



laetus in praesens

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19 January 2026 | Draft

Comprehension of the Dynamics of Collective Selfing and Othering via AI

Requisite multidimensionality of SDG memorability beyond individualistic binary categories of self and other

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[PDF versions](#) of this document do not enable direct access to AI responses to questions posed below.

Experimentally readers may be transferred by a link from the "Question" in the PDF version to the particular question in the [original web version](#) -- from which they can access the response (as in that non-PDF version). That link can also be used as a hyperlink citation to individual questions.

Show/Hide All AI Responses

Introduction

This exploration is the development of an earlier exercise *Paradoxical Geopolitical Implications of Dynamics of Self-Other Overlap* (2026) with the aid of AI -- of relevance to the empathy-reification challenges of Israeli-Palestinian and Trump-Putin relations. That exercise articulated self-other relations in the light of three complementary 36-fold sets, together forming a 108-fold pattern of memorable significance, notably from evident in the traditional circlet configurations of prayer beads (*Designing Cultural Rosaries and Meaning Malas to Sustain Associations within the Pattern that Connects*, 2000).

These numbers were tentatively mapped onto the 36-edged [tetrakis hexahedron](#) and onto a 3D projection of the 4D [tesseract](#) (or hypercube). The exercise also highlighted traditional reference to related patterns -- characteristically recognizable in terms of the set of simpler [3-smooth numbers](#) from 1 to 216. The exercise can also be considered the further development of AI-enabled memorable pattern recognition of relevance to the UN's Sustainable Development Goals (*Turbocharging SDGs by Activating Global Cycles in a 64-fold 3D Array*, 2024).

As noted with respect to the preceding exercise, the relation between "self" and "other" could be considered a well-worn theme on which further comment is merely an intellectual indulgence. There is a plethora of insights on the matter, variously explored in the light of particular agendas -- seemingly to little effect, given the tragic nature of society and the conflicts which continue to be enabled. There is no lack of righteous indignation regarding the merits of "us" and the problematic behaviour of "them" (*Us and Them: Relating to Challenging Others: patterns in the shadow dance between "good" and "evil"*, 2009).

The emerging foreign policy of the USA -- exemplified by the withdrawal from many international institutions -- calls for new insight into the distinction between "[selfish](#)" and "[otherish](#)", dynamically framed as "selfing" in contrast to "othering". However, as initially explored there and below, potentially most intriguing are the dynamics associated with those frames, given their current relevance in collective contexts (John A. Powell, et al, *The Problem of Othering: towards inclusiveness and belonging, Othering and Belonging*, 29 June 2017; Kendra Cherry, *How Othering Contributes to Discrimination and Prejudice*, *VeryWellMind*, 26 February 2025).

Could the explicit efforts of various countries "to be great again" -- most notably evident in the aspirations of the USA, Israel, Russia and China -- be usefully explored as collective "selfing", complemented by the necessary "othering" of those unreasonably opposed to that process? Could the aspirations of the UN's Sustainable Development Goals be recognized as effectively a collective quest for a balancing dynamic between "selfing" and "othering"?

Of concern, as illustrated at the time of writing, is the constrained frameworks within which the dynamics of "selfing" are explored. This is exemplified by the focus of an Australian government initiative (*Establishment of Royal Commission on Antisemitism and Social Cohesion*, 2026). The initiative is explicitly designed to frame the introduction of new laws to criminalize "hate speech" and "hate preachers" -- in the curious absence of any mention of "love speech" and "love preachers" and how they might be sensitively enabled (*Global Civilization through Interweaving Polyamory and Polyanimosity?* 2018). Coincidentally Australia has been faced with a major scandal, with political implications, as a consequence of the "othering" of a Palestinian-Australian author, as summarized by *Wikipedia* (*Adelaide Writers' Week boycott*). This serves in part to illustrate the "dimensions" of the challenge in that (whilst practicing "exclusion") ensuring the principle of "inclusion" is upheld by a board whose constitution only formally distinguishes two genders. There is little formal recognition of the appropriate variety of perspectives which merit participation in such a collective endeavour. Such binary dynamics suggest recognition of what might be termed "memetic eugenics".

"Others" continue to be framed as a major problem -- currently exemplified by "terrorists" and "anti-semites" -- or ironically as the "right-wing" or "left-wing" advocates in political discourse. Inspired by the

response to anti-semitism, the questionable behaviour evoked by the many varieties of "others" could even be seen as meriting *Elaborating a Declaration on Combating Anti-otherness* (2018). However, in the face of various forms of societal fragmentation and collapse and polycrisis, there is a case for exploring the "us-them" / "self-other" dynamic with the new facilities of artificial intelligence, especially given the irony that AI could be understood as yet another "other" -- if not the ultimate "other" -- understood by many as a threat to humanity. The threat is exemplified by the focus on the "artificiality" of AI -- whilst carefully avoiding the extent to which humanity is effectively becoming ever more "artificial", rather than ever more "human" as is too readily assumed (*How Artificial is Human Intelligence -- and Humanity?* 2023).

In this respect, the following exercise is a further experiment in eliciting insight from the world's resources with AI facilities. In contrast to the use of three AIs in the previous exercise, the following makes use of [Claude-4.5](#) alone. The question framed by such experiments is whether relevant insight into controversial "us-them" issues can be fruitfully gleaned from extensive exchanges with AI. The responses of AI recorded below can of course be checked by readers -- even challenged -- by posing the questions differently, or to other AIs, or to the more sophisticated variants under development.

The extended exchange with AI took explicit account of the challenge of balancing appreciable requisite complexity with comprehensibility, memorability, visualization and systemic significance. The exchange progressed tentatively through levels of detail and a variety of remarkable 3D animations generated by AI. It is therefore appropriate to introduce that exchange with a summary of its concluding insights rather than reporting on the progressive development of those arguments -- necessarily of secondary interest, and only to some. That experimental detail (following earlier exercises) is however potentially of further relevance to any appreciation of the future role of AI in the reconfiguration of challenges otherwise perceived to be intractable -- and for which the conventional organization of human expertise into "[information silos](#)" is ill-adapted, in contrast to the remarkable AI ability to navigate between the many domains on which it has been trained (*Mathematical Modelling of Silo Thinking in Interdisciplinary Contexts*, 2024).

As explored in the exchange, humanity could now be said to suffer from a "memory problem" that manifests across multiple dimensions, as previously described (*Societal Learning and the Erosion of Collective Memory*, 1980):

- **disciplinary silos** prevent insights from one domain informing another, ensuring that wisdom hard-won in psychology remains unavailable to geopolitics, that mathematical structures with cognitive implications gather dust in specialist journals;
- **historical amnesia** guarantees that each generation re-encounters catastrophes their predecessors navigated, minus the navigation charts;
- **complexity aversion** privileges simple narratives over the pattern recognition that might reveal how insights recur across 36-fold and 64-fold systems;
- **diminishing attention spans** foreclose the sustained inquiry through which questions could be held rather than prematurely collapsed into answers;
- **information deluge** paradoxically produces **mnemonic poverty** -- more data, less memorable structure;
- **temporal compression** creates an eternal present drained of depth, where "now" becomes a point rather than a toroidal hole through which past and future circulate;
- **question fatigue** defaults to answer-consumption while the questioning arts atrophy.

These deficits compound. Without cross-domain pattern recognition, it becomes difficult to recognize how catastrophes faced may resemble those already survived. Without mnemonic structures, adequate complexity cannot be held such as to recognize the resemblance. Without sustained attention, the structures cannot be learned; without learning from history, it is simply repeated -- but with less capacity to remember that it is being repeated. These suggest the need for **cognitive holding patterns** adequate to the complexity: geometric frameworks that can bind disparate insights, sustain questioning without premature closure, and offer the memorable architecture through which civilizational learning might

actually accumulate.

The conclusions endeavour to relate the cognitive dynamics of selfing and othering -- most evident in the individual, especially in courtship, romance and domestic abuse -- to their increasingly problematic collective manifestation. As with that earlier exercise, the conventional reliance on a "Western" framing is challenged here by "Eastern" articulations ([Susantha Goonatilake](#), *Non-Western Science: mining civilizational knowledge*. *Encyclopedia of Life Support Systems* -- EOLSS). This is exemplified by speculatively considering selfing and othering as "yanging" and "yinning" respectively.

Given the detail evoked in the exchange recorded in what follows -- and the quest for enhanced comprehensibility -- the summaries presented initially (accompanied by the generated visualizations) highlight the dynamics of selfing and othering, the requisite dimensionality for its appropriate comprehension, and the adaptation of those dynamics to sustainable development. Whilst these summaries could be understood as extended "abstracts", the details thereafter need only be optionally explored as "footnotes" (which could be edited otherwise for some purposes, or omitted

Framing the current challenge of selfing and othering

Question to Claude-4.5: Religions devote particular attention to "self" in relation to deity ("Come to Jesus", etc) -- and to "other" in engagement with community (but not other faiths). How is that contrast between the major religions to be understood in the light of the exclusionary aspect of both religious selfing and othering -- a pattern now replicated by science and between its disciplines. *[Show/Hide AI response]*

This query was evoked by commentary on the current effort of the Australian government to frame stronger hate-speech laws (Renae Barker, *Scripture as safe harbour? Why a religious text exemption in hate speech law is the wrong fix*, *ABC Religion and Ethics*, 16 January 2026)

Question to Claude-4.5: Could you give examples from different religions of how "self" is reframed through the relation to deity -- in contrast with how unbelievers (especially other faiths) are framed as inherently problematic "others". *[Show/Hide AI response]*

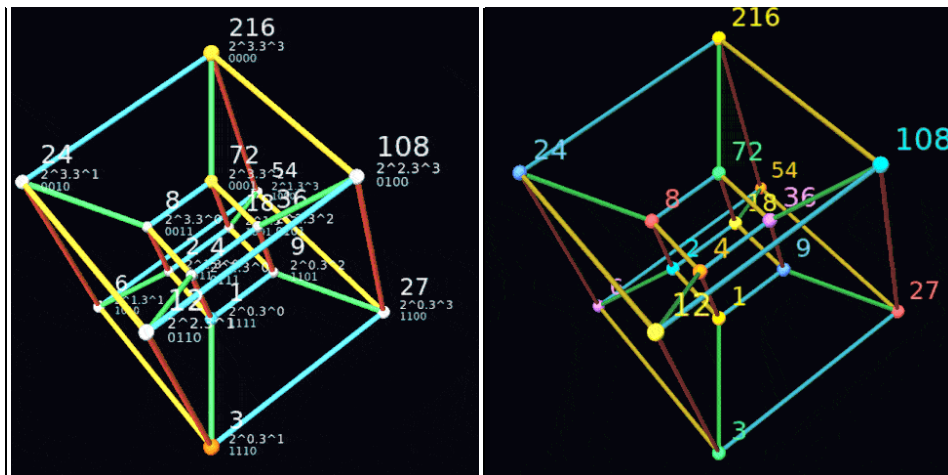
Question to Claude-4.5: Could you apply that framing to major disciplines. *[Show/Hide AI response]*

Question to Claude-4.5: Can the framing be applied to politics and ideology. *[Show/Hide AI response]*

Summary by AI of insights elicited in the exchange

The following animations, reproduced from the previous exercise, were the point of departure for the current exchange. They offer a memorable configuration of [3-smooth numbers](#) -- usefully characterized as the simplest set of memorable larger numbers. The next such set of larger numbers are the [5-smooth numbers](#) (as discussed and configured below in a [later section](#)).

Animation of Tesseract of 16 Memorable Numbers Traditionally Highlighted	
3-Smooth configuration of numbers in 1-216 range	
Configuration by factors of pattern of 3-smooth numbers	Indication of 4D inversion (outer to inner cube)



Edge colors = multiplication factors relating edge vertex pair counts

- Red = $\times 4$ (eg., 2-8)
- Yellow = $\times 2$ (eg., 4-8)
- Cyan = $\times 9$ (eg., 2-18)
- Green = $\times 3$ (eg., 4-12)

By inspection (valid for both animations):

- Vertex sums: for parallel edges: sums differ by the factor (above)
 - (e.g., $1+4=5$; shift by $\times 2$ gives $2+8=10$)
- Vertex sums: outer 450; inner 150 (ratio 3:1); total 600
- Vertex products:
 - inner $2^{12} \times 3^8 = 72^4$
 - outer $2^{12} \times 3^{16} = 648^4$
 - all: $216^8 = 6^{24}$ (Plato's number raised to the cell count)

- Vertex products (diagonally opposite through tesseract)::
 - outer-outer: 648 (eg 3×216 ; 6×108)
 - inner-inner: 72 (eg., 1×72 ; 4×18)
 - outer-inner: 216 (e.g., 1×216 , 2×108 ,...; Plato's number)
- Vertex product of face diagonals: equal for that face (and are 3-smooth)
 - (eg. $6 \times 12 = 72$, $3 \times 24 = 72$)
- Edge vertex sum: some yield memorable numbers
 - (e.g., $36-72$ sums to 108, the mala bead count)
- 4D pointers:
 - sum (600) \rightarrow 120-cell vertices;
 - faces (24) \rightarrow 24-cell;
 - cells (8) \rightarrow 16-cell

Animations generated by Claude-4.5

Question to Claude-4.5: Could you summarize the exchange in relation to the 3D visualizations produced. [Show/Hide AI response]

Question to Claude-4.5: Could you clarify the nature of the balance sought in this exercise -- namely the elusive compromise between comprehensibility, memorability, tradition, maths, mapping, etc. [Show/Hide AI response]

Recognition of requisite dimensionality for comprehension of selfing and othering

Question to Claude-4.5: Could you summarize the focus in this exchange on the requisite dimensionality by which to encompass the dynamics of selfing and othering. [Show/Hide AI response]

Adaptation of summarized insights to dynamics of selfing and othering

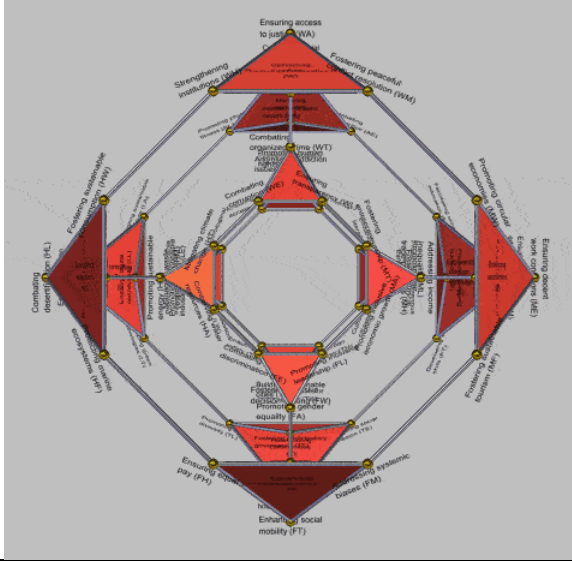
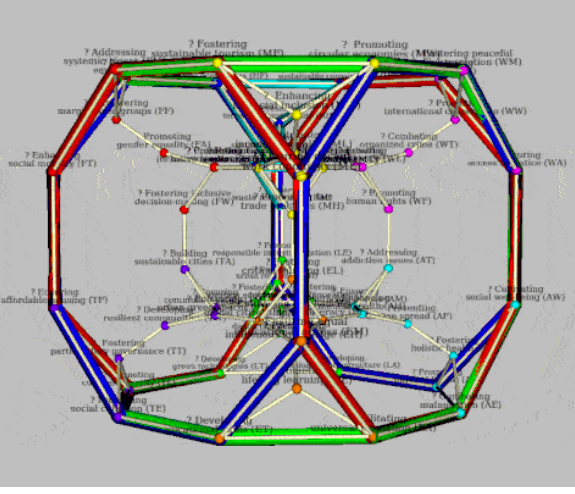
Question to Claude-4.5: Could you "translate" the essential insights into relevance to the dynamics of

"selfing" and "othering" -- given their implied relation to "yanging" and "yinning". *[Show/Hide AI response]*

Adaptation of dynamics of selfing and othering to sustainable development

Question to Claude-4.5: Could you speculate on how "sustainable development" as framed by the UN's SDGs could be interpreted as a dynamic collective balancing of "selfing" and "othering" ("yanging" and "yinning") -- given the manner in which the earlier truncated tesseract was used (in the previously shared document) to clarify SDG cycles (as you are now indicating). *[Show/Hide AI response]*

Results of previous tentative mapping exercises are reproduced below (*Enabling engagement with SDGs through a 64-fold pattern*, 2024)

Indicative 64-fold mapping of SDGs onto the 3D projection of a truncated tesseract	
Indicative AI-enabled mapping of 64-fold articulation of SDGs	Exploratory rotation of truncated tesseract in relation to pattern of tennis-seam cycles of SDGs
	
Experimental interactive version: Articulation of Sustainable Development Goals onto Truncated Tesseract	

Number factors of traditional memorable significance to set organization

Understood as contrasting frameworks of self-otherness, the following queries were directly evoked by the arguments and conclusions of the previous initiative regarding the contrasting 36-fold sets of Georges Polti (*Thirty-Six Dramatic Situations*), *Thirty-Six Chinese Stratagems*, and Arthur Aron's 36 intimacy questions -- and the 3D visualizations to which they gave rise using the [tetrakis hexahedron](#) (*Paradoxical Geopolitical Implications of Dynamics of Self-Other Overlap*, 2026). Seemingly of particular significance was the pattern of [3-smooth numbers](#) from 1 to 216 in reflecting comprehensible traditional sets -- as widely deemed coherent and memorable.

Question to Claude-4.5: Reconciling the Polti/Strategem/Aron sets in systemic terms is a larger challenge beyond current means. Attributing number factors might however offer clues for that later exercise. What would a 36-fold 3-smooth number approach give -- if they could be mapped coherently onto the tetrakis hexahedron (as you did with the tesseract). This would then suggest a memorable systemic "pattern that connects". *[Show/Hide AI response]*

The following query was evoked by previous concern with enabling comprehension of coherence through

"grokking" (*Authentic Grokking: Emergence of Homo conjugens*, 2003).

Question to Claude-4.5: That is clearly worth pursuing. The question is whether we are enhancing memorability or eroding it. My sense is that few if any can "grok" the 36-fold Polti or Stratagem sets as a whole -- rather than having a degree of familiarity with one or more individually. *[Show/Hide AI response]*

Clustering and chunking to aid memorability

The following query was evoked by widespread familiarity with the *Periodic Table of Chemical Elements*, and its memorability, most obviously through the manner in which the 94-118 elements are clustered into named "[periods](#)" and "[groups](#)". As a means of organizing features of the natural environment it suggests the relevance of such a framing for the memorable organization of psychosocial phenomena as can be variously explored (*Periodic Pattern of Human Knowing: implication of the Periodic Table as metaphor of elementary order*, 2009; *Periodic Pattern of Human Life: the Periodic Table as a metaphor of lifelong learning*, 2009; *Towards a Periodic Table of Ways of Knowing*, 2009; *Tuning a Periodic Table of Religions, Epistemologies and Spirituality*, 2007; *Meta-pattern via Engendering and Navigating "Pantheons" of Belief?* 2021). Controversial consideration to this possibility has been given by [Edward Haskell](#) (*Full Circle: The Moral Force of Unified Science*, 1972). [Chunking](#) as an approach to memorability has been extensively researched.

Question to Claude-4.5: In being cautious we are forgetting the reality of the Periodic Table with which people engage through "chunking". Maybe greater complexity needs to be tolerated (as with biodiversity) via chunking. So using the first 36 3-smooth on edges offers one approach. Maybe "chunking" is achieved by focusing on the vertices. *[Show/Hide AI response]*

Qualitative implications of numbers offered by Srinivasa Ramanujan

This query was suggested by the remarkable perspective of number theorist [Srinivasa Ramanujan](#) -- as continues to be variously appreciated by mathematicians (*List of things named after Srinivasa Ramanujan*)

Question to Claude-4.5: Maybe this suggests that each edge is a kind of qualitative/systemic connectivity of which the number is indicative -- when understood Ramanujan-style? *[Show/Hide AI response]*

The following query was evoked by previous consideration of the relative utility of polyhedra for memorable mapping purposes (*Identifying Polyhedra Enabling Memorable Strategic Mapping*, 2020).

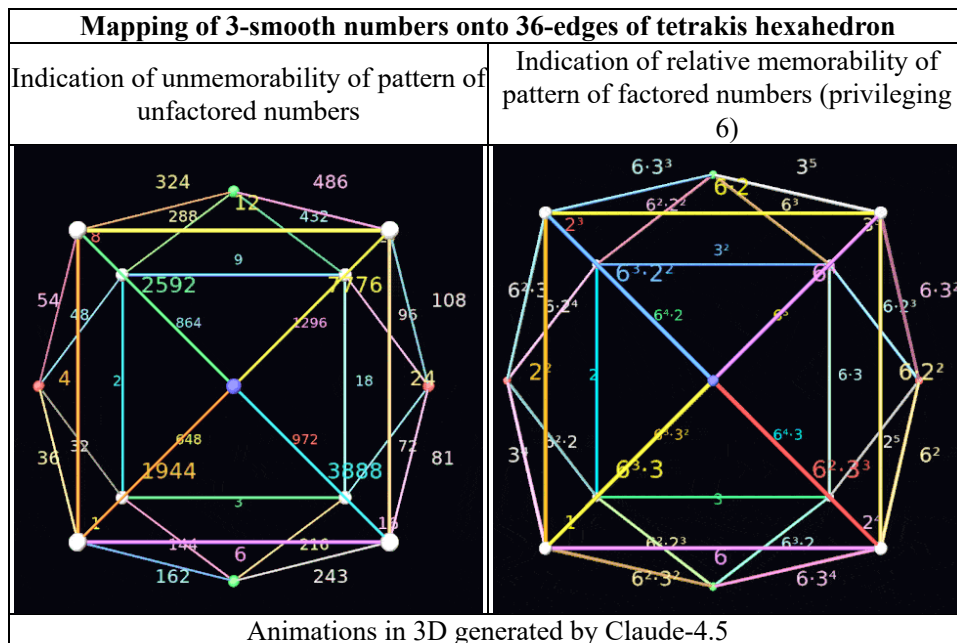
Question to Claude-4.5: The blinkered aspect of this exchange is that it is focused on a 36-edged polyhedron within a vast array of polyhedra/polytopes whose "function" or quality from that perspective remains a mystery in which only Ramanujan would have bathed. *[Show/Hide AI response]*

This query was evoked by a previous exercise with AI to configure the regular polyhedra (5 [Platonic](#) and 4 [Kepler-Poinsot](#)), the 13 semi-regular [Archimedean polyhedra](#), together with their 13 [Catalan duals](#) -- a total of 35 distinctive semi-regular patterns (*Remembering the Disparate via a Polyhedral Carousel: memorable configuration of transformations between core polyhedra of strategic relevance*, 2025). Despite their fundamental nature as distinctive patterns of order, few are able to distinguish many of them (especially given their distinctly unmemorable names), whether singly or as interwoven patterns (Keith Critchlow, *Order in Space A Design Source Book*, 1969; *Potentially indicative patterns of prime numbers associated with polyhedra*, 2015).

Question to Claude-4.5: How might Ramanujan then understand the Platonic in relation to the Archimedean and the Catalan sets of polyhedra. *[Show/Hide AI response]*

3D Visualization of pattern using the tetrakis hexahedron

Question to Claude-4.5: Those tentative thoughts could be usefully summarized in the form of a meaningful X3D visualization -- perhaps just of a single tetrakis hexahedron. *[Show/Hide AI response]*



Degrees and stages of comprehensibility framed by polyhedra

Question to Claude-4.5: In terms of comprehensibility, can stages be recognized by successively "ignoring" features of the tetrakis hexahedron, to its "simplification" as an octahedron. *[Show/Hide AI response]*

Question to Claude-4.5: Are the (semi)regular polytopes then to be understood as indicative of distinctive ladders of comprehensibility, with movement up and down the ladders enabled by simpler [symmetry preserving Conway operations](#). *[Show/Hide AI response]*

Question to Claude-4.5: On inspection of the visualization, it could be suspected that memorability is in some way related to "ignoring" features of a regular polytope -- in this case all but the basic cube. Greater sensitivity might then recognize triangulation and its additional edges. *[Show/Hide AI response]*

Polyhedra as alternative ways of organizing sets of numbers?

Question to Claude-4.5: Clearly the insight with respect to the tetrakis hexahedron needs to be considered in relation to its dual, to the cube, and to the octahedron. But more generally is it meaningful to see polytopes as ways of partitioning comprehensibly the set of natural numbers. *[Show/Hide AI response]*

Between 30-fold and 36-fold in framing coherence?

There is a curious resonance between circa 30-fold geometry and how 30-fold seems to have been evoked in various traditions, including Taoism. An iconic Sufi tale recounts the assembly of a flock of 30 birds in quest of a leader (*The Conference of the Birds*). How should the set of (semi) regular polyhedra be numbered, given the role of 30 in the Platonic polyhedra, and the argument above -- as 31, or more? [Stafford Beer](#), as management cybernetician, uses the 30-edged icosahedron in his articulation of syntegrity and syntegegration (*Beyond Dispute: The Invention of Team Syntegrity*, 1994)

Question to Claude-4.5: *Thirty spokes hath the wheel, but.....* *[Show/Hide AI response]*

Question to Claude-4.5: This exchange has made the tetrakis hexahedron especially useful -- thereby framing the other 30 as less so. When is each (semi) regular polyhedron especially useful. *[Show/Hide AI response]*

[Question to Claude-4.5](#): 36 is 31+5. Is the Platonic set to be counted twice? *[Show/Hide AI response]*

Polytopes as holding patterns for sets of questions?

This query was evoked by previous consideration of patterns of koans and the set of [Delphic maxims](#) (*Configuring the Paradoxical Insights of 48-fold and 100-fold Sets of Koans*, 2024; *Contrasting pattern of the traditional imperial enthusiasm for an array of 147 Delphic maxims?* 2024). It could however also be asked whether a collective strategy can be construed as a challenging question for a culture (*Global Governance as a Riddle: but is a solution the answer to the question?* 2018; *In quest of the most deadly question*, 2013).

[Question to Claude-4.5](#): The 36-fold Aron set is a set of questions. The [Mumonkan](#) is a 48-fold set of riddle/questions. Are polytopes to be considered as holding patterns for sets of questions. *[Show/Hide AI response]*

[Question to Claude-4.5](#): If a question may be posed at a polyhedral vertex, with an answer envisaged as another, the process of getting to the answer is the edge -- with several such processes leading from the initial vertex to others, depending on the way in which the question is answered. *[Show/Hide AI response]*

Questioning potentially catastrophic self-other relations

The following query was evoked by the sense in which patterns of questioning could be understood as experientially catastrophic -- calling for exceptional representation (*Conformality of 7 WH-questions to 7 Elementary Catastrophes*, 2006; *Mapping of WH-questions with question-pairs onto the Szilassi polyhedron*, 2014).

[Question to Claude-4.5](#): Rather than the regular polytopes as holding patterns for questions, could you comment on the speculative use of the uniquely asymmetrical Szilassi polyhedron for that purpose, as explored in the shared document. *[Show/Hide AI response]*

[Question to Claude-4.5](#): As you noted in passing the question related to the cognitive implications of catastrophe theory explored previously (*Conformality of 7 WH-questions to 7 Elementary Catastrophes*, 2006). *[Show/Hide AI response]*

[Question to Claude-4.5](#): Provocatively, and speculatively, it might then be asked how the Szilassi frames the catastrophic nature of self-other relations and the questions highlighted and navigated in that regard -- most existentially in courtship and romance. *[Show/Hide AI response]*

[Question to Claude-4.5](#): Given that catastrophe theory is no longer in favour (ironically despite the current condition of polycrisis), was there any effort to apply it to romance -- "falling in love" as the ultimate catastrophe -- as you have done. *[Show/Hide AI response]*

Morphing self-other configurations by symmetry preserving operations

The following queries were evoked by previous consideration of symmetry preserving operations (*Harmonizing dissonance via polyhedral symmetry-preserving operations*, 2024; *Topological operations on polyhedra as indicative of cognitive operations*, 2021). The potential implications were considered in relation to the UN's Sustainable Development Goals (*Systemic Coherence of the UN's 17 SDGs as a Global Dream*, 2021; *Operations transforming polyhedra as modelling transformations of dialogue coherence*, 2021).

[Question to Claude-4.5](#): As visualized, the tetrakis hexahedron may well be a "viable pattern". And then there is the implication of its dual -- the truncated octahedron. As noted before, the simpler symmetry preserving operations may suggest that "the" pattern is in the dynamics of those transformations -- in

[morphing](#). *[Show/Hide AI response]*

Question to Claude-4.5: With regard to the X3D, we did not look at how it might morph/transform into the dual with the same number of edges. How are those edges then positioned as a different pattern. A point being that it is not the same edges. (Stella4D offers 5 [forms of morphing](#) between the two). *[Show/Hide AI response]*

Question to Claude-4.5: That would be a nifty animation. But it is not clear that the centroid would be common to both edge positions -- that is an assumption. I have checked with Stella4D. Both polyhedra have 36 edges. Stella also offers a facility to merge base/dual in a compound. The edges are between vertices -- which are positioned as face centroids. The crossings could be used rather than the edge centroids. But the crossings do not cut the edges precisely in equal parts -- but perhaps good enough. *[Show/Hide AI response]*

Question to Claude-4.5: Could you generate an X3D to see how the dance of edges works beneath the numbers. *[Show/Hide AI response]*

Question to Claude-4.5: Fascinating challenge to interpretation since the truncated octahedron has squares and hexagons -- transformed from triangles -- with implications for the distinctive patterns of numbers that then emerge. *[Show/Hide AI response]*

Enhancing comprehensibility through favouring factor 6

Question to Claude-4.5: Problematically meaningless as numbers are those in excess of 216. One visualization technique might be to switch factors -- even using 6 as a factor where possible, rather than 2.3 combinations. *[Show/Hide AI response]*

Truncated tesseract and 5-smooth numbers

Question to Claude-4.5: But what if 4-smooth or 5-smooth numbers had been considered. *[Show/Hide AI response]*

Question to Claude-4.5: Given your earlier assistance with respect to mappings onto the truncated tesseract, notably hexagrams mapped onto 64 vertices, could you apply your "new" method with respect to the 5-smooth numbers to such a mapping -- especially to see whether there is a pattern to the adjacencies. *[Show/Hide AI response]*

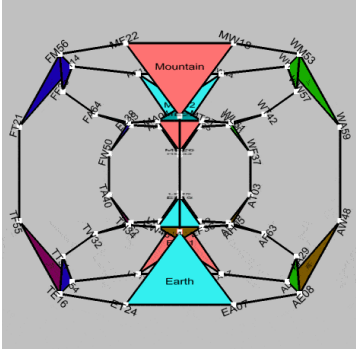
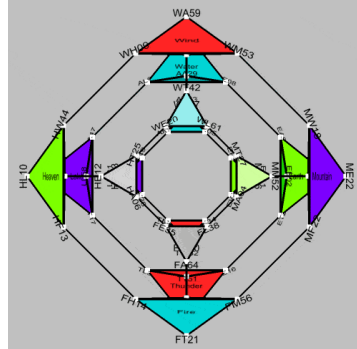
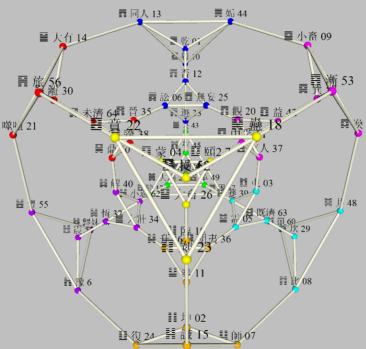
Question to Claude-4.5: I am puzzled by your reference to 192. The Wikipedia entry indicates 64 vertices, 128 edges and 88 faces, 24 cells. *[Show/Hide AI response]*

Reconciliation with hexagram mapping and its traditional connotations

The following queries were evoked by the results of a previous AI-assisted mapping exercise to clarify the cognitive challenge of organization of disparate memes, as reproduced below (*Memorable feedback cycles in 3D mappings of SDG relevance?* 2024; *Comprehensible Mapping of the Variety of Fundamental Governance Functions*, 2024). The particular relevance of any such mapping is the potential relation between the articulation of yang-yin relations understood as resonant (or indicative) of a pattern of self-other relations. As indicated above, collectively this has potential implications for sustainable development.

64-fold Articulated mapping of traditional metaphors onto 3D projection of truncated tesseract

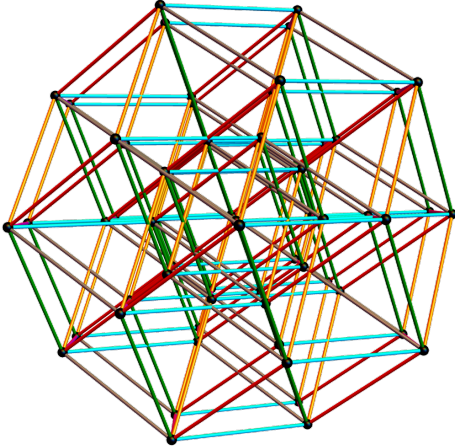
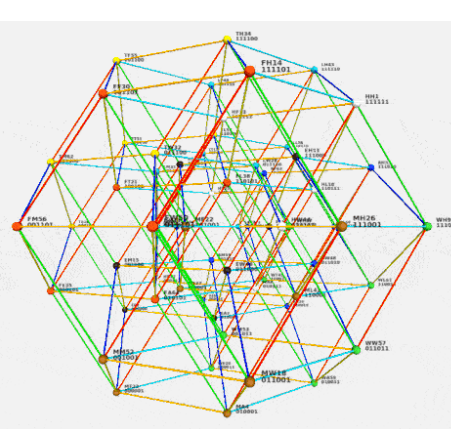
Nodes are labelled mnemonically in the 8-fold configuration. Letters correspond to traditional metaphorical labels (H=Heaven; E=Earth, L=Lake; T=Thunder; W=Wind; A=Abyss/Water; F=Fire; M=Mountain). Numbers correspond to those in the *I Ching*. Interactive variants: [English](#), [Chinese](#)

Rotation on one axis	Rotation on second axis	Corner view (Chinese version)
		
<p>Animations made using Stella 4D</p>		<p>Interactive variants: Interactive variants: English, Chinese</p>

Question to Claude-4.5: Your capacity with this approach is especially interesting given my earlier "clunky" mapping exercise with the hexagrams (despite your assistance). Given their bit structure, your approach suggests a far more intelligent mapping of hexagram relationships presumably consistent with line changes. This is reminiscent of the work of [Anagarika Govinda](#) (*The Inner Structure of the I Ching: the book of transformations*, 1981) to which you may have access. [\[Show/Hide AI response\]](#)

Requisite complexity of 6D hypercube for representation of self-other dynamics

Question to Claude-4.5: As you have indicated, the simplest mapping would be onto an icosahedron. A partial mapping would be possible onto the truncated tesseract (3D projection), but it is not clear how the 6D hypercube would project into 3D and whether it could be visualized with X3D. The notion of "partial" comprehension is however intriguing. Also of interest is that hexagram changes are traditionally the subject of narrative commentary -- potentially resonant with Polti's cases. [\[Show/Hide AI response\]](#)

<p>Representation of 6D hypercube (projected into 3D using a 6-cube quasicrystal structure orthographically projected into 3D using the golden ratio)</p>	
<p>Representation in Wikipedia</p>	<p>Animation of mapping of 64 I Ching binary encoded labels</p>
	
<p>Jgmoxness, CC BY-SA 4.0, via Wikimedia Commons</p>	<p>Animations generated by Claude-4.5</p>

Question to Claude-4.5: Much appreciated -- but why is it asymmetrical in contrast with the image in Wikipedia. [\[Show/Hide AI response\]](#)

Question to Claude-4.5: This is amazing. Binary is indeed best but in the earlier exercise a 2-letter code

was added, plus I Ching number from the BaGua set (image): E-earth, W-wind, F-fire, H-heaven, L-lake, T-thunder, M-mountain, A-water. *[Show/Hide AI response]*

Question to Claude-4.5: On the 6D spherical project, I note the following description against the Wikipedia rendering: A w:6-cube (w:Hexeract) using 6D w:orthographic_projection to a 3D w:Perspective_(visual) object (the w:Rhombic_triacontahedron) using the w:Golden ratio ϕ in the w:basis_vectors. This is used to understand the aperiodic w:Icosahedron structure of w:Quasicrystals. This particular projection is used to understand the structure of w:Quasicrystals. The specific basis vectors are: $x = \{1, \phi, 0, -1, \phi, 0\}$ $y = \{\phi, 0, 1, \phi, 0, -1\}$ $z = \{0, 1, \phi, 0, -1, \phi\}$ There are 64 vertices and 192 unit length edges forming pentagonal symmetry along specific axis (as well as hexagonal symmetries on other axis). The edge colors are defined by which of the 6 dimensions it aligns with. This is constructed from VisibLie_E8 found on TheoryOfEverything.org. *[Show/Hide AI response]*

Question to Claude-4.5: The two letter labels do not appear to match the associated binary code. FF 101101 and FH 111101, etc. Did I miscommunicate the correspondences. I would have thought that H was 111 and E was 000. *[Show/Hide AI response]*

Question to Claude-4.5: It is of course the case that a trigram can be read bottom up or top down. The canonical reading would be that of the I Ching and its Ken Wen numbering. Am I confusing matters. *[Show/Hide AI response]*

Question to Claude-4.5: Please do -- and with the King Wen numbering. *[Show/Hide AI response]*

Potential strategic relevance of 6D hypercube mapping

Question to Claude-4.5: Given the potential value of the hexagram mapping onto the 64 vertices of the 6D hypercube -- if only for mnemonic purposes -- how questionable is the potential significance of mapping the 64 convex uniform 4-polytopes onto those vertices, especially in the light of the dynamic complexity implied by both the hexagrams and the 4-polytopes. *[Show/Hide AI response]*

Question to Claude-4.5: Whilst there are canonical formula for defining each of the 64 convex uniform 4-polytopes, is there any effort to represent them together in a coherent mapping, as might be possible with the 6D hypercube -- rather than in a list of questionable memorability. *[Show/Hide AI response]*

The following query was evoked by the implications of the simplistic 63-64 fold organization of the [Mathematics Subject Classification](#), as previously considered ([Towards a periodic organization of the Mathematics Subject Classification](#), 2009; [Dynamics of Symmetry Group Theorizing: comprehension of psycho-social implication](#), 2008; [Is the House of Mathematics in Order?](#) 2000).

Question to Claude-4.5: Is it the case, as with the absence of any conventional mapping of 64 hexagrams (other than in list and tabular form), that there is little sense of the value of more coherent representation of the 64 4-polytopes for mnemonic purposes and for what such coherence might enable. Could that bias be contrasted with the more complex mappings of the 64 genetic codons. *[Show/Hide AI response]*

Following that response -- noting mention of the "order of the interaction energies of the bases in codon-anticodon recognition" by biologists -- the systemic resonance with the "energies of self-other interaction" could be held to be particularly worthy of attention at this time. Whilst the former is of relevance to individual human life, the latter is of relevance to collective "psychosocial life" -- unfortunately as meaningless to the biological disciplines as is "codon-anticodon" interaction to the social science disciplines.

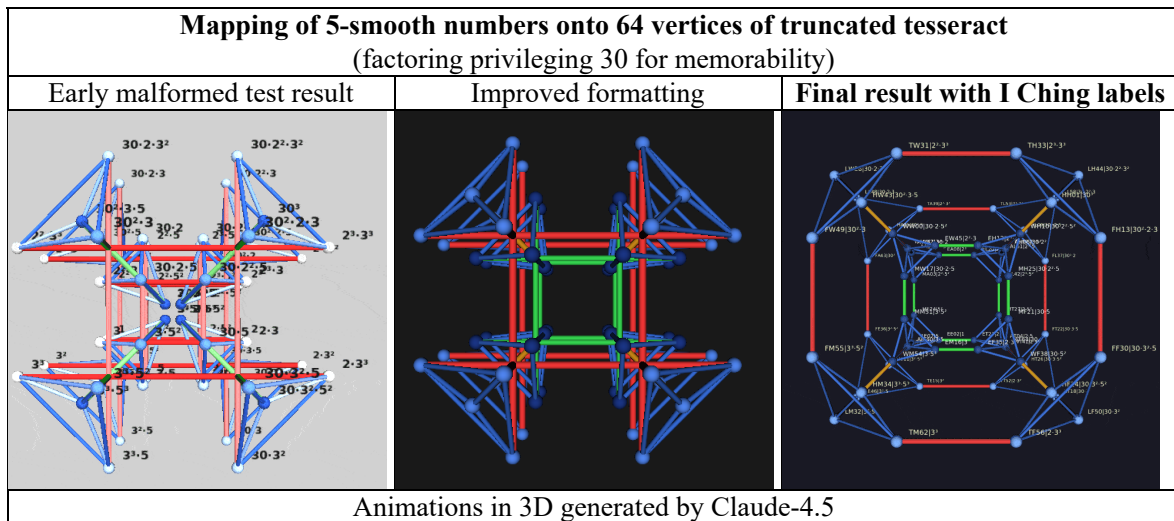
Question to Claude-4.5: That response suggests that biologists (and the drug industry) have been able to find a value in hypercube representation which mathematicians have as yet failed to recognize. Given the highly problematic state of self-other relations (and the potential value of their articulation as suggested by this exchange), does the biological recognition via genetic codon configuration imply fruitful possibilities for psychosocial recognition -- especially given parallels already speculatively drawn between the 64-fold

sets of codons and hexagrams. *[Show/Hide AI response]*

Question to Claude-4.5: Given the current challenge of selfing-othering dynamics, could you comment on your closing reference to "mere analogy" in contrast to any generation of insight -- in the light of the study by Douglas Hofstadter and Emmanuel Sander (*Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013). How are "fuel and fire" to be fruitfully engendered otherwise *[Show/Hide AI response]*

Relevance of tennis-ball seam curve in relation to truncated tesseract

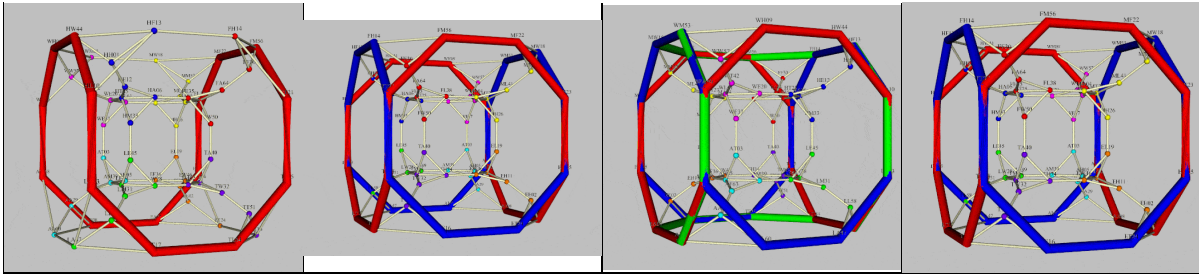
Question to Claude-4.5: With respect to any 5-smooth truncated tesseract mapping in relation to the 6D hypercube mapping, I realize we are seeking a compromise between visual elegance, comprehensibility, legibility, clutter, numbering and coherence. The truncated tesseract visualization is "scrawny" compared to the 6D image. Maybe it is the global scale that just needs to be shrunk to bring the tetrahedra closer. It also seems to be missing the external edges between the tetrahedra -- and of course the labels are not as legible as in the 6D. *[Show/Hide AI response]*



Question to Claude-4.5: Looks good visually but I am puzzled by the placement of some edges. There are no edges linking tetrahedra right at the top or bottom or sides -- externally. The red edges seem to be misplaced to internal positions -- as with the green. Similarly with the inner cube which does not seem to be defined by any edges. *[Show/Hide AI response]*

The following query was evoked by extensive exploration of the widely familiar representation of the tennis-ball seam curve (geometrically shared with the baseball), and the focus of the [tennis ball theorem](#), as discussed separately (*Game ball design as holding insight relevant to global governance?* 2020) and presented in 3D (*Interactive Display of Tennis-ball / Baseball Curve in 3D*; *Interactive display of generalized baseball and tennis-ball seam curves in 3D*). Its relevance to coherent mapping of the dynamics of sustainable development was argued separately, with a selection of images reproduced below (*Turbocharging SDGs by Activating Global Cycles in a 64-fold 3D Array*, 2024).

Basic "global" SDG cycles?			
Single "tennis-ball" cycle	2 Interlocking "tennis-ball" cycles	3 Interlocking "tennis-ball" cycles	Internal reflection of interlocking cycles

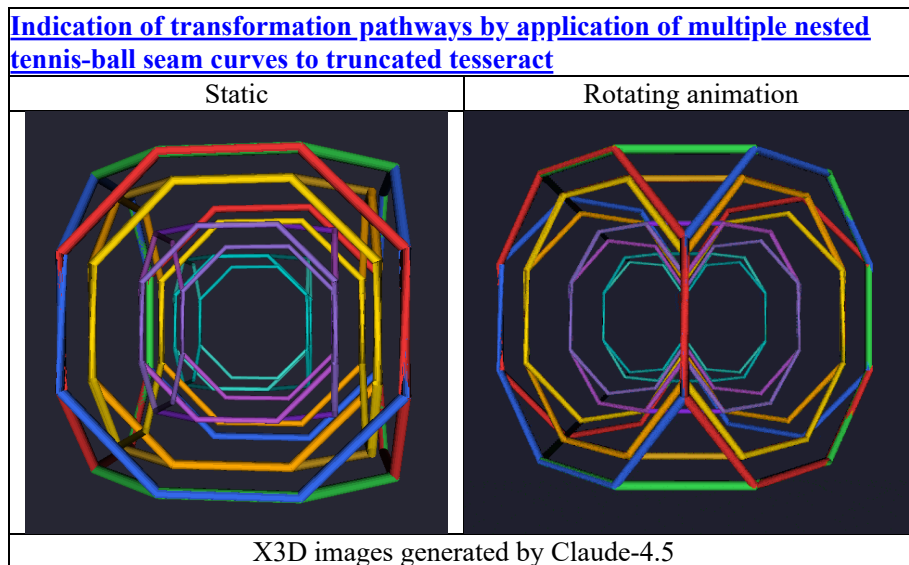


Question to Claude-4.5: You may have a trace of an earlier exchange using the truncated tesseract which included a tennis-ball seam curve. Could you comment on such curves as providing significant pathways between what the vertices of the models in the current exchange are holding. I am sharing the relevant X3D with the document in which it is discussed with other representations. *[Show/Hide AI response]*

Question to Claude-4.5: The other thought was whether the curves rotate in any patterned way to pass through all vertices -- somewhat reminiscent of the operation of a motor/dynamo. *[Show/Hide AI response]*

Question to Claude-4.5: Your analysis seems to have focused on the rotation of one seam curve. But does it consider the rotation of that same curve on other axes -- as implied by the existence of the 2 commented out axially rotated curves. *[Show/Hide AI response]*

Question to Claude-4.5: You noted that this would be a remarkable X3D animation: four sets of three interlocking tennis-ball seams [see below left]. Could you scale the spine of the earlier X3D seam curve to position the rotating interlocking curves as an indication of what might be refined in the future. I am struck by the extent to which we are constantly seeking a balance between comprehensibility, visualization technique, clutter and significance. *[Show/Hide AI response]*



Question to Claude-4.5: Could you add indicative rotations [see above right]. *[Show/Hide AI response]*

References

Arthur Aron, et al. The Experimental Generation of Interpersonal Closeness: A Procedure and Some Preliminary Findings. *Personality and Social Psychology Bulletin*, 23, 1997, 4 [[abstract](#)]

Stafford Beer:

- Beyond Dispute: The Invention of Team Syntegrity. John Wiley, 1994

- Platform for Change. John Wiley, 1978.

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

Martin Buber. I and Thou. Scribner, 1958 [[summary](#)]

Joseph Campbell. The Inner Reaches of Outer Space: metaphor as myth and as religion. New World Library, 2002

Keith Critchlow. Order in Space A Design Source Book. Thames and Hudson, 1969

Terrence Deacon. Incomplete Nature: how mind emerged from matter. W.W. Norton, 2011 [[summary](#)]

Barbara Ehrenreich. Bright-Sided: How the Relentless Promotion of Positive Thinking has Undermined America. Metropolitan Books, 2009

Susantha Goonatilake:

- Toward a Global Science: mining civilizational knowledge. Indiana University Press 1999
- Non-Western Science: mining civilizational knowledge. *Encyclopedia of Life Support Systems* (EOLSS) [[text](#)]

Anagarika Govinda. The Inner Structure of the I Ching: the book of transformations Wheelwright Press, 1981 [[text](#)]

A. C. Graham. Yin-Yang and the Nature of Correlative Thinking. Singapore, The Institute of East Asian Philosophies, 1986 (Occasional Paper and Monograph Series, #6) [[review](#)]

Edward Haskell. Full Circle: The Moral Force of Unified Science. Gordon and Breach, 1972

George Lakoff. Women, Fire and Dangerous Things: what categories reveal about the mind. University of Chicago Press, 1987 [[summary](#)]

George Lakoff and Mark Johnson. Philosophy in the Flesh: the embodied mind and its challenge to Western Thought. Basic Books, 1999

Samuel Huntington. The Clash of Civilizations and the Remaking of World Order. Simon and Schuster, 1996 [[summary](#)]

Douglas Hofstadter and Emmanuel Sander. Surfaces and Essences: analogy as the fuel and fire of thinking. Basic Books, 2013 [[summary](#)]

Ernest G. McClain:

- Myth of Invariance: The Origins of the Gods, Mathematics and Music from the Rg Veda to Plato. Nicolas-Hays 1976 [[text](#)]
- The Pythagorean Plato: Prelude to the song itself. Nicolas-Hays, 1978 [[text](#)]
- Meditations Through the Quran: Tonal Images in an Oral Culture. Nicolas-Hays, 1981 [[text](#)]
- The Harmonic Series As Universal Scientific Constant. 2003 [[text](#)]

Kinhide Mushakoji:

- Towards a Multi-Cultural Modernity: beyond neo-liberal/neo-conservative global hegemony. UNESCO/CLACSO, 2005
- Global Issues and Interparadigmatic Dialogue. Albert Meynier, 1988

Vasily V. Nalimov:

- Realms of the Unconscious; the enchanted frontier. Institute of Scientific Information Press, 1982
- In the Labyrinths of Language: a mathematician's journey. ISI Press, 1982

Darrell A. Posey. Cultural and Spiritual Values of Biodiversity. Intermediate Technology Publications, 1999 [[text](#)]

Nichaolas Rescher:

- Ignorance: on the wider implications of deficient knowledge. University of Pittsburgh Press, 2009.
- Unknowability. Lexington Books. 2009
- Error: on our predicament when things go wrong. University of Pittsburgh Press, 2006
- The Strife of Systems: an essay on the grounds and implications of philosophical diversity. University of Pittsburgh Press, 1985

Steven M. Rosen:

- Topologies of the Flesh: a multidimensional exploration of the lifeworld. Ohio University Press, 2006 [[summary](#)]
- Splitting the Atom: The Paradox of Proprioceptive Dialogue. *Journal of Mind and Behavior*, 43, 2022, 3 [[text](#)]
- Practicing Proprioceptive Dialogue. *Embodying Cyberspace*, 2026 [[text](#)]

Rupert Sheldrake:

- The Presence of the Past: morphic resonance and the habits of nature. Times Books, 1988.
- The Science Delusion: freeing the spirit of enquiry. Coronet, 2012

Henryk Skolimowski. The Participatory Mind: a new theory of knowledge and of the universe. Penguin/Arkana, 1994 [[text](#)].

C. P. Snow. The Two Cultures. Oxford University Press, 1959 [[summary](#)]

Geoffrey Vickers. Freedom in a Rocking Boat: changing values in an unstable society. Allen Lane, 1970

Alan Watts. Psychotherapy, East and West. Vintage Books, 1975

Alfred North Whitehead. Process and Reality: an essay on cosmology. Free Press, 1979



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