



# laetus in praesens

Alternative view of segmented documents via Kairos

22 May 2017 | Draft

## Framing Global Transformation through the Polyhedral Merkabah

### Neglected implicit cognitive cycles in viable complex systems

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## Introduction

Despite the widely commented implications of a post-truth era, few would deny the fact that the unresolved issues between the Abrahamic religions continue to inspire violence -- with no end in sight. This encourages major investment in armaments and the development and deployment of military forces. The situation in the Middle East is such that the imminent possibility of [World War III](#) is itself a focus of commentary (Joseph V. Micallef, *Are We Already Fighting World War III?* *Military.com*, 24 January 2017; Robert Farley, *5 Places World War III Could Start in 2017*, *The National Interest*, 17 December 2016; Paul Craig Roberts, *Why World War III is on the Horizon*, *Global Research*, 28 December 2015).

It has however become virtually impossible to engage in fruitful discourse on these matters, with every avenue of dialogue having seemingly been exhausted. Avoidance of physical violence is however no indication of the adequacy of available insight necessary for a sustainable and fruitful aftermath, as previously argued (*And When the Bombing Stops? Territorial conflict as a challenge to mathematicians*, 2000). The absence of insight is highlighted by the currently widespread assumption that "Not-Trump" is a viable global strategy in its own right (*Ungovernability of Sustainable Global Democracy?* 2011).

The complexities of the situation encourage a high degree of mutual suspicion and blame. Each of the major actors is variously framed as being part of the problem or claimed -- self-righteously -- to be part of the solution. The consequences of inability to address these dynamics in any fruitful manner is evident in the tragic massive movement of refugees fleeing insecurity and deprivation in quest of a more fruitful existence -- and thereby engendering further instability.

Especially curious in a post-truth era is the role of symbols and of symbolism. Declarations of strategy and principle, made via the media through photo opportunities, are carefully framed by flags. These are also a primary feature of popular demonstrations and their media coverage. At the time of writing the appointment of a new US ambassador to Israel is seen as highly significant through the support for increase in settlement construction, however controversial. Especially significant however is the manner in which it is viewed in the light of the symbolism inherent in the provocative proposal by the Trump administration to move the US embassy from Tel Aviv to Jerusalem.

Considerable significance is associated with the visit by Donald Trump to the [Western Wall](#), as the main remnant of the [Second Jewish Temple](#) in Jerusalem (*Trump makes historic visit to Western Wall*, *CNN*, 22 May 2017; *A Simple Act That Endearred Trump to Israelis*, *The Atlantic*, 22 May 2017). The two-dimensionality of the wall necessarily contrasts with what is imbued in that symbol and the inspiration it offers for the construction a [Third Temple](#) -- in three dimensions, with more complex implications of even higher dimensionality -- as described and prophesied in the *Book of Ezekiel*. The placement of messages in the wall recalls the importance attached to [wish trees](#) in many traditions.

Again however, such symbolism has been the focus of widespread commentary of a seemingly fruitless nature. Especially problematic is that such commentary readily triggers further accusations of anti-semitism. This exemplifies a wider pattern of "anti discourse" with respect to religion, science, ethnicity, ideology, populism, and the like. There is little indication that the current mode of discourse can transcend such binary dynamics, as previously discussed (*Guidelines for Critical Dialogue between Worldviews -- as exemplified by the need for non-antisemitic dialogue with Israelis?* 2006).

Given the seemingly irrational and unscientific importance widely attached to symbolism, the following exercise focuses on the possibility that the typical two-dimensional representation of symbols may be reinforcing a mode of thought inhibiting recognition of more fruitful multi-dimensional insights. This is evident in their use on flags to rally supporters in support of binary confrontation.

Curiously, as with the primary political ideologies, the three primary **Abrahamic religions** (Christianity, Islam, Judaism), as a trinity of "siblings", have seemingly been unable to reflect the nature of their elusively complex relationship in any widely recognized symbol of value. More curious is that a number of fundamental cognitive insights, variously portrayed in the form of a triangle, invite only the most modest degree of recognition -- whether they are of religious or academic nature.

The argument here is that there is scope for portraying fundamental "symbolic" insights otherwise, as previously discussed through use of a therapeutic metaphor (*Visualization in 3D of a Trinity of Connotations as a Cognitive Pill*, 2017). The expected major impact of **augmented reality technology** is a further justification for this.

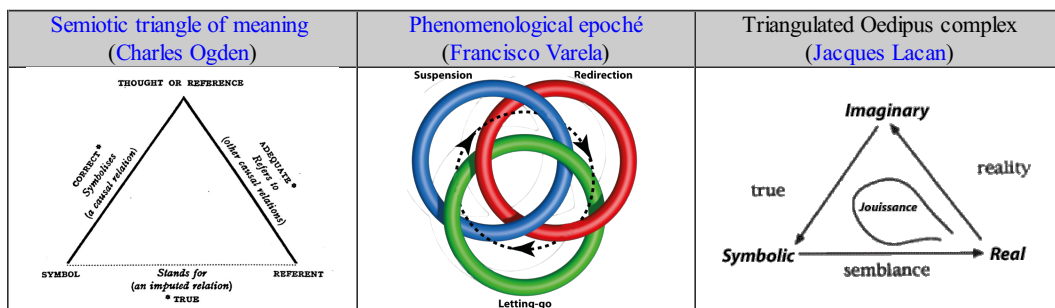
Given the central role of Israel with respect to violence-inducing tensions in the Middle East, the symbol of the **Star of David**, as displayed in two dimensions, invites particular attention. This is especially in the light of the symbolic value attached within the Judaic tradition to its three-dimensional equivalent -- the **Merkabah**. Ironically appropriate for the times, the main battle tank of the Israel Defense Forces has borne that name since the 1970s.

Over centuries the symbolism of the Merkabah has attracted speculative reflection, most notably by mystics in all the Abrahamic religions sharing the insight it offers into the so-called "Chariot of God", as described by **Ezekiel**. In that sense it merits recognition as potentially the only fundamental symbol reflective of the unexplored commonality of those eternally quarrelling religions.

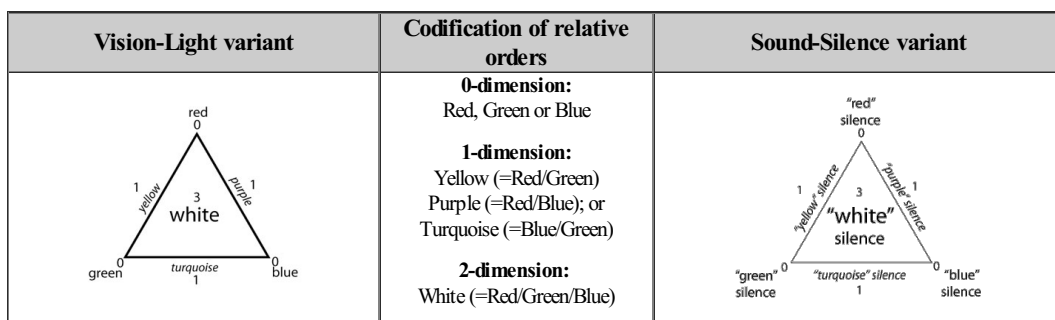
Arguably it is the very fact of the unquestioned focus on two-dimensional portrayal of symbols that detracts from attention to implicit cognitive cycles vital to the viability of the complex systems characteristic of sustainable global governance -- if that is to be achieved. The concern in what follows is not with religious insight in particular but with representation of the dynamics of such cycles -- and the evident dangers consequent on failure to recognize them.

## Interrelating disparate threefold cognitive patterns as a polyhedron

As a prelude to the controversies of discussion of the mysticism associated with the Merkabah, it is useful to revisit briefly the several threefold patterns discussed previously (*Visualization in 3D of a Trinity of Connotations as a Cognitive Pill*, 2017).

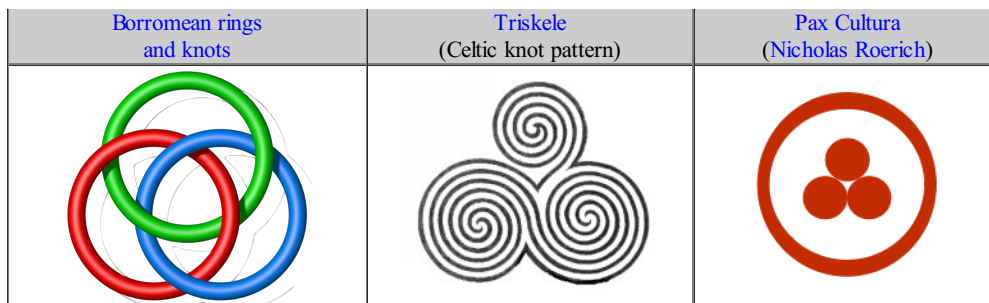


Aside from the value of their juxtaposition, given their cognitive implications, a fourth may be usefully added to clarify the challenge of their comprehension, admirably clarified using the mathematics of **q-analysis** as developed by Ron Atkin (*Multidimensional Man; can man live in 3-dimensional space?*, 1981), as separately summarized (*Comprehension: Social organization determined by incommunicability of insights*). Atkin illustrates the challenge of comprehension in relation to experience "within" the geometry of a triangle -- especially with regard to the perspective necessary to comprehend the geometry of the triangle as a whole -- namely the trinity.



Each of these triangular symbols is especially meaningful to a particular school of thought and is typically irrelevant (if not meaningless) to the preoccupations of the other schools of thought associated with the other triangles. Given the significance that can be associated with each, according to the arguments of its proponents, there is clearly a case for challenging the lack of motivation for configuring together such semantic fields (or maps).

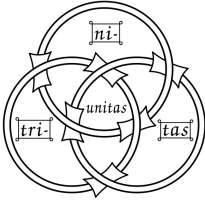
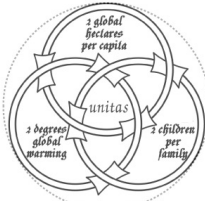

A similar argument can be made for even more abstract patterns, each upheld by its proponents as being of even more fundamental symbolic significance. As with those above, these were also presented in the previous discussion



Their threefold nature clearly echoes that valued in the articulations of the Christian Trinity. Rather than the static implication of any "cognitive pill", is there a hidden dynamic to be recognized that is more consistent with its process implications (*Freedom, Democracy, Justice: Isolated Nouns or Interwoven Verbs? Illusory quest for qualities and principles dynamically disguised*, 2011). The static focus of strategic reports is indicative of this constraint (*Dynamic Transformation of Static Reporting of Global Processes: suggestions for process-oriented titles of global issue reports*, 2013).

Such a possibility could be explored further in the light of the recent declaration by the UN Secretary-General (*UN must reform to defend enlightenment values, secretary-general says, The Guardian*, 10 May 2017) pointing to the three separate pillars of the UN: peace and security, human rights and sustainable development. He asked whether these could continue to be addressed separately, calling for them to be combined into a single program -- one central to any strategy of reform.

Understood as "value pills", it could be argued that this implies a "multi-pill" complex as being fundamental to the UN, if it is to be recognized as the "big pill" through which the ills of global civilization are to be remedied. Speculatively, since these are otherwise in no way comprehended as integrated, the following images offer pointers. Their structure anticipates discussion below. The image in the centre derives from a separate discussion (*Cognitive Cycles Vital to Sustainable Self-Governance*, 2009).

Depiction of Christian Trinity	Interwoven metrics of relevance to global governance	Three-fold "pill" of enlightenment values?
		
Illustration from a 13th-century French manuscript, as reproduced in Didron's book <i>Christian Iconography</i> , 1843; from Wikipedia, with adaptations in the centre and right-hand images		

Other influential triads worthy of consideration include:

- Plato: the Good, the True, and the Beautiful
- **Alain Badiou**: Being, Truth, Event
- **Niklas Luhmann**: Utterance/Enunciation (signifier) / Understanding (sense) / Information (mark)
- New Age: Mind, Body, Soul
- National motto of France: *Liberté, égalité, fraternité*

## Cognitive limitations and reductionism in response to global challenges

**Cognitive scope**: The argument above by Ron Atkin (1981) is a valuable articulation of the consequences of the breakdown in three-fold comprehension -- a disastrous reduction down to the limitations of binary thinking. This is in contrast to what is now acclaimed as "joined-up thinking". The clarification provided by Atkin is an aspect of the more general challenge of pattern comprehension, as discussed separately (*Comprehension of Numbers Challenging Global Civilization: number games people play for survival*, 2014). This includes sections on

- [Numbers in play in psychosocial organization](#)
- [Conceptual clustering and cognitive constraints](#)
- [Pattern memorability between symbolic mystification and "stretching"](#)

The issue of constraints on conceptual clustering emerges from assessments of problematic-strategic complexity, as with the **Situational Complexity Index** (SCI) of the **Institute for 21st Century Agoras**. Key constraints include:

- "**Miller number**" (7 plus/minus 2): the much cited constraint reported by **George Miller** (*The Magical Number Seven, Plus or Minus Two: some limits on our capacity for processing information*, *Psychological Review*. 1956).
- "**Spreadthink number**": as identified by **John N. Warfield** (*Spreadthink: Explaining ineffective groups*, 1995). This reflects the fact the inability of groups to reach agreement on complex issue. In the SCI, this is assumed to be 5.
- "**Dunbar's number**": as formulated by **Robin Dunbar**, This is a suggested cognitive limit to the number of people with whom one can maintain stable social relationships The commonly used value is 150.
- **Span of control**: The number of subordinates a leader can efficiently control or manage, currently understood as ranging up to 10.

These are all a feature of the challenge of comprehending complexity and especially of the symmetry which might otherwise enable greater complexity to be encompassed (*Dynamics of Symmetry Group Theorizing: comprehension of psycho-social implication*, 2008).

**Reductionism and its reversal:** There is a sense in which the challenges of sustainable global governance have been aggravated by a form of "dumbing down". This has been usefully described as "subunderstanding" by Magoroh Maruyama (*Polyocular vision or subunderstanding? Organization Studies*, 25, 2004).

If the challenge can be associated with comprehension of globality in its various senses, the reduction of a **sphere** to representation as a **circle** is indicative of one aspect of the challenge -- with all that is thereby excluded by the implications of the circumferential boundary. This is especially the case when a sphere is recognized as "unbounded" -- as with any sense of "global". The point can be argued with respect to the contradictions implicit in any global plan, notably as can be speculatively explored (*Adhering to God's Plan in a Global Society: serious problems framed by the Pope from a transfinite perspective*, 2014).

The argument can be developed further to the extent that any **circle** is effectively viewed "edge on", reducing the view of the circumference to a **line** -- potentially conflated with the diameter of the circle. Use of "line" figures widely in the representation of argument and strategic discourse as an indication of directionality -- having thereby lost any implication of circularity and feedback. Many **system diagrams and network maps, presented as patterns of lines, typically obscure recognition of feedback cycles** -- and the associated learning pathways, especially those consequent on system failure (*Variety of System Failures Engendered by Negligent Distinctions*, 2016).

A further reduction is evident when a **line** is effectively viewed from one end or the other -- as a **point**. Again point-making is a major feature of arguments -- including the use of "bullet points" in presentations. These may well inhibit any more comprehensive understanding of the implied line of argument with which they are associated. In effect the "line" of argument, by which the bullet points are purportedly linked, is tends to "break up" to an increasing degree. The relatively low degree of linkage between "tweets" -- as points - - is an exemplification of this.

It is through such a process of cognitive reductionism that many symbolic representations of the strategic challenge could be usefully caricatured as having the collective "cognitive nose" pressed "flat against a window" -- echoing the "glass ceiling" phenomenon deplored by feminists.

So framed it may be asked where attention is given to a **reverse process: from point to line to circle to sphere?** Is this to be recognized as "generalization", or do other uses of such a term serve only to confuse the matter further? Presented in this way, given the fourth dimension associated with time and its strategic relevance, are their insights which could only be represented and comprehended in terms of higher dimensionality? The point can be argued through the challenge of climate (*Enhancing Strategic Discourse Systematically using Climate Metaphors: widespread comprehension of system dynamics in weather patterns as a resource*, 2015). The latter includes discussion of:

- Systematic global insight of memorable quality?
- Towards memorable framing of global climate of governance processes?
- Visual representations of globality of requisite variety for global governance
- Four-dimensional requisite for a time-bound global civilization?
- Comprehending the shapes of time through four-dimensional uniform polychora
- Five-fold ordering of strategic engagement with time

**Attention span requiring succinct presentation:** There is clearly a major challenge of presenting strategically relevant complexity in a sufficiently succinct manner. The matter is remarkably illustrated by the enthusiasm of millions for Twitter and Facebook in contrast to complexity articulated in texts favoured by academia and business management. The challenge is notably evident in the exceptional proclivity of Donald Trump for the use of Twitter with its 144 character tweets. The issue is highlighted at the time of writing by the widely reported challenge of discourse at a vital summit of NATO:

- Greg Price: *NATO Plans for Donald Trump's Short Attention Span*, *NewsWeek*, 15 May 2017
- Boer Deng: *Donald Trump has four-minute attention span*, *Nato briefed*, *The Times*, 18 May 2017
- Lucy Pasha-Robinson: *Nato officials will 'ensure no one talks for more than four minutes to keep Donald Trump's attention'* *The Independent*, 16 May 2017
- Abigail Tracy: *NATO Asks World Leaders to Play Dumb so Trump will understand them*, *Vanity Fair*, 15 May 2017
- Robbie Gramer: *NATO Frantically Tries to Trump-Proof President's First Visit: a 'freaked-out' NATO braces for Donald Trump's first meeting of the transatlantic alliance*. *Foreign Policy*, 15 May 2017

However, having celebrated the conventional consensus on Trump's attention deficiency disorder, it could be asked whether he merely exemplifies the increasing incapacity of anyone with marked cognitive preferences to tolerate for more than the briefest periods the articulation of those holding contrasting views.

One commentator notes, with respect to a former US president, that: *By the 1980's, Ronald Reagan's staff told each other to be concise because Reagan had an eight minute attention span*. As noted by William Leuchtenburg (*Behind the Ronald Reagan myth: "No one had ever entered the White House so grossly ill informed"* (*Salon*, 28 December 2015).

The tendency to "turn off", whether remarked by others, is consistent with **confirmation bias** with respect to the variety of possible world views, as previously summarized (*Systems of Categories Distinguishing Cultural Biases*, 1993)

## Focus of attention: confidence, confidelity and "confusion"

**Attention:** The previous points frame and highlight the extent to which the concern at this time is fundamentally about the collective focus of attention. Somewhat ironically, and possibly tragically given the challenges of the times, this plays out most evidently in the preoccupation of marketing of products and services, most obviously through advertising.

Advertising recognizes an [attention span](#) measured in seconds, understood in terms of [stickiness](#), the challenge is clarified by Mauricio Duque (*Is your website ready for the 5-seconds-attention-span challenge?* *Snap2Objects*, 2008):

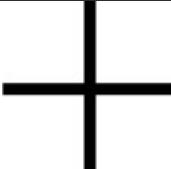

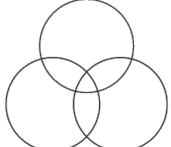


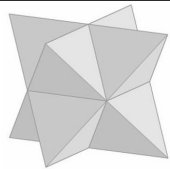

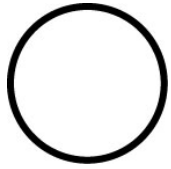
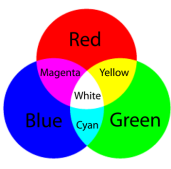



After decades of TV, Radio, Magazines and now Internet, we find ourselves in a society overwhelmed by information begging for attention. As a result of that we have a world with an attention span now shorter than a goldfish's. How is the media and specially the web facing that? And how can we take advantage on way the human mind works? ...

Attention span has decreased in the last 30 years and TV is mostly blamed for that - when you have a generation used to watching more than 6 hours of TV per day, usually presented in chunks of around 12 minutes. So you get gradually conditioned to feel anxiety after doing the same task for 12 minutes or more.

The issue has been usefully framed in terms of how the daily news and social media "harvest" time and attention, as described by [Tim Wu](#) (*The Attention Merchants*, 2016). That description is itself usefully matched by that of [Naomi Oreskes](#) and [Erik M. Conway](#) (*Merchants of Doubt: how a handful of scientists obscured the truth on issues from tobacco smoke to global warming*, 2010) and of [Edward S. Herman](#) and [Noam Chomsky](#) (*Manufacturing Consent: the political economy of the mass media*, 1988).

Appropriately, the study of Tim Wu has also been distributed with the subtitle *The Epic Scramble to Get Inside Our Heads* (2016). Current development and promotion of augmented reality will exacerbate this.

**Targetting:** With the preoccupations of advertising understood as an exercise in targetting, the symbols above can be interpreted in relation to such a preoccupation -- with respect to collective attention and focus. From the left in the table below, ironically the symbols are as evident in framing targets as they are in framing the elusive cognitive quests highlighted above. More specifically those on the left are also to be found in the design of [crosshairs](#) (or reticles) in sighting devices required for target acquisition in quest of a "bullseye". Variants of the more complex symbols are to be found in framing the target acquisition process of firing a missile at a moving target.

Degrees of framing the quest for the elusive					
"Target acquisition" ?			"Aspirational quest" ?		
					
					
"Cross-hairs"	Triangle / Circle	Venn diagrams	Stars	Tetra / Sphere	Double tetra / Spheres

The concern here is with the focusing of attention implied by the progression to the right in the above table as the "target" becomes increasingly elusive in cognitive terms. That progression can then be understood in terms of degrees of "target elusiveness" and the inappropriateness of such military metaphors (*Enhancing Sustainable Development Strategies through Avoidance of Military Metaphors*, 1998). The complex image on the far right derives from the implications of *Sphere packing as a fundamental spatio-temporal pattern* (2012), as explored with respect to a [cuboctahedral pattern](#) of spherical polyhedra around a [truncated tetrahedron](#) by [Keith Critchlow](#) (*Order in Space: a design source book*, 1969). This is discussed further in a broader context (*Imaginative Reconfiguration of a post-Apocalyptic Global Civilization: engaging cognitively with the illusion of the "End of the World"*, 2012).

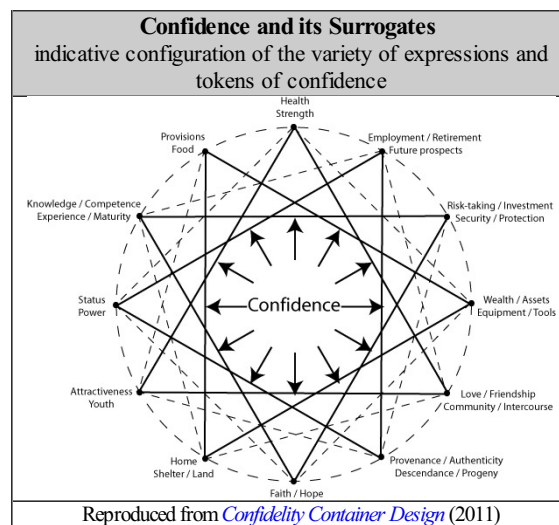
The understanding of "target acquisition" thus becomes transformed into aspiration in the quest for inspiration -- with which religions are so notably identified. The transformation is itself subtle, with its implications for identification with what has been hitherto framed as a target, as implied by the arguments of the classic *Zen in the Art of Archery* (1948) by [Eugen Herrigel](#).

**Confidence and belief:** Just as "target acquisition" is intimately related to degrees of confidence that it has been effectively acquired, the progression also implies a challenge with respect to any sense of collective confidence and the manner in which this is related to (strategic) consensus. As suggested above, the cognitive use of triangular symbols frames an elusive insight at the confluence or focus framed by the cognitive significance attributed to the verticies of any such triangle.

It is the elusive nature of this confluence that evokes the questioning so ably articulated by [Richard Dawkins](#) (*The God Delusion*, 2000). However that same mode of argument may be readily adapted to other elusive cognitive conditions implied by such frames, whether triangular or otherwise, as argued separately (*The Consensus Delusion: mysterious attractor undermining global civilization as currently imagined*, 2011). The elusive nature of the quest can be recognized in the ineffectual initiatives with respect to interfaith reconciliation, academic interdisciplinarity, and the psychosocial challenges of multiculturalism.

The elusive cognitive condition which is framed by some of the "academic" symbols can indeed be usefully understood as secular

surrogates for what others choose to associate with the mysterious nature of deity. The challenging nature of that "target" is most readily evident at this time in both the disastrous loss of confidence in the articulations of authority and the desperate appeals of such authorities for confidence and trust in their strategies and methods. As can be variously argued, confidence in one form or another is now, and how it is to invite belief, is fundamental to any prospect of viable governance (*Varieties of Confidence Essential to Sustainability: surrogates and tokens obscuring the existential "gold standard"*, 2009; *Implication of Indwelling Intelligence in Global Confidence-building*, 2012)



**Confusion and conflation:** As is only too evident at this time, the loss of confidence is frequently described in terms of uncertainty and "confusion". Curiously the use of "fusion" in its relation to focus features strategically otherwise at this time:

- in the quest for a sustainable source of energy through [nuclear fusion](#) and the special implications for the [design of fusion reactors](#) enabling access to such forms of energy. This quest offers a valuable metaphor for a potential cognitive analogue (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006).
- in the desperate quest for greater targetting capacity, reminiscent of preoccupation with the "bullseye" framing of any target. However the confusion and ambiguity can also be explored through other uses of "bull" which is so central to the subtlety of the [10 Zen oxherding pictures](#), as argued separately (*Zen of Facticity: Bull, Ox or Otherwise? Herding facts and their alternatives in a post-truth-era*, 2017).
- in the effort to engender greater strategic clarity, focus is sought through gathering the most insightful into "think tanks". However this can be understood as engendering other difficulties through reinforcing particular biases, as discussed separately (*"Tank-thoughts" from "Think-tanks": metaphors constraining development of global governance*, 2003).
- potentially even more relevant is the manner in which the symbol which is the focus of this argument -- namely the Merkabah -- has been adopted as the name of the [main battle tank of the Israeli army](#) since the 1970s. The connotations derive from the sense in which the Merkabah is recognized as the Chariot of God (as noted below). It is such confusion and conflation which is presumably evident in any (mis)comprehension of *Jihad*. This also recalls the ambiguities of the tripartite framing of the Christian Church (*Ecclesia poenitens*, *Ecclesia triumphans*, *Ecclesia militans*), with the latter exemplified by the use of the Christian Cross in one of the most favoured common Christian hymns: *Onward Christian soldiers... With the Cross of Jesus, going on before*. Such an understanding of the Cross is of course historically related to [crusade](#) -- as continues to be used metaphorically in Christian campaigns against those of other beliefs.
- in response to the threats of insecurity, of particular interest is the secretive creation of some 72 "[fusion centers](#)" by the US Department of Homeland Security and the US Department of Justice. They are designed to promote information sharing at the federal level between agencies such as the Central Intelligence Agency (CIA), Federal Bureau of Investigation (FBI), U.S. Department of Justice, U.S. military, and state- and local-level government. They may also be affiliated with an [Emergency Operations Center](#) that responds in the event of a disaster.

**Implications of "fuzing technology"?** As an indication of the quest for focus on a global scale, the relevance of remarkable developments of targetting capacity merit particular attention with respect to [nuclear weapons delivery](#), as noted in a recent study (Hans M. Kristensen, Matthew McKinzie and Theodore A. Postol *How US nuclear force modernization is undermining strategic stability: the burst-height compensating super-fuze*, *Bulletin of the Atomic Scientists*, 1 March 2017):

The US nuclear forces modernization program has been portrayed to the public as an effort to ensure the reliability and safety of warheads in the US nuclear arsenal, rather than to enhance their military capabilities. In reality, however, that program has implemented revolutionary new technologies that will vastly increase the targeting capability of the US ballistic missile arsenal. This increase in capability is astonishing -- boosting the overall killing power of existing US ballistic missile forces by a factor of roughly three...

The revolutionary increase in the lethality of submarine-borne US nuclear forces comes from a "super-fuze" device... We

estimate that all warheads deployed on US ballistic missile submarines now have this fuzing capability. Because the innovations in the super-fuze appear, to the non-technical eye, to be minor, policymakers outside of the US government (and probably inside the government as well) have completely missed its revolutionary impact on military capabilities and its important implications for global security.

Use of "fuze" is a strangely appropriate development in military thinking from the conventional use of "fuse" in relation to explosive devices. Both are an extension of their relation to "fusion" as in "fusing together". As such this current development can be understood as the extreme antithesis of the creative form of "cognitive fusion" which global governance has been so singularly challenged to enable (as argued above). Rather it marks the extent to which this reflects the alternative pathological interpretation of that ambiguous term, namely the condition in which thoughts and beliefs are confused with reality, ensuring identification with them and loss of ability to see them for what they are as concoctions of the mind. This is consistent with the issue of the post-truth era.

This development has enabled the recent shift in strategic thinking from defensive development of nuclear weapons to renewed preference for [pre-emptive nuclear strike](#) (Ian Traynor, *Pre-emptive nuclear strike a key option, Nato told*, *The Guardian*, 22 January 2008). This assumes that greater destruction of an opponent can be achieved in a far more "timely" manner, undermining the capacity for any viable response by an opponent. Such a strategy can be interpreted otherwise as offering an extremely perverse means of "simplifying" a strategic situation perceived to be overly complex and beyond the capacity of the processes of conventional governance.

Especially intriguing is the sense in which a pre-emptive first strike using EMP weaponry ([nuclear electromagnetic pulse](#)) would disable, "take out" and "bring down", much of the global information system on which civilization is now so dependent (Philip Bump, *Republican warnings about an electro-magnetic pulse (EMP) attack*, *The Washington Post*, 15 January 2016; Tyler Durden, *"Real, Imminent Threat" that next World War will be initiated by first strike EMP weapon*, *ZeroHedge*, 27 July 2016). Aside from the destruction of infrastructure, this merits recognition as an information bomb -- an extreme form of [information warfare](#) as argued by [Paul Virilio](#) (*The Information Bomb*, 2006).

## Star of David as reinforcing dangerous cognitive reductionism?

The 6-fold Star of David can be usefully recognized as a rich complexification of depictions of the 3-fold Christian Trinity. Both can be compared and contrasted with the 5-fold favoured by Islam and the USA (especially the Pentagon).

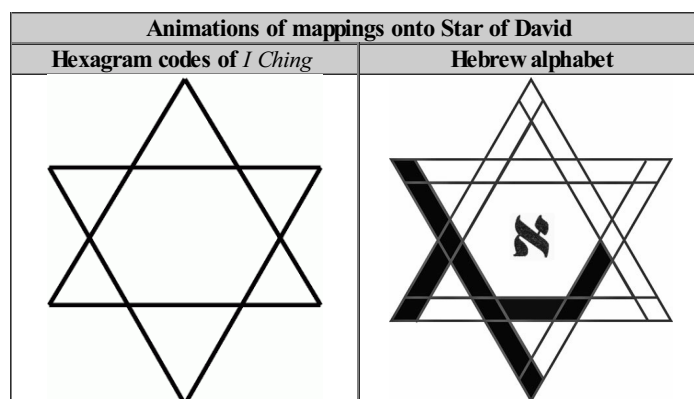
These are **all currently presented in two dimensions**, despite their fundamental cognitive implications and the libraries of commentary on their significance. All could therefore be considered dangerous in the cognitive oversimplification they reinforce in the face of global challenges. A potential exception is the [symbol of NATO](#) itself (as depicted above) in which there is a degree of implication of three-dimensionality (through the embossing effect of its design) despite its necessary representation in two dimensions.

As currently depicted, it is of course the case that the geometric pattern of the Star of David is "imbued" with deep significance. How this is articulated cognitively as a comprehensible pattern is necessarily a matter of interpretation and dispute between various schools of thought (as discussed further below). The geometry of the pattern presumably relates to cognitive issues highlighted by [George Lakoff](#) and [Rafael Nuñez](#) (*Where Mathematics Comes From: how the embodied mind brings mathematics into being*, 2001).

There is clearly an unexplored possibility that any reconciliation between the cognitive "frameworks", which the 3-fold, 5-fold and 6-fold patterns represent, might only be achievable in three dimensions (at least), as speculatively argued separately (*Middle East Peace Potential through Dynamics in Spherical Geometry: engendering connectivity from incommensurable 5-fold and 6-fold conceptual frameworks*, 2012).

One preliminary "neutral" approach to the implications of the Star of David is through recognition of its function as a complex coding system -- of more generic significance than its value for Judaism. This can be illustrated by using it as a mapping device for the transformations encoded by the *I Ching* valued by Taoism (*The Sustainability through Magically Dancing Patterns 8x8, 9x9, 19x19 -- I Ching, Tao Te Ching / Tai Hsüan Ching, Wéiqi (Go)*, 2008). This is presented as an animation below. The complete set is presented in a single image separately This array (*Mapping of I Ching hexagram coding onto Star of David*, 2008)

Of potential interest in the tentative articulation below is the convention regarding allocation of trigram lines to triangle positions and whether alternative allocations are anyway of significance in their own right. With respect to the Judaic tradition, also of interest is the manner in which the 22 letters of the Hebrew alphabet can be mapped onto the Star of David, as variously noted and depicted on the web (*Hebrew Alphabet in Star of David*, *Chabad in Mineola*; *Mysteries in the Star of David*, *Awesome Store*).



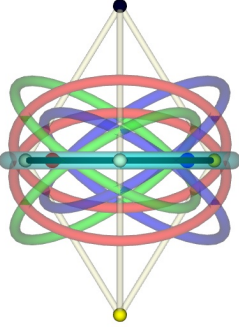
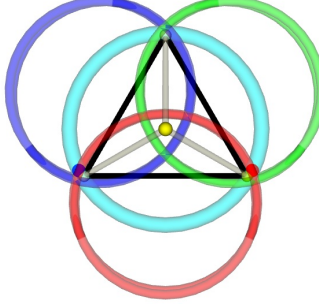
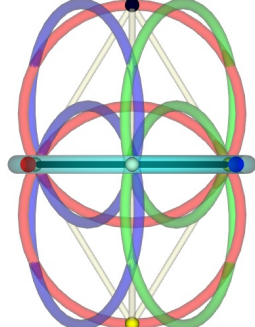
The above animations of encodings are indicative of how greater degrees of significance can be "imbued" into conventional 2D symbols with the aid of dynamics. A number of images on the web represent the Star of David as interlocking triangles with a degree of implication of three-dimensionality (reminiscent of the Borromean ring structure above). Very occasionally designs go further for aesthetic purposes (as on a T-shirt, for example).

Such indications, and other possibilities, frame the question: **how is complexity to be presented succinctly in order to enable widespread comprehension in the current global circumstances?** If the letters of a conventional language can be presented in this way, **what might be the communicable significance of mappings onto a three-dimensional configuration** -- as is suggested by helical coiling of DNA using **codon triplets** variously composed of 4 "letters"? The 64 hexagrams of the *I Ching* can, for example, be uniquely mapped onto a drilled truncated toroid (*Proof of concept: use of drilled truncated cube as a mapping framework for 64 elements*, 2015). In that "language" the significance of each hexagram can transform into 6 other hexagrams, suggesting an extensive pattern of psychosocial relevance (*Transformation Metaphors -- derived experimentally from the Chinese Book of Changes (I Ching) for sustainable dialogue, vision, conferencing, policy, network, community and lifestyle*, 1997).

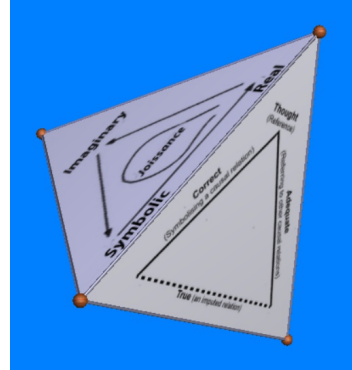
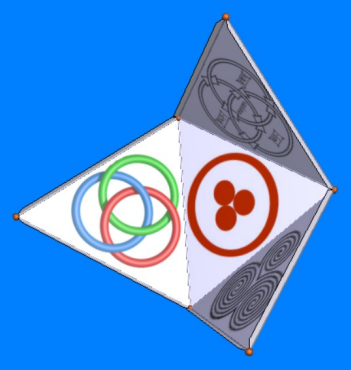
## Richer pattern of significance through complexification of the Star of David?

**Single triangle:** The previous exercise focused on a complexification of the singular triangle of any trinity through use of the triangular dipyrmaid (*Visualization in 3D of a Trinity of Connotations as a Cognitive Pill*, 2017). This featured the following.

The complexity carried (**internally**) in the model above by the twisting Möbius strips can then be carried (**externally**) by associating 2 regular circles with each side of the triangle as shown in the various images of the model below (reminiscent of those based on the Borromean rings below). Each pair of circles rotates around one bar of the triangle. Each circle in a pair rotates in an opposite direction around that bar. The triangular dipyrmaid is variously evident in the screen shots.

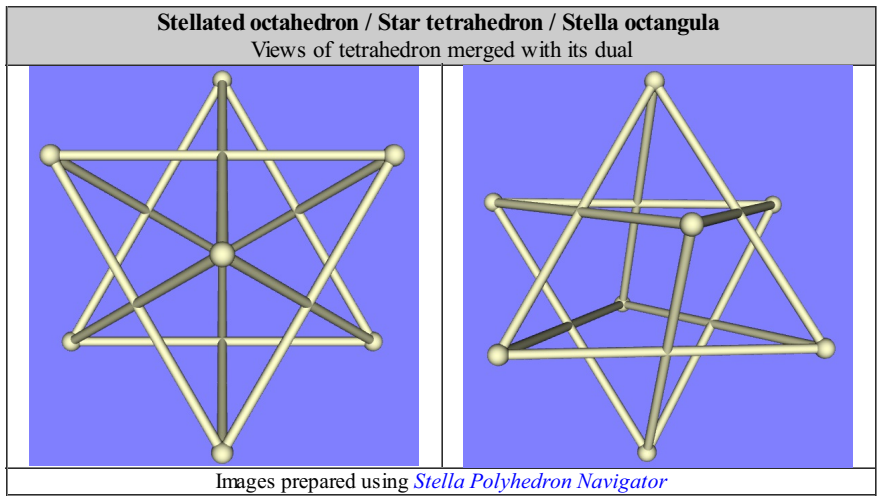
Screen shots of alternative views of 3x2 circles rotating to form a triangular dipyrmaid		
dipyrmaid ("side") view	triangular ("top") view	dipyrmaid ("side") view
		
<p>Interactive variants: <a href="#">X3D</a> and <a href="#">WRL</a>. Videos: <a href="#">triangular view</a> or <a href="#">side view</a>            Given imperfections in the design, it is appropriate to note that various technical improvements could be made to the model.            Model prepared with the aid of <a href="#">X3D.Edit</a> and <a href="#">Stella Polyhedron Navigator</a></p>		

**4-triangle tetrahedron:** Rather than the triangular dipyrmaid with one implicit triangle as shown above, use can be made of the tetrahedron to hold 4 disparate triangles as demonstrated earlier by two contrasting examples. One of these is based on 4 cognitive patterns variously favoured in academia; another is based on 4 contrasting patterns variously favoured as symbols. The animations below include phases in which the tetrahedra unfold and refold. These are usefully indicative of the lack of integration between the insights offered by the triangles -- whether separately or configured together.

3D Configuration on tetrahedron of triadic articulations (screen shots of unfolding-refolding animations)	
4 "Cognitive" triangles (GIF animation)	4 "Symbolic" triangles (GIF animation)
	
<p>Images prepared using <a href="#">Stella Polyhedron Navigator</a></p>	

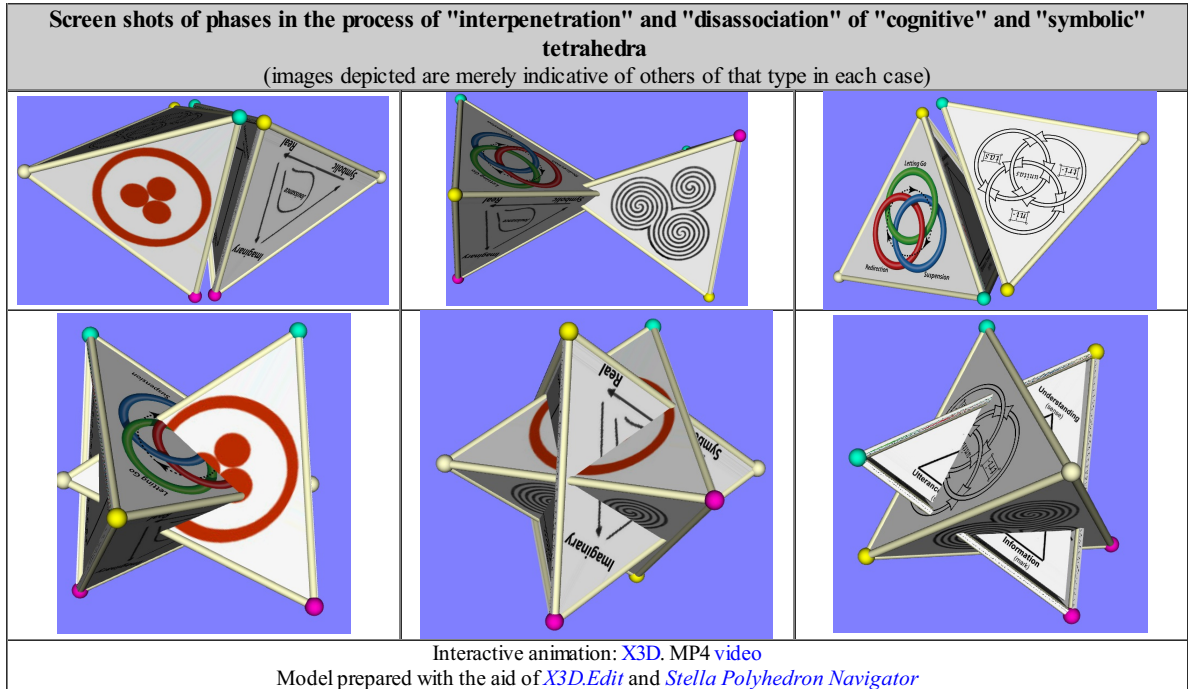
It is intriguing in each case that implications of each triangle exclude considerations of the others. Whilst each triangle implies a relatively elusive central insight, any tetrahedral configuration implies an even more elusive insight -- effectively a secular surrogate for deity.

**Tetrahedron combined with its dual:** An even higher degree of elusive subtlety is implied by combining the two tetrahedra. Arguably the Star of David is a two-dimensional indicator of that subtlety -- even of the mysterious nature of the **tetragrammaton**. Combining the tetrahedron with its **dual** forms the **stellated octahedron** is the only **stellation** of the **octahedron**. It is also called the **stella octangula** (Latin for "eight-pointed star"). It has 8 triangular faces, 12 edges, and 8 vertices.



This form suggests the possibility of merging the "cognitive" and "symbolic" tetrahedra (depicted above) -- each juxtaposing four otherwise disparate conceptual triangles. Given the cognitive challenge of comprehending what each triangle frames, or their configuration as a tetrahedron, the challenge is all the greater when two such tetrahedra are merged. What might be the nature of the "cognitive fusion" they imply?

**Dynamics of combination:** Of potential interest is then how the combination of the two tetrahedra is to be understood. Issues include the implications of their **"inversion"**, whether this implies a contrast between truth and lie, as is the preoccupation with "fake news" and "spin". The focus of each tetrahedron is a shadow for the other. Given the sense of spin, the process of conjoining them can be understood as involving a degree of **"rotation"** -- of one with respect to the other. Especially significant is the potential cognitive implication of the process of their **"interpenetration"** -- with the further implication of the degree of cognitive mirroring that one offers for the other, possibly to be understood in terms of **enantiomorphism**.


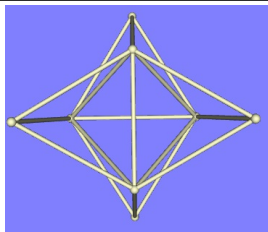
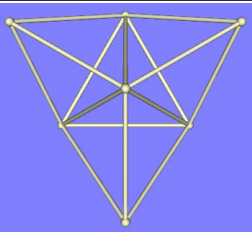
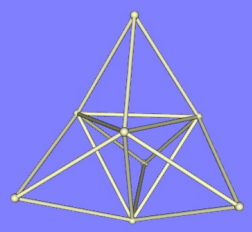


The illustrative animation from which the screen shots above were derived has each tetrahedron twisting at different rates in relation to the other. This evokes reflection on the challenge of achieving any fruitful integration between the triadic cognitive frameworks composing one tetrahedron (themselves disparate and relatively incommensurable) and the triadic symbolic frameworks of the other (equally disparate and relatively incommensurable). The animation could be adjusted to evoke other insights, notably by changing the relative rates of twisting, movement to conjunction, and the duration of that conjunction as a star tetrahedron (symbolic of the Merkebah). More complex effects could be achieved by allowing each triangular face to move from a distant location -- emblematic of their disparate nature for adherents -- to form a tetrahedron (prior to the phases indicated above, or subsequent to them).

**Reframing NATO and The Pentagon?** At the time of writing, with new strategic directions of NATO as a principal theme of the presence of Donald Trump at a NATO Summit (as noted above), the approach with respect to the Star of David may also be explored

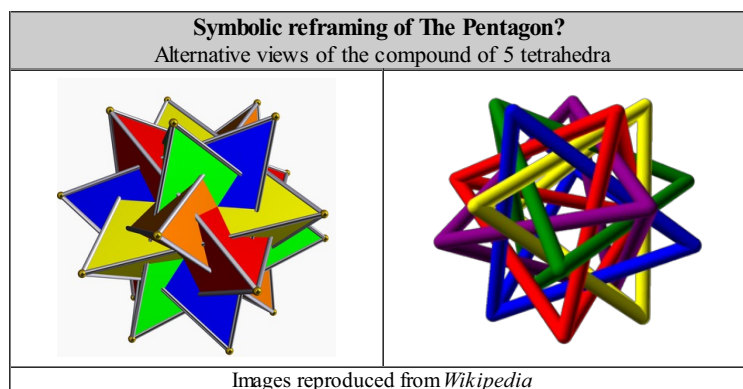
with respect to the symbol with which NATO is identified. This can be illustrated by the images below.

The question is whether a representation of the NATO logo in three dimensions enables recognition of a "missing dimension" -- whatever this might imply in strategic terms. Just as the 2D depiction may be assumed to reinforce certain cognitive processes, would the reinforcement of a more complex set of processes be reinforced -- of greater relevance to global governance?

Juxtaposition of NATO 2D symbol with views of augmented tetrahedron in 3D			
NATO symbol		Screen shots of 3D augmented tetrahedron ( variously rotated)	
in 2D	in 3D?		
			
Images prepared using <i>Stella Polyhedron Navigator</i>			

Given the fundamental strategic importance of [The Pentagon](#) (as headquarters of the US Department of Defense) with respect to global security -- understood in terms of [full-spectrum dominance](#)-- there is a case for extending the above exploration in terms of the 5-fold symmetry of that body as a symbol. The augmented tetrahedron, indicated above as a means of depicting NATO otherwise, is composed of 5 tetrahedra, one of which is central to the configuration.

This suggests the possibility combining 5 such tetrahedra otherwise in what is known as a [tetrahedron 5-compound](#) (with 20 faces, 30 edges and 20 vertices). The vertices of the compound then form the 20 vertices of the [dodecahedron](#). It is one [stellation](#) of the regular [icosahedron](#). The compound is unusual in that the dual figure is the [enantiomorph](#) of the original. If the faces are twisted to the right, then the vertices are twisted to the left. The compound has been extensively studied by geometers, notably as a geometric illustration of the notion of [orbits and stabilizers](#) ; it is one of five regular polyhedral compounds. Two such [tetrahedron 5-compounds](#) of opposite [chirality](#) combine to make a [tetrahedron 10-compound](#) (with 40 faces, 60 edges, and 20 vertices).



Such structures in 3D (with geometry reflective of the number of members of NATO, for example) are an indication that the conventional simplicity of the Pentagon as a symbol may be inherently misleading.

## Controversies inherent in the cognitive significance of the Merkabah?

The [Merkabah](#) (or Merkava) is a symbol which has long featured in discussion of mysticism. Traditionally people have been enjoined not to discuss or speculate about what it may represent.

For the purpose of this argument, further discussion might usefully be framed by the final work of [Gregory Bateson](#) with [Mary Catherine Bateson](#) (*Angels Fear: towards an epistemology of the sacred*, 1987). The title appropriately derives from a line in [Alexander Pope's](#) *An Essay on Criticism* (1711): *For fools rush in where angels fear to tread*. The phrase has been variously used, notably in the novel by [E. M. Forster](#) (*Where Angels Fear to Tread*, 1905) -- most recently reviewed by [Sam Alexander](#) (*Where Angels Fear to Tread, The Modernism Lab at Yale University*).

**Merkabah tradition and mysticism:** There is a very extensive literature on [Merkabah mysticism](#) (also known as Chariot mysticism), dating from an early period in the Judaic tradition. It is centered on visions such as those found in the *Book of Ezekiel* (chapter 1), or in the *hekhalot* ("palaces") literature, concerning stories of ascents to the heavenly palaces and the [Throne of God](#). The term *merkabah* derives from a sense of things to drive in, notably a cart -- hence the sense of the throne-chariot of God, and clearly a focus for speculation. The Torah references the Merkaba with that double meaning. The Merkaba is mentioned in the Book of Enoch. Kabbalists argue that Merkabah is the earliest form of Kabbalah.

The chariot of light has been described as a four-wheeled vehicle driven by four *hayyot* ("living creatures"), each of which has four wings. and the four faces of a man, lion, ox, and eagle (or vulture). As indicated above, there are numerous [Talmudic](#) interdictions concerning merkabah speculation which are widely respected.

Featuring as it does in the Old Testament portion of the Bible, recognized as sacred scripture by all the Abrahamic religions, the vision of Ezekiel is variously significant to Christianity and to Islam (seemingly to a far lesser degree). The four faces (man, lion, ox, and eagle) are used as symbols for the four evangelists of Christianity and appear frequently in church decorations, notably in relation to the [Tetramorph](#).

Of potential relevance to any such speculation are references by [George Gurdjieff](#) with respect to an alleged [Sarmoung Brotherhood](#) of Sufi inspiration -- ironically associated with what is now known as Mosul, and previously with the Armenian city of [Ani](#) ([Secret underground tunnels of ancient Mesopotamian cult under Ani ruins](#), *Ancient Origins*, 27 August 2014). The brotherhood was apparently mentioned in an Armenian book entitled *Merkhavat* (according to the [Gurdjieff Internet Guide](#)):

What struck us most was the word Sarmoung, which we had come across several times in the book called *Merkhavat*. This word is the name of a famous esoteric school which, according to tradition, was founded in Babylon as far back as 2500 b.c., and which was known to have existed somewhere in Mesopotamia up to the sixth or seventh century a.d. ([Meetings with Remarkable Men](#), 1985, p. 90)

The failure of the Abrahamic religions to get their collective act together fruitfully, is only too evident with respect to any more fruitful response to the crisis of the times. Their failure even to endeavour to do so -- whilst exacerbating the conflicts of their believers -- may well be construed by the future as a veritable crime against humanity. In quest of a more fruitful reconciliation of their divergent world views, there is therefore a case for recognizing the mysticism centered on the Merkabah configuration as indicative of a potential keystone through which this might be achieved -- or framed otherwise.

**Academic commentary:** A distinction can be usefully made between the speculations of those mystically inspired by the visions (and associated symbols) in contrast with conventional academic commentary on that tradition.

Again there is an extensive literature of that type, of which one accessible collection is that of Academia.edu ([Papers on Merkavah Mysticism](#)). Examples include Don Karr ([Notes on the Study of Merkavah Mysticism and Hekhalot Literature in English with an appendix on Jewish Magic](#), 1985). More recently they include L.A. Hilden ([Merkaba](#), 2016), Gary Zabel ([Merkavah Mysticism](#)) and Andrei A. Orlov ([A Farewell to the Merkavah Tradition](#), Marquette University, 2015) who notes:

Finally, in light of our previous investigation, we should note that such expressions as "Merkavah Tradition" or "Merkavah Mysticism" can themselves be methodologically confusing and even, perhaps, methodologically misleading. Surrounded by the peculiar markers of the Kavod paradigm, the term Merkavah, inadvertently causes us to anticipate an encounter with an ocularcentric conceptual mold of the mystical speculation, while distracting our attention from its aural counterpart that is so crucial and widespread in the aforementioned mystical texts and traditions.

**New Age inspiration and enthusiasm:** In predictable defiance of the traditional Judaic precautions, there are numerous web references to the Merkabah and its associated imagery, notably as a stellated octahedron variously depicted with a variety of striking visual and sound effects. These are consistent with related interest in [sacred geometry](#) in general and with meditation conducive to self-development.

Given the reference above to the mathematical work of Ron Atkin ([Multidimensional Man; can man live in 3-dimensional space?](#) 1981), of relevance to that insight is one example of a New Age perspective by a blogger, adapted from a lecture to an astrological society ([How to Live Multi-Dimensionally Through Sacred Geometry](#), 2012):

There is a 6th mystical shape, also found within Metatron's cube. This is the star tetrahedron, made up of 2 tetrahedrons. This powerful shape is also called a Merkaba. It is basically a 3 dimensional Star of David. It contains within it the geometry of the cube, the octahedron and the tetrahedron.

Further examples of "sacred geometry in motion" are presented as [animations of a rotating star tetrahedra](#), inspired by descriptions of the Merkabah, as the "energy field which surrounds all life", from Drunvalo Melchizedek ([Mer-Ka-Ba: a vehicle of ascension; Merkaba: The Chariot Of The Soul](#)).

Characteristically, the preferred imagery presents the Merkaba as essentially transparent and light filled -- neglecting the cognitive challenge of [integrating the shadow](#) -- so evident otherwise in the diurnal solar cycles of the globe (Jeremiah Abrams and Connie Zweig, [Meeting the Shadow: the hidden power of the dark side of human nature](#), 1991; Robert A. Johnson, [Owning Your Own Shadow: understanding the dark side of the psyche](#), 1993). What "shadow" is cast in perception of the Merkaba?

Any such exploration is rendered more complex by the intriguing role of claims to ownership of emergent insights -- tragically evident in the remarkable work of the exclusive intellectual property claims of a person working creatively in this domain, whom it is appropriately best to leave unnamed.

**Cognitive potential of "mathematical theology":** The approach here to the Merkabah can be understood as contrasting with those described above. The argument here does not aspire to being a commentary on the insight associated with mystical experience. Rather the argument focuses on the geometry of the Merkabah framework as indicative of requisite dimensionality and symmetry by which complex new insights of ever greater subtlety can be interrelated -- and presented succinctly.

This suggests the need for a methodology through which ever more subtle insights can be engendered and communicated -- much as has been the tradition of mathematics. It is in this sense that a case can be made for mathematical theology, as separately argued

(*Mathematical Theology: Future Science of Confidence in Belief*, 2011). This suggests the possibility of a self-reflexive global reframing to enable faith-based governance -- through new modes of "re-cognizing" the nature of faith and belief in their relation to "confidence".

The various framings of mystical experience and its enabling symbolism (together with the role of the myths which these engender) merit every respect, as notably documented by [Joseph Campbell](#) (*Myths to Live By*, 1972; *The Inner Reaches of Outer Space: metaphor as myth and as religion*, 1986) and [Karen Armstrong](#) (*A Short History of Myth*, 2005).

Irrespective of the extent to which such [mythopoeic experience](#) and its symbolism may be deprecated by some, it is necessary to recognize how much it is valued by many. There is clearly a cognitive mystery to be explored with respect to significance evoked by the complex geometry of the Merkabah of Judaism and the cubic form of the [Kaaba](#) of Islam -- potentially implied by their degree of phonetic relationship.

## Cognitive implication in Merkabah as configuration of cycles essential to systemic viability

**Need for new mapping "projections"**: Central to the above argument is the need at this time of shifting from the depiction of core values symbols in 2D to 3D -- if not more. This shift is now enabled by web technology and the rapid widespread deployment of the technologies of virtual reality and augmented reality. It is now questionable whether 2D depictions of values communicate comprehensibly the complexities of the global conditions implied by the 2D symbols -- as with iconic flags and "star spangled banners" (*In Quest of a Strategic Pattern Language: a new architecture of values*, 2008).

The design challenge can be usefully compared to that of discovering new modalities to communicate the complexity of a three-dimensional globe -- despite the many efforts to do so through [map projections](#) into two-dimensional form (see [List of map projections](#)). These have not been fully successful in counteracting a form of "flat earth" mentality -- and may well have reinforced it (*Irresponsible Dependence on a Flat Earth Mentality -- in response to global governance challenges*, 2008).

Missing from any considerations of appropriate geometry are however the cognitive paradoxes potentially associated with comprehension of complexity -- as remarkably indicated by fundamental physics. Any mysteries held to be associated with the four-fold tetragrammaton are usefully suggested by the challenge of the quadrilemma in contrast to conventional strategic dilemmas. These contrast with the [tetralemma](#) (or quadrilemma) which feature in the argument of [Kinhide Mushakoji](#) (*Global Issues and Interparadigmatic Dialogue*, 1988). Common to Eastern religious traditions, this contrasts affirmation, negation, both-affirmation-and-negation, and neither-affirmation-nor-negation.

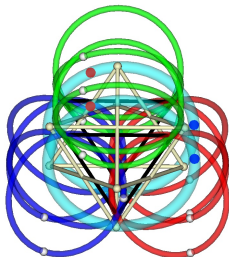
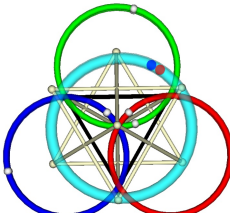
As a tetrahedral configuration this helpfully frames the contrasting strategic assessments: all is well ("hope-mongering"), all is not-well ("doom-mongering"), conditions are both-well-and not-well ("realism"?), conditions are neither-well-nor-not-well ("post-truth"?). Conventional strategic logic would appear to be inadequate to such complexity (*Towards articulation of a "post-truth table"?*, 2016).

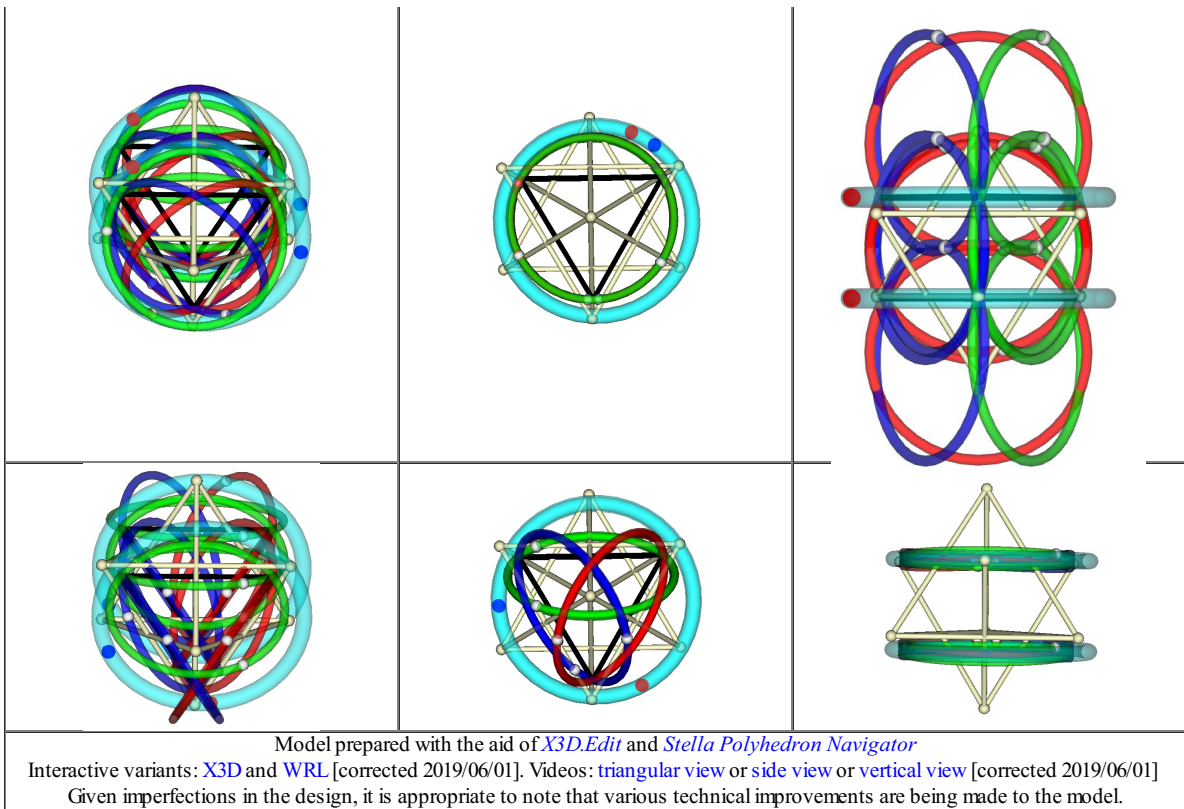
**From lines to cycles**: Of particular concern is the capacity of any depiction to convey the complex pattern of [feedback loops](#) and cycles on which viable global governance depends -- in the light of any cybernetic insight. What is the structure on which a far greater degree of complexity can be "hung" comprehensibly -- or into which a higher degree of complexity can be "packed"?

Valued as a symbol in its own right, the polyhedral Merkabah offers a means of exploring conceptual frameworks of greater complexity. The following images, especially through interaction with the form in 3D, are an indication of design possibilities. At the core of the design is the star tetrahedron -- a tetrahedron merged with its dual. As suggested above, the approach taken is to treat the "lines" constituting the edges of this structure as each implying a "circle" -- variously to be understood in cognitive terms as a feedback loop or metabolic pathway.

The circles in the structure rotate "around" the lines -- with all that that may imply cognitively. In effect it is the rotation of the circles which defines the position and orientation of the lines. **The dynamic can then be understood as defining the static** -- rather than the static being understood as implying the dynamic, as can be argued otherwise (*Dynamic Transformation of Static Reporting of Global Processes*, 2013). It is in this sense that both the Sar of David and the Merkabah are defined dynamically allowing new levels of significance to be "imbued" within them.

The understanding of circles as pathways is reinforced by allowing spheres to move within them at different rates -- reinforcing the sense in which any such circle is better understood as a torus. Clearly the model as constructed implies particular design choices. However the [X3D technology](#) readily allows other design choices to be made in terms of: colour, relative scaling, torus diameters, rates and phasing of rotation ("busy-ness"), number of "lines" interpreted as "circles", etc. These changes to the X3D models can be made with a simple text editor.

Phases and rotated views of a Merkabah framed and enhanced by rotating toroidal cycles		
"off-centered"	"centered"	"vertical"
		

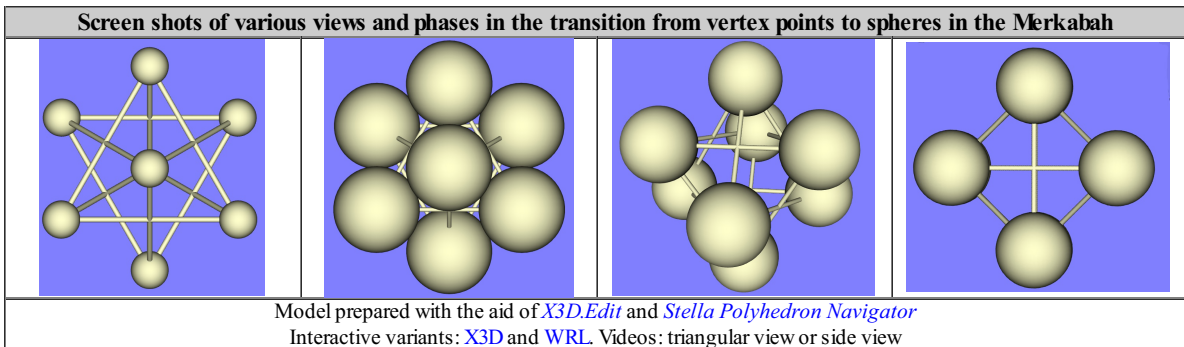


The cognitive significance of the dynamics of the structure could also be fruitfully explored in terms of the [alternation and rotation in psychosocial fields](#) in the light of the discoveries of [Nikola Tesla](#) with respect to the rotation of electromagnetic fields (*Reimagining Tesla's Creativity through Technomimicry: psychosocial empowerment by imagining charged conditions otherwise*, 2014). With the Merkaba considered as a vehicle, this metaphor can be used to explore the possibility of some form of "psychopter" and previously discussed (*Engendering a Psychopter through Biomimicry and Technomimicry: insights from the process of helicopter development*, 2011). This was foreseen by [Arthur Young](#) (*Geometry of Meaning*, 1976).

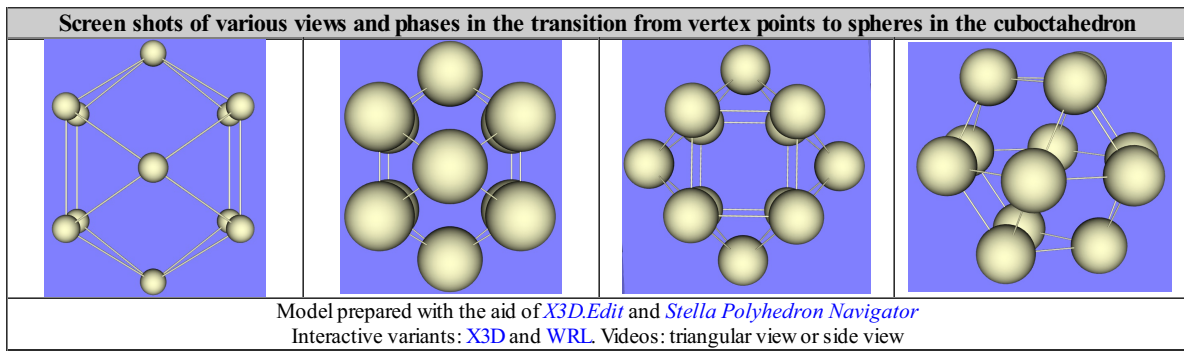
**From points to spheres:** The argument above highlighted the implications of transforming the lines of the Merkaba into circles (or toroids) as illustrated in the animation above. However the argument also implied the possibility of transforming points into spheres -- and the cognitive significance of that transformation. The argument is emphasized by [Keith Critchlow](#) (*Order in Space*, 1969):

A command of the functions possible in space becomes progressively more necessary in a shrinking planet, which points to the real problems: between man and man, man and his universe and man's continued existence. They are matters of the assessment of essentials. One of these is that human existence is never *less* than multidimensional. In a unified world spherical thinking is a prime requisite for both accuracy and understanding. In the macrocosm, "nations" are no longer "flat" but an integral part of a curved surface dependent for their existence on identical curves meeting at the boundaries. In the microcosm each of us begins life as a sphere...Yet we are taught so soon to project our minds on to the "flat" and projecting up into the solid. (p. 3)

Point-making in any argument is then indicative of the "world-making" which may be implied in psychosocial terms ([Nelson Goodman](#), *Ways of Worldmaking*, 1978; [Nathalie Karagiannis and Peter Wagner](#), *Varieties of World-making: beyond globalization*, 2007). This process is illustrated through screen shots of another animation -- indicative of the emergence of a configuration of world views.



The argument also contrasted the complexity of the Merkaba (as a star tetrahedron) with the sphere packing configured by a cuboctahedron (around a truncated tetrahedron). This process was extensively documented by [R. Buckminster Fuller](#) (*Synergetics: Explorations in the Geometry of Thinking*, 1975), as previously discussed (*Geometry of Thinking for Sustainable Global Governance: cognitive implication of synergetics*, 2009). An analogous animation of the transition from points to spheres is therefore also illustrated below.



Possibilities relating to the dynamics of the above animation have been explored more extensively with more complex animations (*Psychosocial Implication in Polyhedral Animations in 3D: patterns of change suggested by nesting, packing, and transforming symmetrical polyhedra*, 2015)

**"Polyhedral" and/or "Polydynamic" ?** The animations based on the Merkabah (star tetrahedron) and those based on the cuboctahedron (centered on the truncated tetrahedron) are clearly related through other geometric transformations. They highlight the challenge between 8-fold and 12-fold approaches to the cognitive organization of global governance as may be variously argued in the light of different traditions.

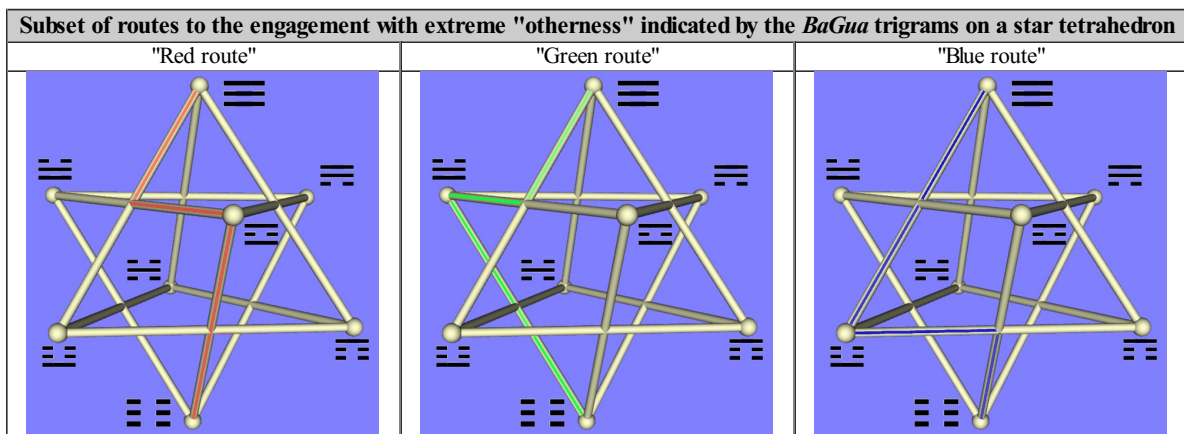
The 8-fold has been more extensively explored in the Chinese culture. The 12-fold is much favoured in Western cultures, as separately discussed (*Eliciting a 12-fold Pattern of Generic Operational Insights: recognition of memory constraints on collective strategic comprehension*, 2011; *12-fold Modalities for "heavy duty" global governance?* 2008; *Checklist of 12-fold Principles, Plans, Symbols and Concepts: web resources*, 2011).

As suggested by the animations, and by the geometric transformations by which they may be related, the preoccupation with structure in a static sense may be especially misleading at this time with respect to cognitive organization and its implications for global governance. However, whereas there is a vast literature on "polyhedral" structures, there is almost no trace of "polydynamic" patterns, however these are to be understood. Traces of such recognition are evident in references with respect to fluid mechanics and music. **There is an extremely unfortunate sense in which the frequent appeals for "solidarity" result in the cognitive "solidification" of feedback cycles vital to the dynamics of psychosocial systems.** This could be recognized as analogous to the pathology of *arteriosclerosis*, namely the thickening, hardening and loss of elasticity of the walls of psychosocial arteries. Can the quest for "agreement" and global initiatives be (mis)interpreted in such terms?

The importance of "fluidity", aside from its appreciation in the world of finance as "liquidity", has been extensively explored by [Douglas Hofstadter](#) (*Fluid Concepts and Creative Analogies: computer models of the fundamental mechanisms of thought*, 1995) as an extension of his seminal work on music and self-reference (*Gödel, Escher, Bach: an Eternal Golden Braid*, 1979). With respect to insightful visualization of dynamics, as highlighted in the animations of the Merkabah above, of particular relevance is the work of the Visual Math Institute, founded by [Ralph Abraham](#) (*Dynamics: the geometry of behavior*, 1992; *Dynamical Systems in 2-Dimensions*, 1996).

**Paradoxes, contradictions, incommensurables and surprises -- "Knight's move" in 3D?** The current global implications of surprises for governance have been remarkably articulated by [Nassim Nicholas Taleb](#) (*The Black Swan: the impact of the highly improbable*, 2007). Much is made of the [contradictions](#) and [double standards](#) evident within the global system in terms of the strategies advocated -- and the [controversies](#) and disagreements these sustain. The latter clarified have been by a 7-level [hierarchy of disagreement](#) articulated by [Paul Graham](#). More fundamentally there is the challenge of [paradoxes](#) inherent in the human mode of comprehension (see *List of paradoxes*). Their implications have been most recently highlighted by [Marcus du Sautoy](#) (*What We Cannot Know: explorations at the edge of knowledge*, 2016).

In terms of cognitive mapping, the structure of the Merkabah offers an interesting approach to such matters when the 8 vertices of the star tetrahedron are associated with the pattern of 8 trigrams of the Chinese *BaGua* system. The trigrams could be usefully understood as indicative of "incommensurables", whether as contradictions or implying a surprising degree of paradox in their relationship. As incommensurables, they could also be understood as a strange configuration of fundamentally "incompatible" values -- however non-negotiable -- framing an even more elusive insight (*Human Values as Strange Attractors*, 1993).





- Dynamics: the geometry of behavior. Basic Books, 1992
- Dynamical Systems in 2-Dimensions. Springer, 1996

Jeremiah Abrams and Connie Zweig. Meeting the Shadow: the hidden power of the dark side of human nature. Tarcher, 1991

Ron Atkin. Multidimensional Man; can man live in 3-dimensional space? Penguin, 1981

Gregory Bateson and Mary Catherine Bateson. Angels Fear: towards an epistemology of the sacred. Hampton Press, 2004 [summary]

David Bohm. Wholeness and the Implicate Order. Routledge, 1980 [summary]

R. S. Boustan. From Martyr to Mystic: Rabbinic Martyrology and the Making of Merkavah Mysticism. Mohr-Siebeck, 2005

R. Buckminster Fuller. Synergetics: Explorations in the Geometry of Thinking. Macmillan, 1975 [summary]

Joseph Campbell:

- Myths to Live By. Viking Press, 1972 [summary]
- The Inner Reaches of Outer Space: metaphor as myth and as religion. Alfred van der Marck Editions, 1986
- The Power of Myth. Doubleday, 1988 [summary]

Keith Critchlow:

- Order in Space: a design source book. Thames and Hudson, 1969
- Islamic Art and Architecture: system of geometric design. 1999
- The Hidden Geometry of Flowers: living rhythms form and number. 2011

Richard Dawkins. The God Delusion. Bantam Books, 2000 [summary]

Antonio de Nicolas. Meditations through the *Rg Veda*: four-dimensional man. Shambhala, 1978

Marcus du Sautoy. What We Cannot Know: explorations at the edge of knowledge. Fourth Estate, 2016 [summary]

Nelson Goodman. Ways of Worldmaking. Hackett, 1978 [text]

D.J. Halperin:

- The Merkabah in Rabbinic Literature. American Oriental Society, 1980
- The Faces of the Chariot: Early Jewish Responses to Ezekiel's Vision. Mohr/Siebeck, 1988

Edward S. Herman and Noam Chomsky. Manufacturing Consent: the political economy of the mass media. Pantheon Books, 1988 [summary]

Douglas Hofstadter:

- Gödel, Escher, Bach: an Eternal Golden Braid. Basic Books, 1979
- Fluid Concepts and Creative Analogies: computer models of the fundamental mechanisms of thought. Harvester Wheatsheaf, 1995 [summary]

Robert A. Johnson. Owning Your Own Shadow: understanding the dark side of the psyche. Harper San Francisco, 1993

Nathalie Karagiannis and Peter Wagner. Varieties of World-making: beyond globalization. Liverpool University Press, 2007

George Lakoff and Rafael Nuñez. Where Mathematics Comes From: how the embodied mind brings mathematics into being. Basic Books, 2001

Kinhide Mushakoji:

- In search of a theory of cycles; for a transfinite mathematical treatment of recurrence in social and natural processes. In: Kinhide Mushakoji: Global Issues and Interparadigmatic Dialogue. Torino, Albert Meynier, 1988
- Global Issues and Interparadigmatic Dialogue. Torino, Albert Meynier, 1988

Naomi Oreskes and Erik M. Conway. Merchants of Doubt: how a handful of scientists obscured the truth on issues from tobacco smoke to global warming. Bloomsbury Press, 2010 [summary]

Andrei A. Orlov:

- From Apocalypticism to Merkabah Mysticism. Brill, 2006 [contents]
- A Farewell to the Merkabah Tradition. 2015 [text]

Gershon G. Scholem. Jewish Gnosticism, Merkabah Mysticism, and Talmudic Tradition. The Jewish Theological Seminary Press, 2015 [review]

Nassim Nicholas Taleb. The Black Swan: the impact of the highly improbable. Random House, 2007

Dmitri Tymoczko:

- A Geometry of Music. Oxford University Press, 2011
- Geometrical Music Theory. *Science*, 18 April 2008, 320, 5874, pp. 328 - 32
- The Geometry of Musical Chord. *Science*, 313. 5783, 7 July 2007, pp. 72-74 [text]

Paul Virilio:

- The Information Bomb. Verso, 2006
- The Administration of Fear. Semiotext(e), 2012

Tim Wu:

- The Attention Merchants. Atlantic Books, 2016
- The Attention Merchants: the epic scramble to get inside our heads. Knopf, 2016 [[summary](#)]

Arthur M. Young. Geometry of Meaning. Delacorte Press, 1976

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