Nations: proverbs and apothegms on diplomacy](#), United Nations, 1961).

The approach has been used from a systems perspective by [Russell Ackoff](#) ([The Art of Problem Solving: accompanied by Ackoff's Fables](#), 1978), later complemented by his articulation of a set of problematic [f-laws](#) ([Management f-Laws: how organizations really work](#), 2006). A similar approach, but deliberately paradoxical, is evident in the traditional collection of 48 Zen koans, known as the [Mumonkan](#) -- [The Gateless Barrier](#) -- and variously interpreted ([Configuring a Set of Zen Koan as a Wisdom Container: formatting the Gateless Gate for Twitter](#), 2012).

- **Axes of bias and alignment:** This argument frames the question as to whether an axis of bias can be fruitfully recognized as a "spike". Is alignment with any such cognitive bias then to be understood as identifying with the spike -- "being on spike" or "being in"?

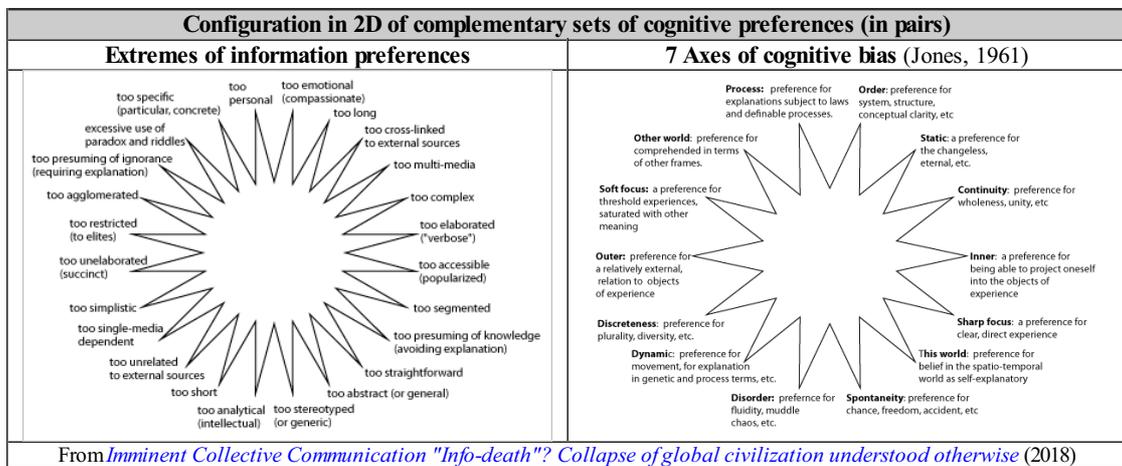
This possibility invites consideration of polarities and dualities as fundamental "spikes". Of particular interest is a polarity such as "positive versus negative", given the importance associated with "being positive" and the deprecation of "being negative" or critical -- with the latter understood to be at the opposite pole. Value polarities ***

In the deliberate quest for critical feedback, of interest is the "Red Team" versus "Blue Team" approach characteristic of more mature strategic assessments such as to benefit two simulations of two opposing strategies, especially in evaluating military options. With respect to imposition of the lockdown strategy in the response to COVID-19, it would appear that this is the outcome of one-team thinking in elaborating the "One Plan" -- on the assumption that there can be no viable alternative from which insight might be derived.

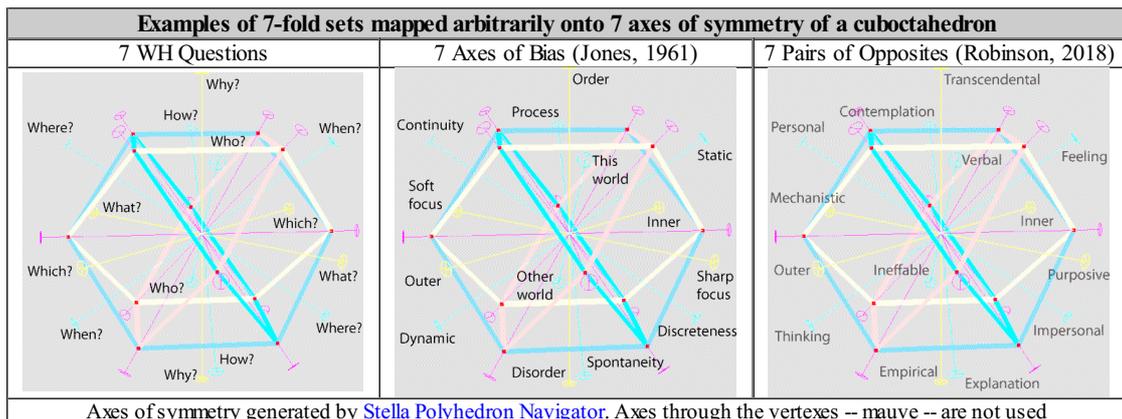
Rather than one or two "voices", a case can be made for a larger set of "voices", as most obviously made by [Edward de Bono](#) (*Six Thinking Hats*, 1985; *Six Frames For Thinking About Information*, 2008). Complementary perspectives ("spikes") are evident in the 9 roles distinguished in the [Team Role Inventory](#) of [Meredith Belbin](#). Curiously little reference is made to the set of 7 [voice types](#) (or ranges) required for the aesthetic viability of opera.

Axes of bias of that kind can be used as a means of mapping various 7-fold sets for purposes of comparison of spike configuration. This suggests a means of giving an ordered focus to the confusion of decision-making and choice, whether in the momentary here-and-now for the individual, or on a larger scale for elaboration of global strategy, as discussed separately (*Constraint of the 7-fold on comprehension of the 20-fold*, 2018). The examples mapped arbitrarily onto those axes below derive from:

- the classical set of 7 WH-questions, as discussed separately (*Conformality of 7 WH-questions to 7 Elementary Catastrophes: an exploration of potential psychosocial implications*, 2006; *Interrelating Cognitive Catastrophes in a Grail-chalice Proto-model: implications of WH-questions for self-reflexivity and dialogue*, 2006)
- the 7 axes of bias derived from the philosophical work of W. T. Jones (*The Romantic Syndrome: toward a new method in cultural anthropology and the history of ideas*, 1961; *Seven Axes of Bias*, 1979) as summarized separately (*Axes of Bias in Inter-Cultural Dialogue*, 1993).
- the 7 pairs of opposites of [Oliver C. Robinson](#) (*Paths Between Head and Heart: exploring the harmonies of science and spirituality*, 2018), as summarized by the author (*Palintonos Harmonia: the alchemy of opposites*, Paradigm Explorer, 2018, 2). That theme is inspired by the insight of Heraclitus and others into "taut harmony" (or "counter-stretched harmony"), as extensively reviewed by [Bernd Seidensticker](#) (*Palintonos Harmonia, Hypomnemata*, 72, 1982)

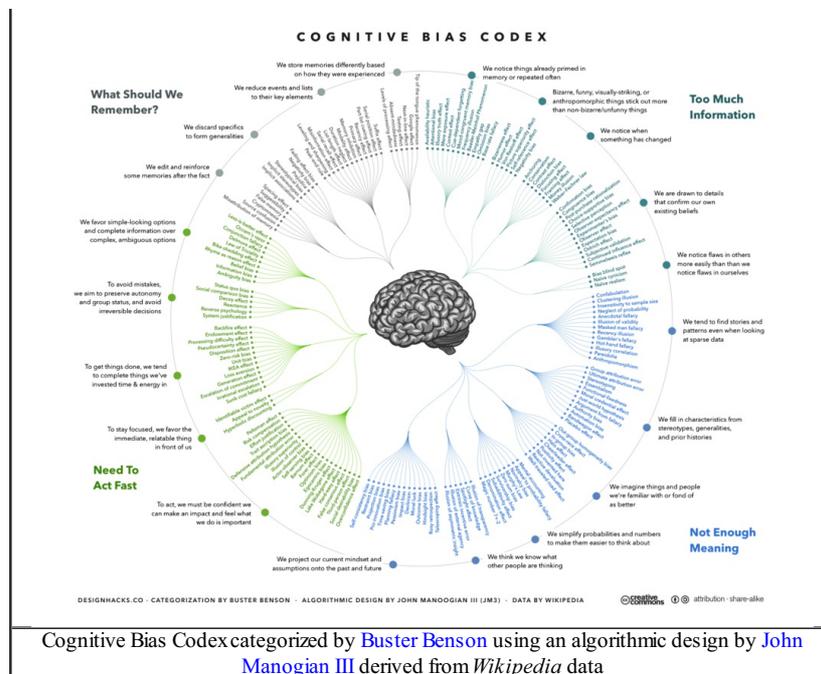


As indicated in 2D (above right), the axes of bias of Jones (1961) can be experimentally mapped in 3D (as below).



Ironically, given the clear distinctions made in cartography, there is a case for exploring the distortions in cartographical projections of "global" as a means of distinguishing and "mapping" the distortions in psychological projection of "globality". Any such exploration of what might be understood as "spikes" could necessarily be informed by the more systematic approach to [cognitive biases](#) and their classification (see [List of cognitive biases](#)). The *Wikipedia* description includes a remarkable *Cognitive Bias Codex* as reproduced below. This clusters some 180 biases into 20 subcategories clustered into four main categories.

Cognitive Bias Codex (link to larger original version)
Empty space for the link



As a configuration of "spikes", could this be seen as a kind of cross-section in 2D of a "global civilizational hedgehog", in the light of the hedgehog/porcupine reference below?

Collectivities and the upstanding as configurations of spikes?

- **Stakes and stakeholders, lines and points:** The form of a spike can be readily recognized in reference to "stakes" and stakeholders (Addisu Lashitew, *Stakeholder capitalism arrives at Davos*, *Brookings*, 21 January 2020). Strategic agendas are typically articulated in terms of "points", most obviously in the bulleted points defining agreements and constitutions. The coherence of an argument may then be structured and ensured through "point-making". Extensive reference is made to "lines" in that respect (*Enabling morphogenesis and transformation through catastrophic questioning*, 2013; *Engaging with Globality through cognitive lines, circlets, crowns or holes*, 2009).

Especially intriguing is the sense in which "making a point" **** making a spike ***by someone can be experienced as a form of violence, even one which is potentially fatal to another worldview (*Pricking the Bubble of Global Complacent Complicity: hyperdimensional insights from the physics of bubble blowing, bursting and collapse?* 2017). The process and effect could be explored in terms of asking a "deadly question" undermining the integrity of a worldview (*In quest of the most deadly question*, 2013; *Enabling morphogenesis and transformation through catastrophic questioning*, 2013). The latter featured in a discussion with regard to engendering the future (*Conferencing as putting identity to the question*, 2013).

How might it be useful to recognize the configuration of an array of questions and points protecting the conventions safeguarding the identity of a collective or individual initiative? One possibility is offered by *catastrophe theory* (*Conformality of 7 WH-questions to 7 Elementary Catastrophes: an exploration of potential psychosocial implications*, 2006).

- **Human agencies as spikes:** The emergence, deployment and collapse of organizations and corporations could be explored in terms of spiking. Especially interesting for any given country is the configuration of government departments or ministries. Even more intriguing in this respect is the global configuration of UN Specialized Agencies.

For any given government, **how many "departments" (as "spikes") are currently held to be required to safeguard the integrity of the nation?** Why do some countries have far more than others? How many are held to be required for global governance? **By what parameters are the differences justified in systemic terms?** The question then is indeed whether and how they are to be understood as configured globally in response to an array of problems and for the deployment of a global array of strategies.

- **"Diplomatic minefields":** The example above of the Hertz horn naval mine is usefully associated with common reference to a "diplomatic minefield" (Tom DiChristopher, *Trump's plan for the Iran nuclear deal runs straight through a diplomatic minefield*, *CNBC*, 10 October 2017; David Maxwell and Mathew Ha, *At the Latest Inter-Korean Summit, Kim Jong-un Created a Diplomatic Minefield for the United States*, *War on the Rocks*, 21 October 2018). From that perspective, any framing of the set of strategies as some kind of global "ocean of initiatives" is then clearly vulnerable to threats from such mines, in whatever patterns they may have been deployed -- or designed to drift randomly.
- **Think tanks:** Somewhat ironically, given a degree of strategic weaponisation, the matter can be explored further in the light of tank warfare. Readily perceived as taking the form of "mobile spikes", tanks offer a means of exploring the role of "think tanks", as discussed separately (*Tank Warfare Challenges for Global Governance: extending the "think tank"*

metaphor to include other cognitive modalities, 2019).

- **Assemblies, conferences and parliaments -- as global configurations of spikes?** If people in their personal capacity or in representing others -- as stakeholders -- are a primary characteristic of organized gatherings, can these be usefully understood as configurations of spikes from which some form of integrative consensus may well emerge?

The analogy is suggested to some degree, if simplistically -- by behaviours expected in such gatherings. Thus hands may be raised by those wishing to speak or as an indication in voting -- visually to be seen as a spike. This is taken further when people stand up in order to address the gathering -- and to "make a point". More curious is the traditional indication of wishing to speak in the House of Commons, namely by standing up in order to be recognized. More controversial is any informal framing of those in opposition as a "bunch of pricks" -- a framing which may be applied by others to all those represented in the gathering.

Potentially of greater relevance is the formalization in the traditional symbol of the **fascis** as a bound bundle of 12 wooden rods (see below), sometimes including an axe with its blade emerging. The fascis had its origin in the Etruscan civilization and was passed on to ancient Rome, where it symbolized a magistrate's power and jurisdiction. The image has survived in the modern world as a representation of magisterial or collective power, law and governance. It frequently occurs as a charge in heraldry: it is present on the reverse of the US Mercury dime coin and behind the podium in the US House of Representatives. It was the origin of the National Fascist Party in Italy (from which the term **fascism** is derived).

Human disciplinary specialization understood as a global configuration?

Given the constrained manner in which disciplines and methodologies define their field of preoccupation, these too could be considered as spikes. From a historical perspective, or given shifting budgetary priorities, these are given or lose significance -- then to be recognized as spiking.

It is typical for the topics with which disciplines are preoccupied to be ordered in nested hierarchies, as evident in the library organization of knowledge. Efforts have been made to organize the array of subjects as a matrix, potentially inspired by the **periodic table of elements**, itself the focus of many attempts at non-tabular ordering (*Functional Classification in an Integrative Matrix of Human Preoccupations*, 1982; *Periodic Pattern of Human Knowing: implication of the Periodic Table as metaphor of elementary order*, 2009).

In the quest for a higher order of interdisciplinary integration, the possibility of a spherical ordering of topics and disciplines merits consideration -- a "global" organization of topics. So framed, the preoccupation (or relative lack of it) with any given discipline can then be understood as a distinct spike. The emergence or collapse of any one mode of knowing, as a topic or discipline, can then be understood as spiking. This corresponds to a degree to widespread reference to **"trending"** in social media.

The argument frames the question as to whether the patterns of knowledge and/or ignorance can be usefully understood in terms of arrays of spikes -- potentially configured globally in three or more dimensions. Whether ignorance is understood in its problematic sense, or as the "unknowing" highlighted by mystics (as in *The Cloud of Unknowing*), the possibility would appear to merit particular attention -- as indicated by the recognition increasingly accorded to its significance (Stuart Firestein, *Ignorance: how it drives science*, 2012; Nicholas Rescher, *Ignorance: on the wider implications of deficient knowledge*, 2009).

"Spiky / Prickly" personalities

The psychosocial phenomena indicated above can be understood as variously associated with particular personalities, preoccupied with particular sets of problems, strategies, values, and the like. Depending on their attachment to their preferred preoccupation, this can lead to their recognition as "prickly" personalities. This may be deprecated in slang terms as **"being a prick"** -- readily extended to recognition of a "world of pricks". A fundamental challenge is why a "prick" framed by one person may be perceived by another as heroic -- and exemplary.

This emphasis can be explored otherwise through the sense in which people may be recognized as "upstanding" and **"upright"** (morally or otherwise) -- or may so perceive themselves. This extends into recognition of **egotism**, if not **egomania**. This phenomenon is frequently evoked as undermining strategic and other initiatives -- reinforcing a variety of problems.

Of particular relevance is the sense in which the array of people considering themselves "upright" could be fruitfully recognized as configured variously around a globe. From this perspective their different orientations then offers an insight into why their consensus is problematic if not impossible. The global form, as with people on the surface of the Earth, is then an indication of why there is disagreement as to the position of the Sun in the sky. This contrasts with the common assumption that people should "get with the program" or "sing from the same hymn sheet" -- both indicative of a 2D understanding in a context requiring a 3D understanding (at least).

As argued, the prickly response of any individual can be explored through the sense in which each person is potentially "globular" in form, as may well be understood imaginatively (*Personal Globalization*, 2001).

Such speculation can be taken further, inspired to a degree by the inventive inspiration of Nikola Tesla with respect to positive and negative charges and how they might be fruitfully interrelated with respect to the generation of electrical charges and other effects (as partially illustrated above). Through the manner in which he separated positive and negative, is there a case for imagining those technologies as offering metaphors for the manner in which an "upright" individual identifies with the "positive" and repressive the "negative"?

Especially fruitful to any such speculation is Tesla's remarkable insights into the rotation of electromagnetic fields. In the spirit of technomimicry, the possibilities with respect to a psychosocial analogue merit consideration as separately discussed (*Potential implications of alternation and rotation in psychosocial fields*. 2014).

Of some interest is the sense in which a strategic initiative is undermined by "putting a spike in it" (Marc H. Ellis, *Put a spike in the wheel of injustice*, *Mondoweiss*, 9 October 2014). A variant is to "put a spoke in one's wheel".

Comprehension, memory and spike communication -- mirror neurons?

It is perhaps strange to note the recognition accorded to spikes in the analysis of brain function and associated computer modeling. *Spike-and-wave* is, for example, a recognized pattern of the *electroencephalogram* (EEG) typically observed during *epileptic seizures*. It might be fruitfully asked whether collective human behaviour, especially that at the global level, could be recognized as "collective epilepsy" -- a term occasionally used to frame the irrational behaviour of others. How might the collective epilepsy of a global civilization be recognized -- or distinguished from dysfunction globalization processes?

A clarification with respect to spike in neuroscience is offered by [Romain Brette](#):

"Neural coding" is a popular metaphor in neuroscience, where objective properties of the world are communicated to the brain in the form of spikes. Here I argue that this metaphor is often inappropriate and misleading.... coding variables are observables tied to the temporality of experiments, whereas spikes are timed actions that mediate coupling in a distributed dynamical system. (*Is coding a relevant metaphor for the brain?* *Behavioral and Brain Sciences*. 42, 2019).

Of value to the degree to which any credible relation or identity between COVID-19 and global civilization is to be recognized (or an emergent "global brain") is the argument of [Srin Narayanan](#):

Conceptual metaphor is a widespread phenomenon in language and thought. While there has been progress in the computational modeling of metaphoric inference... there is no existing model model of metaphor acquisition that matches psycholinguistic data ... This paper suggests that the combination of SpikeTiming Dependent Plasticity (STDP) (a widely prevalent learning mechanism found in many areas of the brain) and the specific dynamics of the input activation patterns culled from the psycholinguistic data, can provide a neurally plausible account of metaphor acquisition....

It is interesting that the model combines spike dependent plasticity, which appears to be a fairly robust finding in multiple brain areas in combination with specific experiential inputs to explain the developmental profile of metaphor acquisition. It appears that the learning mechanism and experience are both necessary and sufficient to explain metaphor acquisition. The acquisition appears to be robust to many variations in the parameters which may explain the common patterns of metaphor acquisition despite cultural, linguistic, and individual differences. (*A Neurally Plausible Model of Metaphor Learning*, *Semantic Scholar*, April 10, 2017)

Spike-timing-dependent plasticity (STDP) is a biological process that adjusts the strength of connections between neurons in the brain. The process adjusts the connection strengths based on the relative timing of a particular neuron's output and input action potentials (or spikes). The STDP process partially explains the activity-dependent development of nervous systems, especially with regard to long-term potentiation and long-term depression.

A discussion of STDP is offered by Petia D. Koprinkova-Hristova, et al (*Spike Timing Neural Model of Motion Perception and Decision Making Computational Neuroscience*, 05 April 2019). Of further relevance is that that paper was formally reviewed by [Jan Lauwereyns](#) as author of *The Anatomy of Bias: how neural circuits weigh the options* (MIT Press, 2011). That study endeavoured to provide an integrative account of the neural underpinnings of decision making, emphasizing the ways in which some information sources are given more weight than others -- using "bias" as a core concept rather than the more common but noncommittal terms "selection" and "attention".

With respect to the entanglement between neuroscience, computer modelling and its applications through AI, a useful clarification regarding spike is offered in the glossary of [Innovation](#), a consultancy headed by Ken Rubin:

spike 1. A term that originated with Extreme Programming (XP) that is used to refer to work whose primary purpose is explore potential solutions or otherwise gather information. A way to acquire knowledge when the situation at hand has uncertainty as to the proper or good way to proceed forward. 2. In agile development, a spike can be represented as a product backlog item who primary output is the knowledge obtained by performing the spike work. 3. Some people use the term spike to refer to an end-to-end architectural prototype. The visual metaphor is: Imagine you had a physical spike in one hand and a hammer in the other hand. Take the hammer and hit the spike so that it vertically pierces all layers of the architecture (e.g., GUI, middle tier, database).

Of speculative relevance to this argument is the curious operation of *mirror neurons*. This is a neuron that fires both when an animal acts and when the animal observes the same action performed by another. Thus, the neuron "mirrors" the behaviour of the other, as though the observer were itself acting. Such neurons have been directly observed in human and primate species, and birds.

The question raised by this argument is whether there is a form of cognitive entanglement between COVID-19 and global civilization such as to render the latter especially vulnerable to the former -- in a manner of which the operation of a mirror neuron is suggestive.

The possibility could be better explored through the wave-function framework at the crossroads between quantum physics and social science as articulated by [Alexander Wendt](#) (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015). Wendt 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).

To what extent can the coronavirus -- in its effects on humanity -- be understood as having been engendered by the dynamics of global civilization? The question is especially relevant if both merit interpretation as wave-functions liable to collapse.

Identity, sex and "being a spike"

Only in the most simplistic terms is the "identity" of a person understood, whether by authorities, disciplines, religions, relations or the person. As one of the currently most eminent of scholars in international relations theory and its implications for security, Alexander Wendt 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" is even more strikingly evident 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). Some philosophers and mystics have confused the matter further by stressing the illusory nature of identity. This accords with the nebulous nature of confidence and trust now considered so fundamental to global coherence.

With respect to individual identity, it is appropriate to note that the remarkable value attached worldwide to being "high" (through use of psychoactive drugs) is also associated with [drink spiking](#). The value of the experience can be understood in terms of the associated transformation of the sense of identity. Such transformation is also associated with the quest for thrills of other kinds, with [altered states of consciousness](#) readily framed as "[peak experiences](#)". Again the nebulous nature of such experience and the "self-confidence" with which it is associated, are a continuing challenge to the more conventional geometry of identity.

A transformation of the sense of identity is a primary attractor in sexual intercourse and the consummation which may result -- readily to be recognized as a principal driver of humanity's current global civilization, but to which reference can only be made by inference, so evident in advertising allusion. Explanations make a mockery of the experiential attraction -- inviting extensive use of humour.

A sense of identity is notably engendered by threat -- as is evident in responses to COVID-19 -- to the point of implying the reality of a global civilization. More explicit is the response of security services, most notably NATO, through a shift from "standing down" to a state of readiness according to [threat level](#). The associated process of missile erection readily recalls that of penile erection in males.

With the focus of here on recognition of spikes of some kind, arguably the attraction through which identity is cultivated in interaction with an other can be understood as to something that "sticks out" -- notably beauty of some form, whether statically or dynamically (as in jargon reference to "moves"). It is of course the case that a primary example of this in sexual terms is the penis, as extensively explored by Sigmund Freud. There are many references to penis analogues and their importance for identity -- from rifles, to missiles to skyscrapers. Jargon use of "shaft" and "shafting" offer a more obvious sexual recognition of such a spike -- dubiously extended to "nailing", "screwing", "impaling" and the like.

With respect to the question "Did he spike her?", Lori Kendall notes that:

The metaphor "spike" contains an obvious male bias. It also contains a discomfiting conjuncture between sex and violence, which corresponds to standard expectations about hegemonic masculinity. Further, the joking quality of the "Didja spike her?" conversations points to an uneasiness with hegemonic masculinity as well... In this and similar conversations, participants illustrate their perception of the connections between nerd identity and heterosexual incompetence. The irony of the "spike 'er" humor relies on an reproduces the image of the sexually frustrated, and therefore perpetually adolescent, nerd. (*Hanging Out in the Virtual Pub: masculinities and relationships online*, University of California Press, 2002, p. 86-87)

Arguably relationships in general -- links and bonds -- hold a sense of the spike form and its dynamic, as discussed separately (*"Human Intercourse": "Intercourse with Nature" and "Intercourse with the Other"*, 2007). Implied by this focus on the spike is the archetypal form with which it engages -- readily recognized as a "hole" in the dance between penis and vagina. In this sense spike and hole are reciprocal attractors -- even evident in the operation of COVID-19.

With the exploration of "spike" as so fundamental to this argument, it follows that the inexplicable attraction of "hole" merits comment -- if only as it plays out in "black holes" and their metaphorical use in the "financial black holes" currently being engendered by the trillion dollar bailouts in response to the pandemic. Of particular relevance is the remarkable exploration by [Roberto Casati](#) and [Achille C. Varzi](#) (*Holes and Other Superficialities*, 1994) -- with respect to the borderlines of metaphysics, everyday geometry, and the theory of

perception (reviewed by Steven A. Gross, *What's in a Hole? The Harvard Review of Philosophy*, 1994). They seek to answer two basic questions: Do holes really exist? And if so, what are they? As they indicate in an extensive [entry on holes](#) in the *Stanford Encyclopedia of Philosophy*:

Hole representations -- no matter whether veridical -- appear to be commonplace in human cognition. Not only do people have the impression of seeing holes; they also form a corresponding concept, which is normally lexicalised as a noun in ordinary languages...Moreover, data from developmental psychology and the psychology of perception confirm that infants and adults are able to perceive, count, and track holes just as easily as they perceive, count, and track paradigm material objects such as cookies and tins... These facts do not prove that holes and material objects are on equal psychological footing, let alone on equal metaphysical footing. But they indicate that the concept of a hole is of significant salience in the common-sense picture of the world, specifically of the spatiotemporal world.

The implications of the attraction constituted by a hole -- including the hole in an argument -- is discussed separately (*Cognitive mystery of holes, lacunae and incompleteness*, 2014; *Vital hole dynamic: embracing error, otherness and neglect*, 2014). The manner in which spike-based thinking eludes any effort to encompass holes also invites speculative discussion (*Marrying Strategic White Holes with Problematic Black Holes: questionable role of officiants in the engagement process and nuptial arrangements*, 2015; *Engaging with Globality -- through cognitive lines, circlets, crowns or holes*, 2009).

Especially intriguing with respect to identity is any sense of "being a spike" (sexual or otherwise) in relation to that of "being in the loop" - - given the hole framed by the latter. Given the competition between aspiring spikes in relation to a hole, and the deprecation of those who are not understood to be "in the loop" (or just "in"), does this determine their perception as "pricks"? Used in any recognition of celebrity status, and its eventual loss, reference to when a person "spiked" acknowledges as sense of the dynamics of "spiking".

Of related interest with respect to identity, and the integrative sense of wholeness and coherence, is how this is intriguingly related to any recognition of its "global" geometry -- centered mysteriously on a hole. Its evanescent nature can be further explored in terms of the bubble metaphor (*Pricking the Bubble of Global Complacent Complicity: hyperdimensional insights from the physics of bubble blowing, bursting and collapse ?* 2017). This includes discussions of:

- [Bubbles, balloons and cocoons](#)
- [Strategic implications of engaging with psycho-social bubbles?](#)
- [Psycho-social hyperbubbling: beyond one-bubble credibility and despair?](#)
- [Bubbles objectively "outside" vs Bubbles subjectively "inside"](#)

With such a framing it is intriguing to note the bubble-like nature of any civilization whose collapse is predictable from an historical perspective. The dance between the current global civilization and its spikes merits consideration in the light of the protein spikes of the coronavirus.

The spike-like nature of guns, as noted above, and their recognition as penis surrogates, suggests a case for exploring the frustrated efforts at ["gun control"](#) from a sexual perspective -- as a threat to sexual identity, most obviously of the male. Any such exploration could be appropriately extended to inhibition of debate on "overpopulation" as implying a further constraint on sexual identity -- on "being a spike".

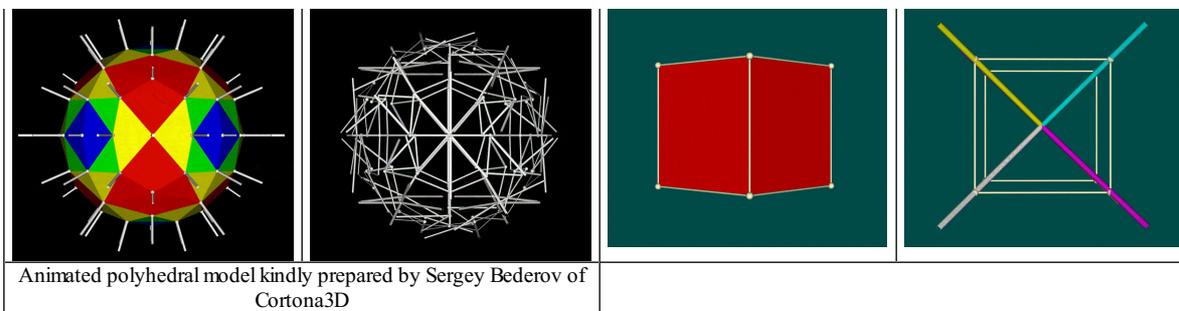
Spike dynamics and governance -- by lockdown?

The emphasis in the argument to this point has been on the form of a spike -- as a cognitive construct, however it may be understood as "engendered" or "enacted". As a recognized form it is then relevant to ask "where it comes from". Its geometry suggests the relevance of the questions raised by [George Lakoff](#) and [Rafael E. Núñez](#) (*Where Mathematics Comes From: how the embodied mind brings mathematics into being*, 2000). However the question can be taken further through the dynamics of form, however that may be explored through mathematics

The argument above variously implies processes of "spiking", most obviously as a feature of trends and cyclic peaks -- if not through its jargon use with respect to sexual and other experiences. Spikes are a focus of attention in statistical terms with respect to a variety of domains, especially economic, health and environment. They are especially of concern in [anomaly detection](#) -- and by extension with [anomalistics](#).

Missing from the argument is any focus on spike dynamics, understood as how spikes might interact coherently, notably in a global context. This was a feature of the animations in the previous discussion (*Cognitive Engagement with Spike Dynamics of a Polyhedral Coronavirus: alternation between assertive arrays and systemic patterns of comprehensible coherence*, 2020). That on the left is reproduced from that exploration.

Indicative animations of spike dynamics using alternative design metaphors			
Use of a 6-frequency stellated geodesic sphere with 74 vertices		Use of cube with 8 vertices	
Solid variant	Wireframe variant	Solid variant	Wireframe variant



The animation on the right is suggestive of the emergence and collapse of spikes, although their configuration obscures the reality in which their dynamic lacks all apparent coordination as with the configuration itself. It lends itself to the illustration of a variety of narratives.

The animation on the left offers a contrast between the "bristling" of spikes in response to threat or as the ordered configuration of a set of strategic principles and undertakings. Potentially more intriguing is the alternation of the spikes to a form a pattern of relationships typically lacking in the conventional articulation of principles. Ironically it also provocatively recalls the lockdown strategy in which all are expected to "lie low".

Strategic dilemmas: hedgehog, trolley and pineapple?

Hedgehog dilemma: Of notable relevance to any social distancing strategy, the animation on the left above (suggestive of "bristling") recalls the famed [Hedgehog's Dilemma](#), otherwise known as the Porcupine Dilemma. As described by *Wikipedia*:

The hedgehog's dilemma, or sometimes the porcupine dilemma, is a metaphor about the challenges of human intimacy. It describes a situation in which a group of hedgehogs seek to move close to one another to share heat during cold weather. They must remain apart, however, as they cannot avoid hurting one another with their sharp spines. Though they all share the intention of a close reciprocal relationship, this may not occur, for reasons they cannot avoid. Both Arthur Schopenhauer and Sigmund Freud have used this situation to describe what they feel is the state of the individual in relation to others in society. The hedgehog's dilemma suggests that despite goodwill, human intimacy cannot occur without substantial mutual harm, and what results is cautious behavior and weak relationships. With the hedgehog's dilemma, one is recommended to use moderation in affairs with others both because of self-interest, as well as out of consideration for others. The hedgehog's dilemma is used to explain introversion and self-imposed isolation

It has invited a range of commentary, noting the interest of Freud and/or Schopenhauer -- of value to consideration of the concern otherwise expressed of an increasing lack of intimacy in relationships:

- Walter Veit *The Hedgehog's Dilemma: Schopenhauer and Freud on the pains of human intimacy* (*Psychology Today*, 28 March 2020)
- Andy Yee *China and the West: the hedgehog's dilemma* (*OpenDemocracy*, 9 March 2010)
- Manfred Kets de Vries, *The Hedgehog Effect: Building High Performance Teams* (*The European Business Review*, 20 September 2012)
- Sabino Cassese: *Interactions between National and Supranational Levels of Jurisdiction: the Hedgehog Dilemma* (*Italian Journal of Public Law*, 2015)
- Alvaro Sandroni: *The Hedgehog's Dilemma* (*Journal of Mathematical Economics*, 82, 2019, May)
- Taco Brandsen: *Governments and self-organization: a hedgehog's dilemma* (In: *Critical Reflections on Interactive Governance: self-organization and participation in public governance*, 2016)

Trolley problem: The quest for a global organizational geometry -- whether via a "doughnut" or a "pineapple" -- obscures a global strategic dilemma beyond that of the "hedgehog". This is proving to be only too relevant to the global lockdown policy (designed to save lives) and pressures for its relaxation (designed to save livelihoods).

The classic "[trolley problem](#)" is a much-studied thought experiment in ethics and moral philosophy. It is a specific experiment among several that highlights the difference between deontological and consequentialist ethical systems. The central question that these dilemmas bring to light is on whether or not it is right to actively inhibit the utility of an individual if doing so produces a greater utility for other individuals.

In relation to the pandemic crisis, the trolley problem could be framed in terms of the choice between saving relatively few in the present (condemning many to death in the future) or acting to save the many in the future (by constraining the response to the relatively few in the present).

- Morgan Sung: *The trolley problem is the perfect meme for our government's pandemic response* (*Mashable*, 25 March 2020)
- Robin Korener: *COVID-19 and the Trolley Problem: you're on the tracks and the government is controlling the switch* (*FEE*, 24 March 2020)
- Pamela Paresky: *The Moral Dilemma of Coronavirus: Is it Lives Versus Money?* (*Jewish Journal*, 29 March 2020)
- Woojin Lim and Daniel Shin: *Trump and the Trolley Problem* (*The Harvard Crimson*, 3 April 2020)
- Clare Payne: *Making good decisions during COVID-19* (*CEDA*, 4 April 2020)

This emphasizes the temporal dimension in contrast with other articulations of the problem -- those of the future being effectively neglected as "over the temporal horizon", as with other forms of strategic short-termism (Roger L. Martin, *Yes, Short-Termism Really Is a Problem*, *Harvard Business Review*, 9 October 2015).

The trolley problem helps to focus any effort at [root cause analysis](#) of the pandemic crisis when its most disruptive effects may be experienced in the future rather in the present. The relevance of the trolley problem can also be discussed with respect to the global migration crisis (*Migration as a temporal dilemma of ethics exemplified by the "trolley problem"?* 2018) and complicity in *Crimes against future generations* (2018)

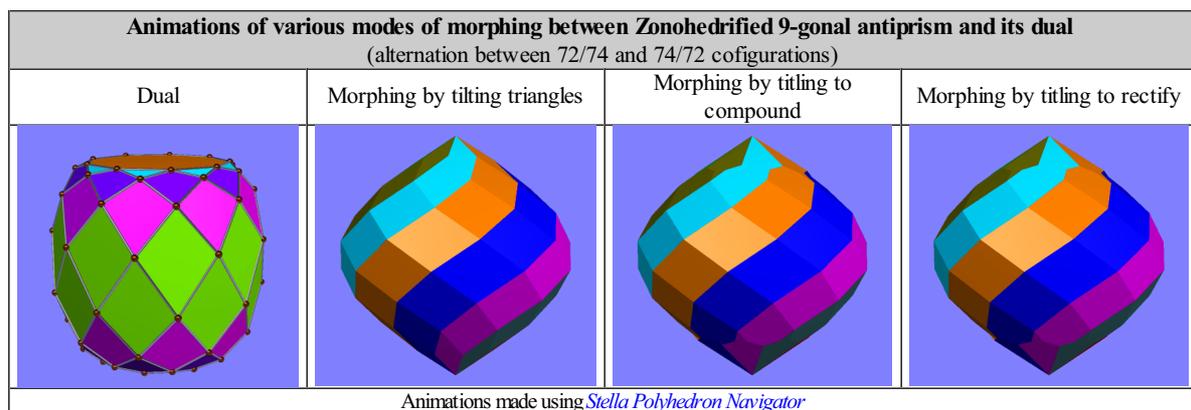
Focusing on present adaptation by tinkering with policy "fixes" (as is currently the case), carefully avoids the need to attend to the dimensions of the crisis in the future, an approach which is similarly evident in the response to climate change, food/water shortages, and the like (*Vigorous Application of Derivative Thinking to Derivative Problems: transcending bewailing, hand-wringing and emotional blackmail*, 2013).

Pineapple model: An earlier discussion endeavoured to clarify constraints on "global planning" currently under consideration in response to the pandemic (*Coronavirus -- Global Plan, Doughnut, Torus, Helix and/or Pineapple?* 2020). Beyond the enthusiasm for a "Marshall Plan", this included consideration of the [doughnut economic](#) model in respecting the nine "planetary boundaries":

- [Relevance of doughnut model to a pandemic?](#)
- [Torus as a key to strategic knowledge organization?](#)
- [Strategic implications of the helical core of the coronavirus?](#)

The "pineapple model" articulated there sought to combine a ninefold helical complexification of the doughnut (as a torus) in the light of the [Triple Helix model of innovation](#) and its [Quadruple and Quintuple extensions to the environment](#). As widely noted, the elegance of the organization of the pine (spikes) on a pineapple derived from the aesthetics of the [Fibonacci sequence](#) by which they are distributed on the fruit. Such elegance was presented as fundamental to both the sustainable coherence required by governance and to the memorability and communicability of any model calling for global appeal. This was noted as according with [zome architecture](#) (*Zomes as a key to appropriate organizational and knowledge architecture?* 2020).

The relevance to COVID-19 of this approach derived from the pattern of 74 (or 72) spikes which research had seemingly suggested were characteristic of the polyhedral form of the virus -- given the value of indicating the global distribution of the spikes on the virus. Two ninefold polyhedra were presented (as below) in animations indicative of this pattern as it might apply to the organization of global governance -- the two being geometric duals respectively holding the 72/74 articulation.



The prickly "pineapple" emphasis is deemed appropriate given the degree to which global civilization is characterized by psycho-social spikes, as argued above. The question is how many such spikes call for recognition with respect to a ninefold organization of planetary boundaries. It was noted that current strategic thinking articulates global strategy in terms of sets seldom exceeding 20, of which the UN's Sustainable Development Goals are a primary example. Without provocatively claiming any parallel with cognitive "adolescence", the challenge of a larger number implied by the form of the coronavirus merits consideration -- especially since it is of an order reflective of traditional articulations of both West and East in excess of 60.

However, rather than any geometric fixation on a particular polyhedral form of global organization, it was suggested that the major learning of the exercise lay in the alternation between multiple polyhedra -- as a complexification of existing proposals for variable institutional geometry. The requisite strategic nimbleness -- as playfulness -- was illustrated in a subsequent exercise (*Engaging Playfully with Coronavirus through "Organizing" Global Governance?* 2020). This was seen as a means of eliciting imaginative new thinking inspired by transformations in 3D of the form of the virus.

Cognitive resonance: Renaissance versus Spiking recovery

Cognitive resonance: As noted with respect to playfully "organizing" global governance, the process of [sonification](#) has already been used to provide a musical rendering of the form of the coronavirus (*Mapping transformation pathways and role of music*, 2020). A related use of that process has previously been envisaged with respect to global governance (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006). Given its existing application to the [sonification of complex patterns of data](#), only the simplest use has been made of this process in clarification of the pandemic and its strategic options (Alexandra Louise Uitenbogerd, *Attempt No. 2 at Covid Data Sonification*, 13 April 2020)

With respect to any use of the technical feasibility of sonification, a missing dimension is the interpretation of the aesthetic cues which are potentially so valuable to offering a sense of pattern recognition, coherence and memorability. What insights are required to render musical interpretations of structure meaningful with respect to the strategic preoccupations of governance? The point is well made by the *Ode to Joy* which features in the *Anthem of Europe*, as speculatively discussed (*Reversing the Anthem of Europe to Signal Distress: transcending crises of governance via reverse music and reverse speech*, 2016).

Whilst people may be enthralled by Beethoven's music and the choral highlights, it is unclear whether the ode to harmony engenders and sustains in any way the development of any corresponding strategy similarly endowed. As the instigator of "pattern language", and with a preoccupation with the nature of order, Christopher Alexander has seen reason to explore *Harmony-Seeking Computations* (*International Journal for Unconventional Computing (IJUC)*, 2009) as a "science of non-classical dynamics based on the progressive evolution of the larger whole" This evokes discussion of an alternative (a "counter-point"), namely an emphasis of particular relevance to global governance (*Harmony-Comprehension and Wholeness-Engendering: eliciting psychosocial transformational principles from design*, 2010).

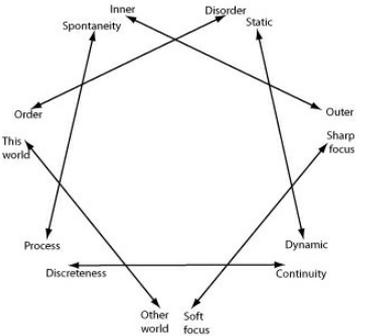
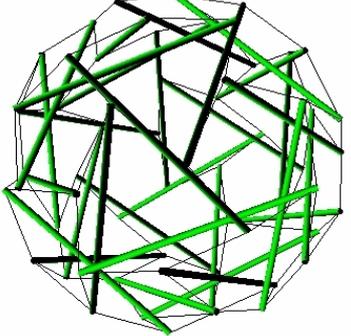
Tensegrity: It is indeed possible to explore the dynamics of form, whether in geometrical or musical terms, the challenge would appear to be associate specific meaning with the elements so rendered. A valuable pointer in that direction follows from the preoccupation with *geodesic domes of Buckminster Fuller* (*Synergetics: Explorations in the Geometry of Thinking*, 1975; *Operating Manual for Spaceship Earth*, 1968). Although the preoccupations of Fuller implied such cognitive concerns, they are implicit rather than explicit, as argued separately (*Geometry of Thinking for Sustainable Global Governance: cognitive implication of synergetics*, 2009).

However the principles of *tensegrity* (tensional integrity) underlying Fuller's development of geodesic domes continue to be of potential relevance to clarification of the comprehension of coherence, especially given the recent structural development from dome to zome (as mentioned above). As is evident in the animation below of a tensegrity of global form, it can be understood as a coherent configuration of rigid and flexible cords -- with the structure as a whole as dynamically resilient. The structural principle uses isolated components in compression inside a net of continuous tension, in such a way that the compressed members (usually bars or struts, but potentially "spikes") do not touch each other and the tensioned members (usually cables or tendons) frame the system spatially.

Whilst the principles have been determined to be fundamental to the architecture of a biological cell, to dialogue, and of interest to musicians, there has seemingly been little effort to adapt them to psycho-social organization, as previously suggested (*From Networking to Tensegrity Organization*, 1984; *Implementing Principles by Balancing Configurations of Functions: a tensegrity organization approach*, 1979). A notable exception has been the cybernetic approach of *Stafford Beer* (*Beyond Dispute: the invention of team synteegrity*, 1994). Recent indicative exceptions include:

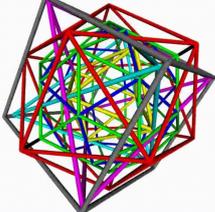
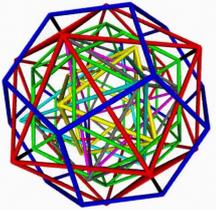
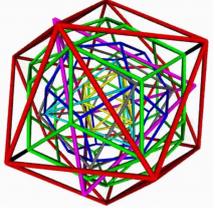
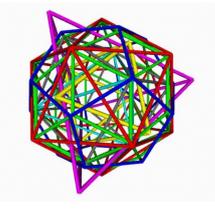
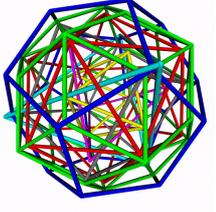
- G. Marsico and L. Tateo: *Borders, Tensegrity and Development in Dialogue* (*Integrative Psychological and Behavioral Science*, 51, 2017, 4)
- Ortried Schaeffter, et al: *Tensegrity System of Communication* (*ResearchGate*)
- Leon Chaitow: *Understanding mechanotransduction and biotensegrity from an adaptation perspective* (*Journal of Bodywork and Movement Therapies*, 27 February 2013)
- Raghu Ananthanarayanan: *The Tensegrity Mandala: A Model for Organization Design* (*Totally Aligned Organization*, 1 January 2011)

With the **rigid elements then appropriately suggestive of spikes, the flexible elements are suggestive of associative links** fundamental to enduring memory and comprehension. Arguably the animation (below right) is suggestive of an "open society" and its strategic dilemmas (Symbol of an "open society" and its strategic dilemmas (*Configuring Strategic Dilemmas in Intersectoral Dialogue*, 1992)

Alternative configurations of "spikes" as axes of bias		
Array in 2D of 7 axes of bias	Fascies from the Roman Empire	Rotation of spherical tensegrity
Configuration of axes of W. T Jones (1961), together defining a central dialogue "space" applicable to debate on a complex issue	As a decisive collapsing together of 12 distinctive axes of bias, to form an aligned perspective, eliminating any central dialogue "space"	Indicative array, configured in 3D, of multiple axes of bias (variously oriented) defining a central dialogue "volume"
		
Reproduced from <i>Collapsing the space of sustainable dialogue</i> (2009)	Discussed in <i>Coherent Value Frameworks: pillar-ization, polarization and polyhedral frames of reference</i> , 2008 (image from Wikipedia)	Reproduced from <i>Tensegrity and synteegration in eliciting strategic coherence</i> (2018)

An animation indicative of how connections are activated between disparate parts of a configuration would be useful, especially any distinction between those which were "explicate" (externally on a polyhedron) and the "implicate" (internally across a polyhedron) -- a

distinction articulated by [David Bohm](#) (*Wholeness and the Implicate Order*, Routledge, 1980). In forming coherent structures as resonance patterns, **this would be suggestive of how collective memories are held, recalled or fade away**. The following screen shots are suggestive of the emergence of dominant patterns -- with the animation on the right suggestive of the evanescent nature of any such dominance.

Suggestive of patterns of explicate and implicate coherence nested within a dynamic framework				
Cubic (grey)	Dodecahedral (blue)	Icosahedral (red)	Tetrahedral (mauve)	Animation
				
Reproduced from <i>Psychosocial Implication in Polyhedral Animations in 3D</i> (2015)				

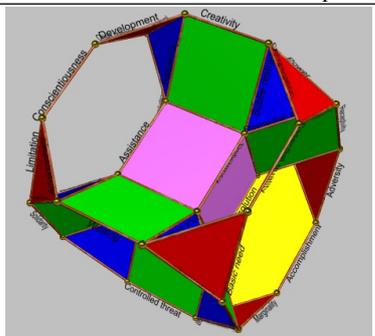
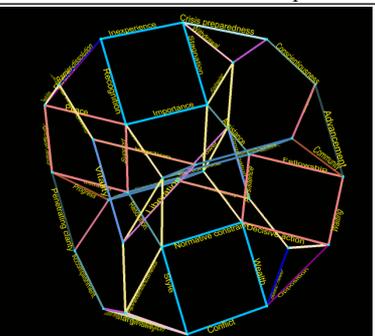
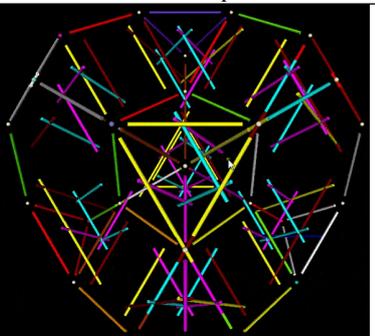
The possibility of such resonant patterns of coherence of relevance to global governance merits comparison with the results of recent neuroscience research, as discussed separately (*Envisaging a Comprehensible Global Brain -- as a Playful Organ*, 2019). This indicates the remarkable patterns of cognitive processes taking even up to 11-dimensional form in the light of emergent neuronal connectivity within the human brain:

Using mathematics in a novel way in neuroscience, the [Blue Brain Project](#) shows that the brain operates on many dimensions, not just the three dimensions that we are accustomed to. For most people, it is a stretch of the imagination to understand the world in four dimensions but a new study has discovered structures in the brain with up to eleven dimensions -- ground-breaking work that is beginning to reveal the brain's deepest architectural secrets..... these structures arise when a group of neurons forms a clique: each neuron connects to every other neuron in the group in a very specific way that generates a precise geometric object. The more neurons there are in a clique, the higher the dimension of the geometric object. ...

The appearance of high-dimensional cavities when the brain is processing information means that the neurons in the network react to stimuli in an extremely organized manner. It is as if the brain reacts to a stimulus by building then razing a tower of multi-dimensional blocks, starting with rods (1D), then planks (2D), then cubes (3D), and then more complex geometries with 4D, 5D, etc. The progression of activity through the brain resembles a multi-dimensional sandcastle that materializes out of the sand and then disintegrates. (*Blue Brain Team Discovers a Multi-Dimensional Universe in Brain Networks*, *Frontiers Communications in Neuroscience*, 12 June 2017)

Missing from reference to such geometry is **the meaning which might be attributed to the individual "spiking" links in such configurations** and that associated with any clusters of them. It is therefore intriguing to note the subtlety of meaning associated with the 64 individual hexagrams of the *I Ching* of Chinese culture -- and specifically to the transformations between them (*Transformation Metaphors derived experimentally from the Chinese Book of Changes (I Ching) for sustainable dialogue, vision, conferencing, policy, network, community and lifestyle*, 1997).

This pattern exceeds by far the capacity of Western science, except with respect to the articulation of the periodic table of chemical elements, whose meaningful configuration remains elusive and essentially unmemorable (*Alternative periodic tables*, *Wikipedia*). A second exception is the pattern of 64 genetic codons. Both 64-fold sets can be suggestively mapped onto the drilled truncated cube, a unique polyhedron with 64 edges, as shown below.

Indicative mapping of 64 <i>I Ching</i> hexagram names onto edges of drilled truncated cube		
Animation with selected faces transparent	Animation with all faces transparent	Animation of "spikes"?
		
Reproduced from <i>Proof of concept: use of drilled truncated cube as a mapping framework for 64 elements</i> (2015)		Variants at <i>Decomposition and recomposition of a toroidal polyhedron</i> (2015)

Spiking the Renaissance of global civilization? With respect to the future, and possibly to the immediate future, the spike metaphor can be further exploited. As suggested by the tensegrity configuration and the animations above, **the issue can be understood as a challenge of framing the set of spikes -- and the spiking process -- in some new way**. A valuable indication is offered by the

discovery and design of the wheel using a circular pattern of spokes -- with all that has implied for the industrial revolution. It might be asked whether there is a psycho-social analogue to the wheel to be discovered, of which preoccupation with recycling and circular economies may be precursors (aside from extensive circular iconography of various traditions).

From that perspective it could be suggested that global governance is currently frustrated by the use of what amounts to "square wheels", as argued separately (*Reframing the Square Wheels of Global Governance: transcending vain hopes of squaring the circle in global decision-making*, 2017). That discussion includes sections on:

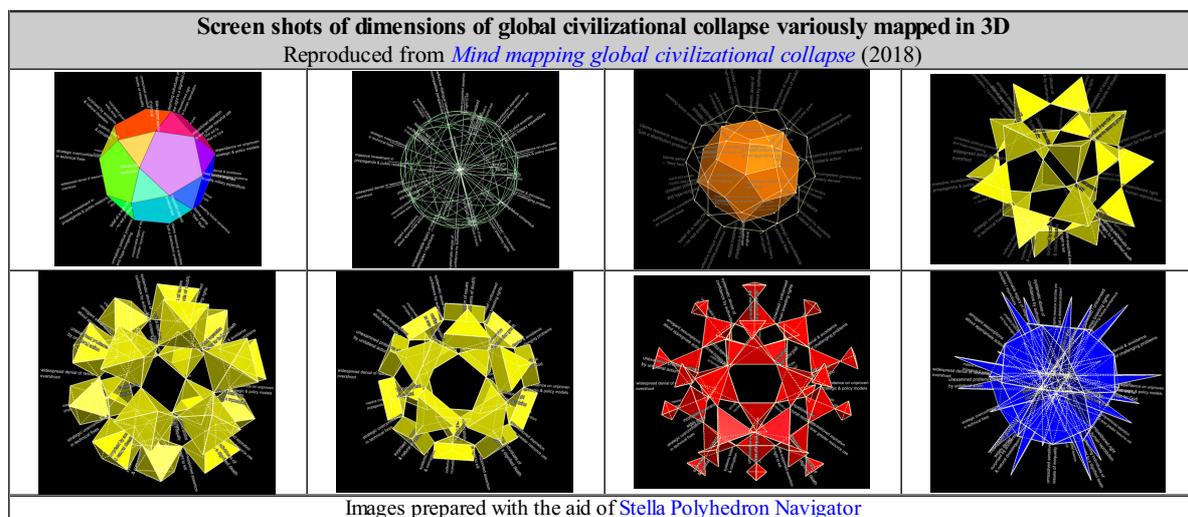
- Myth of the "round table"
- Squaring the circle as an impossible aspiration?
- Improbable viability of square wheels
- Circling the wagons of governance?
- Governance "locomotion" enabled by loopwheels, telescopic spokes and multipedal legs?

If civilization is unable to engender a fruitful global organization of the psycho-social spikes which currently characterize its dynamics, it can of course be argued that any post-pandemic Renaissance will be compromised -- somewhat ironically by "being spiked" (*Post-Apocalyptic Renaissance of Global Civilization: engaging with otherness otherwise?* 2018). This is consistent with one of the connotations of "spike" as a process whereby the progress of any initiative is stopped or blocked. It derives from the process of rendering a gun useless by plugging up the vent with a spike. It is especially evident in journalism as the [rejection of a submitted story](#). As noted above, the pattern of censorship and disinformation -- the systematic repression of discourse on challenging mainstream strategies -- could be understood as spiking fruitful recovery.

There is also a sense in which this could be perceived as a form of collective [self-harm](#) -- curiously paralleling the pattern with individuals. The "self-spiking of civilization" could be seen as consistent with the framing of [Jared Diamond](#) (*Collapse: How Societies Choose to Fail or Survive*, 2005).

The pandemic crisis will necessarily be welcomed by those seeing it as a further sign of prophesied [end times](#) heralding an [Apocalypse](#). Further use could however be made of "spike" as indicative of contradiction and the failure to resolve it appropriately -- as expected of any Messiah. The potential spiking of civilization could then be understood as a failure to fruitfully organize the pattern of contradictions, as highlighted by [Slavoj Zizek](#) (*Living in the End Times*, 2010).

Given the possibility that global civilization is essentially "unconscious", following the argument of [John Ralston Saul](#) (*The Unconscious Civilization*, 1995), the possible unconscious configuration of the spikes associated with its collapse might be variously imagined as follows (spike labelling legible by enlarging images).



Strange spike symbolism of questionable relevance

Seven spikes? It is curious to note the quite distinctive symbolism from disparate cultures referring specifically to "spikes":

- United States: There are many references to the seven spikes in the tiara of the Statue of Liberty:
 - *What Do the Seven Spikes on the Statue of Liberty's Crown Represent?* (*USA Today*, 18 April 2018)
 - *Explanation of Crown takes a few liberties* (*Chicago Tribune*, 14 August 1986)
 - *What do the spikes on the crown represent on the Statue of Liberty?* (*Quora*)
 - *Statue of Liberty Tiara*

The seven spikes have been claimed to represent the seven seas and seven continents of the world, according to the [National Park Service](#) and the [Statue of Liberty Club](#). It could then be inferred that the statue represents an aspiration to world domination, if not its affirmation.

Particular importance is attached to a [Golden Spike](#), namely the last spike completing America's first transcontinental railroad on 10 May 1869, and symbolizing a new era for the country, a united front after the Civil War, a link of East to West and the path to new horizons in the future:

- Larry Wines *Golden Spike Metaphors and Meanings for Our Time*, *La Progressive*, 20 May 2017
- Angela Hill: *Railroad: How many ceremonial Golden Spikes were there??* *East Bay Times*, 28 April 2019
- Russia: The iconic Moscow skyscrapers built by order from Stalin, as decribed by Gennady Baadachev (*Seven Spikes*) and otherwise known as the **Seven Sisters**:
 - Irena Domingo: *The Seven Sisters of Moscow: the Stalinist skyscrapers secrets* (*Russiau*, 29 January 2019)
 - Yana Skorobogatov: *A Towering Legacy* (*Berkeley*, 10 May 2016)
 - *Stalin's Seven Sisters: mystical city's legends about seven USSR skyscrapers* (*Slavorum*)
- Islam: **Seven Spikes Relief Foundation**
- Tibetan Buddhism: *The Seven Spikes* (or "*Seven Nails*", *Zerbu Dunpa*), associated with **Jnanasutra** (*The Seven Nails of Acarya Sri Simha*)
 - Attain the sameness of samsara and nirvana with the spike of unimpeded, clear, innocent brilliance.
 - Attain the interstice between object and mind with the spike of self-illuminated awareness.
 - Attain the interstice between intellect and thing with the spike of the self-pure quintessence.
 - Attain the interstice between nihilism and eternalism with the spike of speechless vision.
 - Attain the interstice between subject and object with the spike of zesty reality.
 - Attain the interstice between dullness and ebullience with the spike of relaxing the five senses.
 - Attain the interstice between appearance and vacuousness with the spike of the originally perfect stratum of being.

With peak and hills potentially to be recognized as similar in form, the title *City of Seven Hills* usually refers to the **seven hills of Rome** -- on which the city was literally founded. Many cities have since claimed to be built on seven hills (*List of cities claimed to be built on seven hills*, *Wikipedia*). As noted with respect to Stalin's "spikes", other cities now cultivate the seven sister skyscraper metaphor:

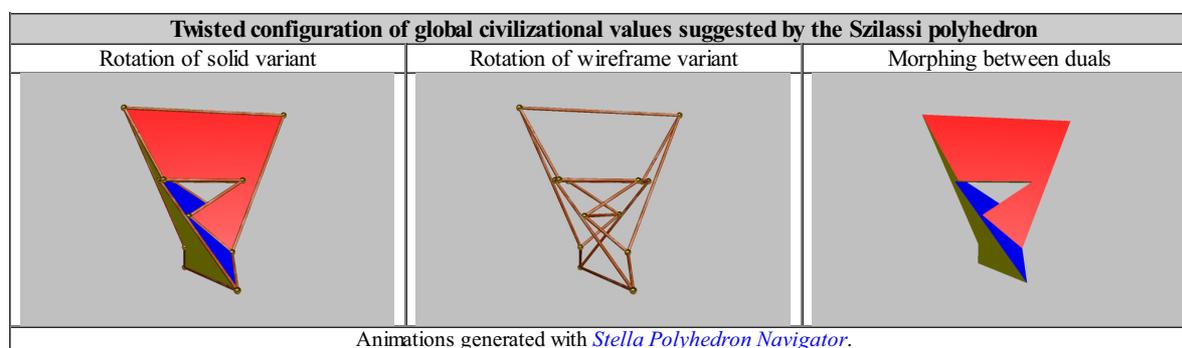
- Sudeshna Sen: *Seven skyscrapers that will dominate London's skyline soon* (*Economic Times*, 21 September 2013)
- Nick Thompson: *London's skyline is changing - here are seven skyscrapers due to arrive by 2025* (*TimeOut*, 20 December 2017)
- Jessica Mairs: *Paris announces seven skyscrapers to boost post-Brexit business* (*Dezeen*, 27 February 2017)
- *Indonesia to have seven new skyscrapers in 2019* (*The Jakarta Post*, 4 February 2019)

More curious is the **Seven Mountain Mandate** rooted in **dominion theology** and most notably promoted by Pentecostalism:

- Emily Swan: *Trump, Evangelicals, and the Seven Mountain Mandate* (*Solus Jesus*, 13 December 2019)
- Jamie Seidel: *Seven Mountain mandate conspiracy to seize the United States* (*ABC News*, 20 December 2018)
- Steve Davies: *Australia's Pentecostal Extreme World Makeover Exposed* (*Australian Independent Media*, 13 February 2020)
- Elle Hardy: *The "modern apostles" who want to reshape America ahead of the end times* (*The Outline*, 19 March 2020)

Szilassi polyhedron? As argued separately, in the light of such symbolism, it could be provocatively argued that if much that is valued is implicitly associated with the 7-fold, then insights into distorted forms of the 7-fold could be indicative of the challenges faced by a civilization in process of "spiking itself" -- with its uncoordinated values (*Time for Provocative Mnemonic Aids to Systemic Connectivity?* 2018).

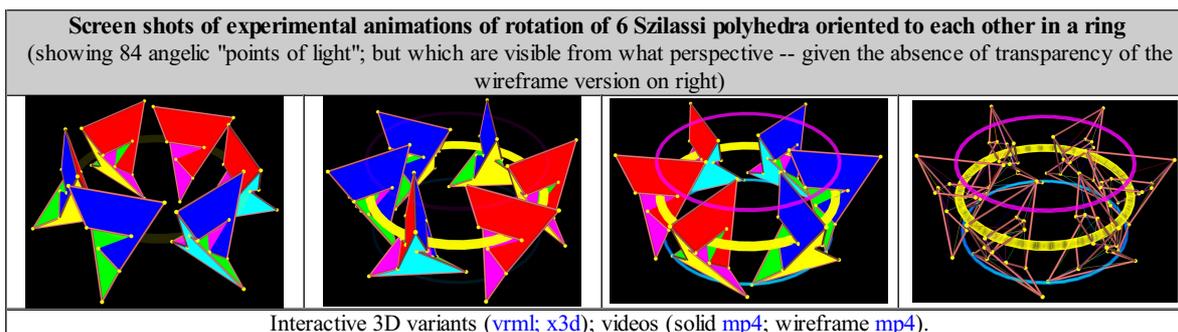
In this respect the strange characteristics of the 7-faced **Szilassi polyhedron** (and its dual the 7-vertexed **Császár polyhedron**) merit speculative attention as the seeming epitome of irregularity and discord. In the case of the first, each face shares an edge with every other face; the second has no diagonals. Both characteristics are suggestive of an ideal relationship between any seven values as they might be configured together. However, both being "holed" as toroids, they suggest an extremely twisted form of the drilled truncated cube, given what may be associated with the latter.



As a source of insight into twistedness, the Szilassi polyhedron can be used in an exploratory mapping of 7 fundamental questions onto its faces, thereby engendering a pattern of 21 spike-like dilemmas associated with its edges (*Mapping of WH-questions with question-pairs onto the Szilassi polyhedron*, 2014; *Potential insights into the Szilassi configuration of WH-questions from 4D*, 2014).

Curiously it is a ring configuration of 6 Szilassi polyhedra that can be used to take the exploration further. It has 42 faces, 120 edges (given that 6 are common), 72 vertices (given that 12 are common). In contrast with the fundamental role attributed to "cubic organization" in the current "global" civilization, the cognitively challenging **Schatz cube inversion** bears a strange relationship to the possibilities of inverting that ring of polyhedra (*Association of the Szilassi polyhedron with cube inversion*, 2018).

The "hole" through the the ring of Szilassi polyhedra is then an indication of what is required to enable all "faces" (in a discourse) to be in contact with one another, as discussed and illustrated separately (*Dynamics of discord anticipating the dynamics of concord*, 2018; [discord video](#); [concord video](#)).



Symbolic configurations? More curious is the traditional symbolic importance of any ordered configurations of spikes. For example, a fundamental contrast is offered between the *fascies* (mentioned above as an inspiration of fascism) and the woven *Crown of Thorns* of Christianity. The latter invites reflection on a meaningful global configuration of spikes (*Implication of Toroidal Transformation of the Crown of Thorns: design challenge to enable integrative comprehension of global dynamics*, 2011). The former can be explored in terms of *Collapsing the space of sustainable dialogue* (2009).

What form of "crown of thorns" -- dynamically understood -- would be appropriate to a global civilization represented in 3D, and how would this resonate with that of COVID-19, and especially given the crown-like "corona" of the coronavirus?

A pointer from physics of relevance to future global governance?
For any speculation which does not at first glance look crazy, there is no hope. (Freeman Dyson, <i>Innovation in Physics</i> , <i>Scientific American</i> , September 1958)

References

Christopher Alexander:

- Notes on the Synthesis of Form. Harvard University Press, 1964 [\[summary\]](#)
- A Pattern Language. Oxford University Press, 1977 [\[summary\]](#)
- The Nature of Order: an essay on the art of building and the nature of the universe. Center for Environmental Structure, 2003-4. [\[summary\]](#)
- New Concepts in Complexity Theory: an overview of the four books of the Nature of Order with emphasis on the scientific problems which are raised. 2003 [\[text\]](#)
- Harmony-Seeking Computations: a science of non-classical dynamics based on the progressive evolution of the larger whole. *International Journal for Unconventional Computing (IJUC)*, 5, 2009 [\[text\]](#)

Gregory Bateson:

- Mind and Nature: a necessary unity, Hampton Press, 1979
- Angels Fear: Towards an Epistemology of the Sacred. University of Chicago Press, 1988

Gregory Bateson and Rodney G. Donaldson. A Sacred Unity: further steps to an ecology of mind. Harper Collins. 1991 [\[contents\]](#)

Mary Catherine Bateson. Our Own Metaphor: a personal account of a Conference on the Effects of Conscious Purpose on Human Adaptation. Hampton Press, 1972 [\[contents\]](#)

Stafford Beer. Beyond Dispute: the invention of team synteegrity. Wiley, 1994

David Bohm. Wholeness and the Implicate Order. Routledge, 1980

Roberto Casati and Achille C. Varzi:

- Holes and Other Superficialities. MIT Press, 1994 [\[review\]](#)
- Counting the holes. *Australasian Journal of Philosophy*, 82, 2004, 1, pp. 23-27 [\[abstract\]](#)
- Parts and Places: the structures of spatial representation. Bradford, 2003
- Insurmountable Simplicities: thirty-nine philosophical conundrums. Columbia University Press, 2008

Jared Diamond. Collapse: How Societies Choose to Fail or Survive. Viking Press, 2005

Frances Kamm. The Trolley Problem Mysteries. Oxford University Press, 2015 [\[commentary\]](#).

George Lakoff and Rafael E. Núñez. Where Mathematics Comes From: how the embodied mind brings mathematics into being. Basic Books, 2000

G. Spencer-Brown. Laws of Form. Dutton, 1969 [\[contents\]](#)

Alexander Wendt. Quantum Mind and Social Science: unifying physical and social ontology. Cambridge University Press, 2015

Slavoj Žižek. Living in the End Times. Verso, 2010



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