



laetus in praesens

Alternative view of segmented documents via Kairos

12 August 2024 | Draft

Clarifying a Two-state Pattern Language of 64 Modalities

Developing an AI-enabled methodology to reframe binary bias

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Introduction

This is written in a period in which there are major ongoing conflicts, most obviously with respect to Israel-Palestine and Russia-Ukraine, but less obviously in other arenas. Citizens of other countries are being advised to leave Lebanon in anticipation of major conflict and its probable escalation in the Middle East. As is typical of such conflicts, each side and its supporters, frames its own cause as unquestionably righteous and that of the other as the epitome of wrong doing -- possibly meriting repressive legislative measures, and potentially to be qualified as "evil" (*Existence of evil as authoritatively claimed to be an overriding strategic concern*, 2016; *Framing by others of claimants of evil as evil*, 2016). There is no lack of authoritative references to the "Axis of Evil", with the implication that the recognition is necessarily made from the perspective of an "Axis

of Good" (*Ensuring Dynamics of Sustainability by Appreciative Recognition of Evil*, 2022).

More curiously however, there is little academic or diplomatic capacity to address and transcend that polarization of perspective -- and seemingly little motivation to do so. The divisiveness now permeates the social fabric in many countries, rendering highly problematic any fruitful dialogue on such matters. The situation is well-described in Biblical prophecy: *They will be divided, father against son and son against father, mother against daughter and daughter against mother, mother-in-law against her daughter-in-law and daughter-in-law against mother-in-law.* (*Luke 12:53*).

The pattern is curiously echoed in the considerable controversy regarding gender identity -- challenging assumptions regarding the binary male-female distinction, most obviously as it applies in the current Olympic Games. The opening ceremony of the latter aroused such controversy regarding gender-related aesthetics and symbolism that recordings of it have had to be withdrawn. The number of gender identities is now alleged to be far greater than previously believed (Shaziya Allarakha, *What Are the 72 Other Genders?* *MedicineNet*, 9 February 2024).

The following exercise is the development of a previous argument regarding understanding of "two-state" from a geopolitical perspective (*Reframing "Two-State" Possibilities*, 2024). As in that exercise, the question is whether binary categories can be explored more fruitfully, notably through generic articulation exemplified by a 64-fold pattern. As in that case, the method relied significantly on interaction with AIs -- previously with both ChatGPT and Claude, but primarily with Claude alone in this case pattern. Ironically this pattern can be seen as the extreme development of a binary methodology.

Rather than focusing on a binary pattern, the exercises explore an 8-fold pattern as the basis for an 8x8 pattern into which it can be experimentally articulated -- with the speculative aid of AI. In the quest for a generic understanding of such a pattern, and its cognitive implications, the experiment draws upon Eastern understandings of 8-fold and 64-fold patterns and endeavours to relate them to analogous Western patterns recognized by science (*Coherent Reconciliation of Eastern and Western Patterns of Logic*, 2023). One unexpected initial result of the previous exercise was the capacity of AI to articulate (if only speculatively) a 64-fold pattern of two-state geopolitical conditions with a provisional indication of examples inviting critical commentary. This is reproduced here as an introduction to the subsequent development of that methodology.

In contrast to the typical binary framing of the "right way" in contrast with the "wrong way", reference is made in what follows to 8-fold ways recognized in both East and West -- recognizing the more extensive articulation of the pattern in the East, insofar as the implication for governance have been acknowledged. Reference is therefore made to the 64-fold pattern of the *I Ching* -- a required text of governance in past centuries in China, and variously deemed of continuing relevance (Jaymee Ng, *Leadership Wisdom of the I-Ching*, *China Business Knowledge*, 15 September 2022; Geoffrey Redmond and Tze-ki Hon, *The Yijing as China Enters the Modern Age*, 2014). Despite its mathematical sophistication as an inspiration for binary computing, this is typically disparaged by Western science as a work of "divination". The irony is the current heavy dependence of Western governments on the predictive capacity of "modelling" (Matthew Gwynfryn Thomas, *The Age of Digital Divination*, *Sapiens*, 7 December 2021; *Meet the Sentient World Simulation: how the government predicts the future*, July 2024). This uncritical dependence is evident despite its problematic aspects (*Misleading Modelling of Global Crises*, 2021; *Perspectives of AI on Psychosocial Implications of Global Modelling*, 2024).

The concern here derives from inadequately explored cognitive and strategic patterns of organization, specifically the comparison of integrated multi-set concept schemes as forms of presentation (*Dynamics of N-fold Integration of Disparate Cognitive Modalities*, 2021; *Patterns of N-foldness*, 1980). The challenge they represent is seen as related to contrasting cognitive modalities (*Interrelating Multiple Ways of Looking at a Crisis*, 2021).

The question of concern may be reframed in terms of the unexplained "satisfaction" with classification system patterns -- exemplified by the *Dewey Decimal Classification*, the *Universal Decimal Classification* (UDC),

and the *Information Coding Classification* (ICC) -- despite limited concern with their systemic or cognitive significance, and the implications in terms of problematic strategic articulation and uptake. Especially ironic with respect to the following argument is the unexplained use by the *Mathematics Subject Classification* of a 64-fold pattern of mathematical disciplines labeled with a unique two-digit number. As a consequence of these concerns, the ICC was an inspiration for the elaboration of an *Integrative Matrix of Human Preoccupations* (1980) -- extensively used for the interlinked datasets of the online *Yearbook of International Organizations* and the *Encyclopedia of World Problems and Human Potential*.

Given the comprehensive scope of such information tools, the concern is then whether and how their organization might be presented otherwise in order to enhance their comprehensibility and relevance to challenges of governance -- especially in the light of the unfortunate binary bias, and in contrast to the insights of [general systems research](#) and knowledge cybernetics (Maurice Yolles, *Knowledge Cybernetics: a new metaphor for social collectives*, *Journal of Organisational Transformation and Social Change*, 3, 2006, 1)

In such a context it is appropriate to ask how "two state" is understood and evoked -- and especially by whom and through what disciplinary lens. Given the apparent incapacity of those disciplines claiming unique relevance to reframing the challenge to civilization of "Israel-Palestine" -- in a manner which evokes "new thinking" -- it could be asked how "discipline" is then to be understood. Does a discipline simply provide the justification for what its practitioners are entitled to ignore in the execution of their profession? Given the specificity through which they define themselves, can disciplines even "think" in "global" terms -- when faced with global crises? Do the disciplines claiming such relevance engage in any root cause analysis of their apparent ineptitude? Ironically such questions justify the use of AI in their clarification (*Mathematical Modelling of Silo Thinking in Interdisciplinary Contexts*, 2024).

Given the apparent inability of "Western" inspired disciplines to inform mediation of the Gaza situation, it is intriguing to note the current initiative from an "Eastern" perspective (Laurie Chen and Nidal Al-Mughrabi, *China brokers Palestinian unity deal, but doubts persist*, *Reuters*, 24 July 2024; Mohamad Zreik, *China Mediates a New Era of Palestinian Unity*, *The Diplomat*, 25 July 2024). This could be considered consistent with *Coherent Reconciliation of Eastern and Western Patterns of Logic* (2023) -- a study facilitated by AI commentary. Ironically it is of course the case that China is faced with its own "two-state" challenge, as with the Koreas.

In addition to the reframing of a geopolitical variant of constrained binary thinking, the method is applied experimentally to other polarities constraining global discourse. These include right-wrong (good-evil / innocence-guilt), problem-solution, and love-hate (like-dislike). Following its replacement of the UN's 8-fold [Millennium Development Goals](#), the experiments suggest a reframing of the UN's 16+1 pattern of [Sustainable Development Goals](#) and their relation to the associated 169 "tasks" (*Systemic Coherence of the UN's 17 SDGs as a Global Dream -- rather than merely an arbitrary outcome of political horse-trading*, 2021).

Show All AI Responses

Methodological comment on experimental use of AI

As in the previous experiments, the AI responses of Claude are distinctively presented below in grayed areas, and in some cases in parallel with those of ChatGPT. **Given the length of the document to which the exchange gives rise, the form of presentation has itself been treated as an experiment** -- in anticipation of the future implication of AI within research documents. This is now the subject of variously concerned commentary (Mohamed Khalifa, et al, *Using Artificial Intelligence in Academic Writing and Research*, *Computer Methods and Programs in Biomedicine*, 5, 2024, 100145; Douglas C Youvan, *Redefining Research: The Impact of Artificial Intelligence on Academic Writing and Theoretical Exploration*, April 2024; Javier Conde, et al, *Understanding the Impact of Artificial Intelligence in Academic Writing: Metadata to the Rescue*, *Computer*, 2024, 1; Valerie Storey, *AI Technology and Academic Writing*, *International Journal of*

Adult Education and Technology, 14, 1; Emmanuel R Awubi, et al, *Artificial Intelligence and Academic Research: understanding the potential and the threats to academic writing*, *Lanna Journal of Interdisciplinary Studies*, 6, 2024, 2).

Web technology now enables the whole of this document to be held as a single "page" with only the "questions" to AI rendered immediately visible -- a facility developed in this case with the assistance of both ChatGPT and Claude 3. This facility is not operational in PDF variants of the page (in contrast with the original). This technique is of some interest because of the manner in which a PDF can be generated and the portions of the text then open or closed to search engines seeking to index the document or to a browser find facility. One option explored is to open the AI responses to PDF generation -- with the implications for document length -- and the implication that they can only be closed by switching away from PDF to the original.

The obvious question is what place AI responses have within the body of a document for an academic audience. They could be understood and treated as "footnotes", although their length effectively precludes that unless a smaller font is used. Another is to treat them as separate pages to which links are provided.

Reservations regarding this interaction with AI have been previously highlighted (*Eliciting a Pattern that Connects with AI?* 2024). These noted questionable styles of AI response readily characterized as excessive "algorithmic enthusiasm" (or "synthetic appreciation"), together with presumptions of an anthropomorphized relationship by which the questioner is repeatedly flattered. These can be understood as an effort at formulaic courtesy of a style deemed appropriate (if not essential) in some cultures -- or as questionable marketing techniques to encourage engagement in the process. As spurious distractions these could be edited out, but as a feature of the experiment they have not been removed; responses have been minimally edited for format alone. The approach allows readers to repeat the questions at a later stage or to other AIs -- possibly at a future time when their capacities have been further developed.

The AI responses can be immediately challenged -- thereby engaging in an iterative process of refinement. Limited examples are offered in the following exercise. The preference has been to consider the unusual style and content to be a feature of the experiment, framing what can be derived from the process, if only in the future. With the focus on "pattern language", the facility with which AIs can generate patterns merits both appreciation and critical comment (Deepak P, *Mere Imitation: is AI our salvation, our undoing, or just more of the same?* *Aeon*, 8 August 2024). Curiously this facility contrasts with the manner in which patterns are otherwise engendered -- especially in response to the strategic challenges so evident at this time.

Especially intriguing for an author is the speed of response to any question -- in total contrast to interaction with colleagues, or to engagement in any peer review process. Corresponding to this is the ease with which a document can be scanned in the process of training AI facilities. This is of deep concern to some as an invasive infringement of intellectual property rights. There is however the irony that relatively few academic documents are widely or effectively read -- or cited in the accumulation of human knowledge. Such voracious AI "readers" could be esteemed of particular value in an information society complicit in dysfunctional silo generation inhibiting dissemination of insight.

Of greater potential concern regarding the use of AI in the following context is the questionable role of [leading questions](#) in eliciting AI responses deemed of value -- and the bias it may imply, in contrast with those it may highlight. Such issues arise in a period in which the undoubted capacity of AI to aggregate relevant information -- far beyond the immediate capacity of the author -- is now called into question by science and otherwise (Joe Slater, et al, *ChatGPT Isn't 'Hallucinating' -- It's Bullshitting!* *Scientific American*, 17 July 2024; Edisa Lozic and Benjamin Stular, *Fluent but Not Factual: a comparative analysis of ChatGPT and other AI chatbots' proficiency and originality in scientific writing for humanities*, *Future Internet*, 2023). Somewhat ironically such assertions occur in a period in which unprecedented numbers of [academic papers are being retracted](#). In a period in which there is seemingly limited capacity to address global issues effectively, the proactive responses of AI contrast strangely with the dismissive style of academia (Richard Phelps, *Dismissive literature reviews reduce understanding – so why do academics keep making them?* *LSE*,

17 June 2024).

As previously discussed, the particular focus (or bias) in the use of AI in what follows is on eliciting comprehensible and memorable patterns -- hence the focus on an 8-fold articulation (*Memorable Configuration of Psychosocial "Vitamins", "Amino acids" and "Minerals"*, 2024; *Comprehensible Configuration of 8-fold Psychosocial Patterns in 3D*, 2024; *AI-enabled Mapping and Animation of Learning Pathways*, 2024). Whether the articulation of 8-fold patterns is in itself "artificial" calls for for critical evaluation, especially given the irony of its being explored with artificial intelligence. Claude offered a response of some interest to the request for an appropriate term for this process of articulation.

Show/Hide AI response

With to world seemingly exposed to vortices of untrustworthiness, fundamental importance is increasingly associated with *trustworthiness*, most notably in relation to information in contrast with misinformation and fake news (*Varieties of Fake News and Misrepresentation*, 2019). This is especially the case with regard to the potential of deep fakes enabled by AI). In the concluding phases of this experiment the question was framed as to the possibility of applying the methodology explored in order to encompass the variety of conditions in this regard. In reaction to an initial response (readily provided), the question was reframed to highlight nuances as follows.

Question: Could that response have been rendered more valuable by reflecting nuances of confidence and certainty and the vigilance for which they call in ensuring authenticity

Show/Hide AI response

Question: The pattern is interesting but my request has confused matters. I was trying to focus on the dimension of trustworthiness vs untrustworthiness -- in its existential sense. The additions I have suggested and which you have appropriately added have obscured that in favour of technical and statistical issues in relation to information, fake news, etc. Do you see a way of giving primary importance to the basic polarity

Show/Hide AI response

Question: Reverting to your articulations of love/hate or right/wrong, maybe the method we are using is obscuring the complex intermediary senses and the extremes. In 4-fold logic we can have A, not-A, A-and-not-A, neither-A-nor-not-A. It is less evident that words can be found for an 8-fold pattern of right/wrong or love/hate, although arguably these feature in many dramas -- as with trust/distrust

Show/Hide AI response

Question: On reflection with regard to the 8-fold process, and your comments, my sense is that we failed to benefit from a relevant metaphor, namely that of an octave. Any choice of a polarity can be seen as positioning the extremes as at the extremes of an octave. The challenge is how to detect the tones in between. Here we have been guided by the possible combinations of the trigram. The question is whether its application has obscured vital nuances in some cases. Drama makes clear that people can hate what they love, and love what they hate -- but other nuances are often elusive. The same applies to right and wrong, when wrong may also be right in some sense, and right may be wrong -- as is so evident with respect to guilt and innocence. In what way is a problem a solution, or a solution a problem. Those comments highlight only 4 of the 8, with the nuances of the other 4 to be clarified.

Show/Hide AI response

Question: I appreciate the reframing but there is a danger to calling too enthusiastically on nuance and avoiding articulation. The value in some cases has been your ability to suggest specific examples -- and clearly more could be drawn upon from literature and drama. Reference to the octave also invites use of a related metaphor. In effect the articulations you have developed merit consideration as "musical instruments" and as such imply the potential need for "tuning". The challenge is then how to revisit those articulations in order to refine the intermediary notes. Clearly a work in progress

Show/Hide AI response

Question: In this light, would you be able to revisit some of the articulations you have extended to a 64-fold pattern, or at least to review the 8-fold articulations on which these have been based. The process might of course be subject to your time constraints in retaining a trace of this exchange

Show/Hide AI response

Question: The 8-fold methodology so extensively explored, notably with respect to trust and authenticity, evokes a controversial question with respect to the degree of self-reference constraining your responses. In the light of the positive/negative polarity, it is characteristic that AI responses currently emphasize the "positive" and have seemingly not been designed to adopt a "negative" critical posture -- typical of gatekeeper functions and the peer review process, for example. Can users now request such a style of response. Given any 8-fold articulation, do you foresee the possibility of a variety of styles of response

Show/Hide AI response

Variety of geopolitical two-states articulated as a 64-fold pattern

As noted above, the following articulation was the surprising consequence of the interaction with AI in the earlier exercise which drew speculatively upon a traditional Chinese 8-fold articulation of modalities. It is reproduced here as the indication of possibilities for the further development which follows. It necessarily calls for critical commentary and amendment with the inclusion of further geopolitical examples. The challenge of its coherent visualization is discussed in a concluding section.

Question: With respect to your recognition of how the 64-fold pattern might apply to geopolitical two-state arrangements, could you suggest instances of that pattern with specific examples [*The examples produced were so interesting, a complete set of 64 was generated as a speculative exercise -- appending a "confidence level" of High, Medium or Low*]

Show/Hide AI response

Towards a generic understanding of two-state patterns

Question: Of course it remains elusive as to what the 8 trigrams are indicative in a generic sense, which is why the Chinese use metaphors. It is however the language of the systems and cybernetic implications which remains psychosocially elusive, other than through the work on an array of [16 topological types](#) by René Thom (*Structural Stability and Morphogenesis*, 1972)

Show/Hide AI response

Question: The cognitive implications of the 8-fold set, as explored in this exchange, derive primarily from the traditional Chinese "Eastern" articulation. Is there any recognition of how an 8-fold set of cognitive modalities might be recognized in systemic terms -- especially from a mathematical perspective. Of some relevance from a "Western" perspective is the 8-fold set of "intelligences" in Howard Gardner's [theory of multiple intelligences](#) -- calling for encoding from the Chinese perspective.

Show/Hide AI response

The work of Thom appears especially relevant, notably through his own development of its philosophical and cognitive implications (Athanasios Papadopoulos, [René Thom: From mathematics to philosophy](#), *Handbook of the History and Philosophy of Mathematical Practice*, 2024; René Thom, [Apologie du Logos](#), *Revue Philosophique de la France et de l'Étranger*, 182, 1992, 2).

Question: In an earlier portion of this exchange, reference was made to the 16-fold articulation of [topological types](#) of René Thom (*Structural Stability and Morphogenesis*, 1972) -- perhaps collapsible into an 8-fold array corresponding to the trigrams. As you noted, the associated catastrophes might indeed correspond to

different types of transitions between hexagram states. Curiously it seems that is only Matti Pitkänen who considers a generalization of catastrophe theory and its relation to an "8-fold way" ([Topological Geometroynamics: an overview](#)). The question is how an 8-fold pattern might be constrained cognitively by a "magic number" -- as in period 2 of the periodic table, with its orbital shell capacity of 8 -- and its implications for a [Periodic Pattern of Human Knowing](#) (2009).

Show/Hide AI response

Identification of two-state roots polarizing strategic discourse

Question: In considering the possibility of a generic understanding of "two-state", and the identification of instances of psychosocial relevance -- especially to discourse and global governance -- this exchange has engendered an articulation in terms of 64-fold patterns of strategic metaphors (from a Chinese perspective) and of metaphors associated with the senses. It might then be asked in terms of what "two-state" conditions corresponding instances might be usefully articulated to a similar degree: right/left (and top/down), right/wrong, good/evil, problem/solution, question/answer. Do you have suggestions regarding other seemingly fundamental polarities which would lend themselves to such a speculative experiment

Show/Hide AI response

Question: That response identifies 20 polarities. In a separate exercise (shared with you) a set of 230 "value polarities" is identified, then clustered into 45 "value types" -- 9 sets of 5. Could you comment on how your 20-fold set might be clustered into an 8-fold set (consistent with the 8-fold pattern used in this exchange) -- and how the 9-fold set of value types might be similarly reclustered.

Show/Hide AI response

Question: I am slightly confused by your response. The first part seems to have taken items from your list of 20 and related them to items in the set of 9 -- but not to the 8-fold set. The second part reclusters the 9, but in a manner unrelated to the 8. Maybe clustering the items from your 20 under those of the 8 with their Chinese metaphors -- and repeating the process for the 9 would be the way to go, flagging those which are problematic

Show/Hide AI response

Experimental articulation of a 64-fold pattern of discourse modalities

Question: Given your facility in associating geopolitical two-state conditions with 2 trigrams in the pattern of 64 hexagrams, and my interest in a general pattern language, there is another potential pattern of interest. Global discourse could be understood as conducted through 8 modalities: speaking, listening, looking, being looked at (dress, etc), feasting (eating/drinking), cooking, embodiment (dancing), being touched. Can you clarify this pattern in your general 8-fold terms

Show/Hide AI response

Various approaches to comprehensible metaphors for contrasting modalities of global discourse can be envisaged, if only speculatively ([Aesthetics of Governance in the Year 2490](#), 1990; [Global Dynamics "at the table" -- inspired by dining and wining in practice](#), 2015; [World Governance Cookery Book: food-related insights from home cooking to haute cuisine](#), 2002)

Question: The challenge would then be to articulate a pattern of 64 (in which these are variously combined) with instances relating to global discourse. Can you do this, given the examples from that response. Item 6 could relate to the metaphor of "cooking up" with a concern for taste; 7 is the enthusiasm for dance; 8 could be controversially related to dependence on "call girls", and the like, at summits

Show/Hide AI response

Question: What would be helpful would be to build into the examples the manner in which the physical processes are frequently employed metaphorically in description of the discourse process, hence "cooking up", possibly engaging in a "dance", etc. Could you develop such metaphors before proceeding with the full articulation

Show/Hide AI response

Question: Can you develop the 64-fold pattern

Show/Hide AI response

Experimental articulation of 64-fold pattern of right-wrong / good-evil / innocence-guilt

The method can be speculatively applied to other problematic polarities by which global dynamics are current challenged. That of right/wrong is an obvious example, highlighted by Edward de Bono (*I Am Right, You Are Wrong: from rock logic to water logic*, 1991). Definitive characterization of others as "evil", in contrast to "good", offers another. The challenge is increasingly obvious in the erosion of confidence in the capacity of the judiciary to distinguish appropriately between guilty and innocence -- especially in the light of the impunity of many in practice.

Question: I would prefer to start the exploration with right/wrong as the most common two-state, variously associated with good/evil, like/dislike, and love/hate in current discourse. Could you suggest an 8-fold pattern in the light of the trigram pattern as a basis for a 64-fold articulation. Clearly there is an argument for noting examples in each case

Show/Hide AI response

Question: A difficulty with that approach is the implicit association of yang or yin with right or wrong (or the reverse). The requisite subtlety is precisely what calls that "obvious" association into question in practical experience. "Earth" may be upheld as intrinsically "right", framing a question as to how "Heaven" may be upheld as intrinsically "wrong" from a particular perspective.

Show/Hide AI response

Question: Could you then speculate on a 64-fold articulation, with any examples you can detect

Show/Hide AI response

Exploring the problem-solution polarity as a 64-fold strategic pattern

Question: Could you repeat the speculative exercise for problem/solution (given its major strategic importance), as associated with question/answer (given the academic take on the former)

Show/Hide AI response

Recognition of 4-fold and 8-fold Western patterns of strategic relevance

Articulations of psychosocial categories inviting application of the above methodology have been the subject of separate commentary (*Systems of Categories Distinguishing Cultural Biases*, 1993). They include:

- Two Easterners involved in Western institutions, but presumably inspired by Eastern frameworks:
 - [Magoroh Maruyama](#) by whom four epistemological mindscapes are distinguished from the perspective of second-order cybernetics (*Mindscapes, social patterns and future development of*

scientific theory types. *Cybernetica*, 1980, 23, 1):

- homogenistic, hierarchical, classificational / heterogenistic, individualistic, random / heterogenistic, interactive, homeostatic / heterogenistic, interactive, morphogenetic
- [Kinhide Mushakoji](#) distinguishes four modalities through which the human mind grasps reality (*Scientific revolution and interparadigmatic dialogue*. United Nations University, GPID project, 1978)
 - affirmation / negation / affirmation and negation / non-affirmation and non-negation
- Four-fold patterns of purely Western inspiration include:
 - [Will McWhinney](#) distinguishes four modes of reality construction, resolution and change (*Paths of Change: strategic choices for organizations and society*. Sage, 1991)
 - analytic mode / dialectic mode / axiomatic mode / mythic mode
 - [Stephen Pepper](#) distinguishes four world hypotheses (*World Hypotheses: a study in evidence*, University of California Press, 1942)
 - formism (similarity) / mechanism (machine) / organicism (living system) / contextualism (historical act)
 - [Mary Douglas](#) distinguishes four systems of natural symbols in which the image of the body is used in different ways (*Natural Symbols: explorations in cosmology*. Pelikan, 1973)
 - body conceived as an organ of communication / body seen as a vehicle of life / practical concern with possible uses of bodily rejects / life seen as spiritual, and the body as irrelevant matter
 - [Geert Hofstede](#) distinguishes four indices of work-related values (*Culture's Consequences: international differences in work-related values*. Sage, 1984)
 - power distance / uncertainty avoidance / individualism / masculinity

McWhinney suggests the analogy of playing four games of chess simultaneously, calling for a shift between four contrasting rule sets -- requisite together in order to address complex issues (*Paths of Change: strategic choices for organizations and society*, 1992). Of particular relevance to the methodology above, [Mondo Selter](#) reframes Hofstede's study in terms of I Ching trigrams (*The Architectonics of Culture: a critique, modification and extension of Hofstede's study of societal culture*, Simon Fraser University, 2003).

Question: Do you have any trace of "8-fold ways" distinct from those of the East

Show/Hide AI response

Those distinguishing eight modalities have a tendency to refine their systems to include a ninth (or more), framing a question as to the systemic coherence of such systems, potentially in a manner consistent with George Miller's *Magical Number Seven plus or minus Two* (1956). Examples include:

- [Raymond Belbin](#): Through the *Belbin Self-Perception Inventory* nine clusters of behavioural attributes are distinguished through psychometric assessment as being effective in order to facilitate team progress (*The Nine Belbin Team Roles*). In the initial research, eight team-role behavioural styles were identified -- *Chairman, Shaper, Plant, Monitor-Evaluator, Company Worker, Resource Investigator, Team Worker, and Completer-Finisher*. The current schema has been refined to include a ninth style -- *Specialist* -- and in addition has renamed the *Chairman* behavioural style *Co-ordinator* and the *Company Worker* style *Implementer*.
- [Howard Gardner](#): over decades of research and in response to criticism, the theory of multiple intelligences has evolve from six to eight with various modalities proposed, reframed and excluded, as variously discussed (*Frames of Mind: the theory of multiple intelligences*, 1984; Jennifer Delgado, *The 12 types of intelligence, which one do you have?* Psychology Spot, 2023).
- [Emmanuel Todd](#): distinguishes families as: *Exogamic communal / Exogamic authoritarian / Exogamic nuclear / Exogamic absolute nuclear / Endogamic communal / Endogamic asymmetric communal / Anomic / Dynamically unstable domestic* (*The Explanation of Ideology: family structure and social systems*, 1985)

Images of organization as a 64-fold Western pattern of strategic relevance

Question: Another approach to the relevance to global governance of this exercise is through the much-cited 8-fold articulation by Gareth Morgan (*Images of Organization*, 1986). He distinguishes perception of organization metaphorically as: machines, organisms, brains, cultures, political systems, psychic prisons, flux and transformation, and instruments of domination. Could you speculate on a 64-fold articulation of this pattern, with examples where possible

Show/Hide AI response

Consolidating a pattern language of environment design

Question: The concept of a pattern language has been extensively developed by Christopher Alexander from an environmental design perspective (*A Pattern Language: towns, buildings, construction*, 1977). Its 254 patterns lend themselves to experimental adaptation to other domains (*5-fold Pattern Language*, 1984). A selection of 133 is shared with you. A simpler articulation is offered by the traditional Indian 5-fold set of *Vastu Shastra* design principles. As an exercise, in the light of the 8-fold pattern explored here, could you suggest a "consolidation" of Alexander's patterns into an 8-fold cluster, and then combine those distinctions together as you have done to create a 64-fold pattern -- relating the elements of the larger set to the 64.

Show/Hide AI response

Exploring a 64-fold pattern of love-hate / like-dislike

In the quest for insight into comprehension of 64-fold patterns, it is curious to note the extensive articulation offered by the controversial ancient Indian sex manual, the *Kama Sutra*, as noted separately (*Engaging with Globality through Playful Re-categorizing*, 2009; *Triadic correspondences between Topology, Kama Sutra and I Ching*, 2011). It is a classical Sanskrit text providing guidance on virtuous and gracious living through a structured discussion of the nature of love, family life and the pleasure to be derived from living. The text is structured in terms of 64 arts (*Kala64, Orientalia -- dictionary of Hindu religion*). These are the the 64 secret arts (*abhyantara kala*) of erotic love and the 64 practical arts (*bahya kala*) appropriate to cultured persons.

Clifford A. Pickover highlights the difficult mathematical problems lurking in the *Kama Sutra* (*A Passion for Mathematics: numbers, puzzles, madness, religion, and the quest for reality*, 2005). Janice Padula emphasizes that mathematics may be better appreciated through the relevance to students' lives -- notably in terms of sex and romance (*The Kama Sutra, Romeo and Juliet, and mathematics: studying mathematics for pleasure, Australian Senior Mathematics Journal*, July 2005).

The binary disconnection between "like" and "dislike" is now a feature of many web platforms, potentially extended more problematically to "love" and "hate", as discussed separately (*Varieties of love and like required for comprehension of polyamory*, 2018; *Varieties of hate and dislike required for comprehension of "polyanimosity"*, 2018).

Question: Could you repeat the speculative 64-fold exercise for like/dislike and love/hate (given their major psychosocial importance)

Show/Hide AI response

Symbolic encoding and the challenge to interpretation

Question: That response is usefully framed with an 8-fold pattern. Of interest in this exercise is whether the distinctions could be meaningfully encoded as triplets -- as trigrams -- to avoid entanglement with the language in which the distinctions are expressed

Show/Hide AI response

There is a curious bias associated with use of "right" and "left" in political discourse -- most obviously with "right" contrasted with wrong, and "left" associated with "evil". Such biased connotations extend to "top" and "bottom" as challenged with respect to hierarchical organization, most notably by feminists. This can be explored through the manner in which text and codes are "read" with potential political implications of reading from left-to-right, right-to-left, or top-down (*Unquestioned Bias in Governance from Direction of Reading?* 2016).

Question: Not to be forgotten with respect to such encoding are the contrasting manners in which each may be "read"-- and the implications. Thus the trigrams may be read top-down or bottom-up. They may also be reversed yin-to-yang and yang-to-yin. A cognitive dynamic is potentially associated with the encodings

Show/Hide AI response

Finger-pointing challenge of potential miscommunication

Question: In this exchange you have referred to "essentially contested concepts" [W. B. Gallie, *Essentially Contested Concepts*, *Proceedings of the Aristotelian Society New Series*, 56, 1955 - 1956]. How might they relate to the classic analogy of a dog looking at the pointing finger of his master -- and not at that to which it is pointing

Show/Hide AI response

Question: Do you have any trace of the origin of the dog and finger-pointing analogy

Show/Hide AI response

Question: The challenge of the dog may presumably be usefully applied more provocatively. Everyone is potentially a "dog" from some other perspective. More problematic is that -- even with a variety of fingers pointing -- the nature of an essentially contested concept can at best only be inferred. It would seem that the polarities that are the focus of this argument (especially in their generic sense) could be explored as a form of hyperobject, as framed by Timothy Morton (*Hyperobjects: Philosophy and Ecology after the End of the World*, 2013). Are they in some manner objects so "conceptually massively distributed in time and space" as to transcend spatiotemporal specificity.

Show/Hide AI response

Question: That response offers the implication that each discipline points a finger to which the others respond as does the dog

Show/Hide AI response

Question: Can you trace any references to its relevance to the challenge of communication in the hypothetical encounter of humans with extraterrestrials -- whether they do the "pointing" (with humanity as the "dog"), or they are the "dog" (with humanity doing the pointing). This would be potentially of the greatest of relevance with respect to the most fundamental values, whether of humanity or of the extraterrestrials

Show/Hide AI response

Cognitive exemplars and their questionable positive or negative appreciation

Question: If the pattern of 8-fold distinctions is best understood through a set of complementary metaphors (for each of which there may be alternatives), and if the modalities of the 8-fold set are recognized as associated with distinctive cognitive biases, then how might those biases be described and how is each especially defective -- failing to recognize what appropriately

Show/Hide AI response

Question: In the light of Carl Jung's distinction of a pattern of 8 [personality/psychological types](#) and their modes of cognition, do you have any trace of how he related these to the 8-fold pattern of trigrams -- given his interest in the I Ching. Has that trigram encoding been extended to the 16-fold pattern of [MBTI](#)

Show/Hide AI response

Question: With respect to that response, there is a case for recognizing "archetypal exemplars" of extremes. That of John Keats longing for "[negative capability](#)" is one such. That of the articulated longing for a "positive" framing (excluding any "negativity") is another. Can you offer other examples. How might these relate to the "self-reference" for which cybernetics calls

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Especially curious is the manner in which "positive" appreciation is readily and uncritically valued, whilst the "negative" is correspondingly deprecated. This contrasts dangerously with the value attached by cybernetics to both [positive feedback](#) and [negative feedback](#). ([Barbara Ehrenreich, *Smile or Die: How Positive Thinking Fooled America and the World*, 2010](#); [Being Positive Avoiding Negativity: management challenge of positive vs negative](#), 2005).

Question: In an earlier phase of this exchange you acknowledged the extent to which the various 8-fold patterns used language metaphorically in order to allude -- as instances -- of "essentially contested concepts" (W. B. Gallie, [Essentially Contested Concepts](#), *Proceedings of the Aristotelian Society New Series*, 56, 1955-1956). This suggests that any sets of metaphors used in this way merits recognition as complementary in offering aspects of insight, exemplified by the 2-fold wave-particle complementarity, extended in the psychosocial case to 8-fold. From this perspective, there is a case for an 8-fold pattern of appreciation/deprecation of the speculative 64-fold exercises articulated in this exchange. In terms of such a pattern it becomes predictable that each of the 8 "voices" should be evident in response to any such articulation. This could be a variant of the like/dislike polarity

Show/Hide AI response

Problematic assumptions regarding categories in a pattern language

In articulating a 64-fold pattern, it is appropriate to question the tendency to distinguish categories in the guise of nouns -- without considering other parts of speech as potentially more appropriate, especially from the perspective of other cultures. One understanding of the issue is recognizable in the conventional "static" articulation of annual reports when a "process" emphasis might engender more strategically appropriate understanding ([Dynamic Transformation of Static Reporting of Global Processes](#), 2013). A related argument can be developed with respect to fundamental values ([Freedom, Democracy, Justice: Isolated Nouns or Interwoven Verbs?](#) 2011).

Question: What is the generic term for nouns, verbs, adverbs and the like, and what is the complete set of such terms

Show/Hide AI response

Question: Why do questions, answers and interjections not feature in that set

Show/Hide AI response

Question: Does the set differ in other languages, with other elements or fewer

Show/Hide AI response

Question: What biases might then be recognized in descriptors of values or categories -- inviting their articulation with parts of speech other than nouns

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In contrast to the theme of "state", as explored above with respect to "two-state", there is increasing reference to "deep state" -- readily held to be as strangely complementary to the "dark web".

Question: There is increasing reference to "deep state" as a type of government made up of potentially secret and unauthorized networks of power operating independently of a state's political leadership in pursuit of their own agenda and goals. In popular usage, the term carries overwhelmingly negative connotations and is often associated with [conspiracy theories](#) regarding the manipulative control of society. Any bias in favour solely of its implications as a substantive, loses insights potentially carried by other parts of speech, by Gareth Morgan's *Images of Organization*, or by Stafford Beer's cybernetic adaptation of Le Chatelier's Principle. For Beer, for example: An ultrastable system (like a social institution) specialises in equilibrial readjustment which to a change agent is a secret form of change requiring no actual alteration in the macro-systemic characteristics that he is trying to effect. Understanding of hyperobject, as articulated by Timothy Morton, would also seem to be of relevance.

Show/Hide AI response

Reframing Sustainable Development Goals dynamically?

At the time of writing, the United Nations is preparing a [Summit of the Future](#) -- "a high-level event, bringing world leaders together to forge a new international consensus on how we deliver a better present and safeguard the future" -- to adopt the *Pact for the Future*, which will include a *Global Digital Compact* and a *Declaration on Future Generations*. It will reaffirm existing commitments, and will seek to [accelerate their delivery of the Sustainable Development Goals](#) (Jeffrey D. Sachs, *The Summit of the Future*, *Transcend Media Service*, 8 July 2024).

The Summit will invite suspicion, as with previous intergovernmental compacts (Jacob Nordangard, *The Ultimate Goal of the Pact for the Future: a planetary technocracy to manage global crises on behalf of the global corporatocracy*, *Global Research*, 6 August 2024; *Global Compact Enabling Complicity in the Ultimate Crime against Humanity*, 2018; *Challenges arising from the UN's Global Compact*, 2001). Can the SDGs be memorably reframed to ensure their credibility and uptake?

Question: In comparison with your useful 64-fold articulation of strategic metaphors using gerunds, the other examples above of the speculative articulation (constrained by language) rely on nouns in a manner which therefore loses the dynamic implied by the pattern (at least in terms of Chinese understanding). The sense in which the 64 transform into one another was a feature of an earlier phase of this exchange. This considered the speculative possibility from a meta-perspective that these transformations might even be linked together in a Hamiltonian cycle on a 6D hypercube.

Show/Hide AI response

There is currently much concern that the "goals" of the UN's SDGs are far from being achieved. [The Sustainable Development Goals Report](#) (2024) finds that only 17 per cent of the SDG targets are on track, nearly half are showing minimal or moderate progress, and progress on over one third has stalled or even regressed. Arguably there is a case for new thinking as to the meaning of "goal", especially given the degree to which popular imagination associates it with the simplicity and finality of its achievement in sport. The engagement with goals and their associated values could be fruitfully reframed by interpreting them through parts of speech other than as nouns. The nature of that cognitive engagement is potentially challenged by the reframing of a target calling into question subjective, objective and any sense of identity in practice -- potentially enabling transcendence of fundamental dilemmas (*A Subjective Objection: Objecting to Subjection Interplay of questions*, 2016; *Geometry, Topology and Dynamics of Identity*, 2009).

The dilemma has been addressed by the controversial [Eugen Herrigel](#), in an influential book (itself controversial): "there is in it something of a quite different order which cannot be attained by any progressive study of the art" (*Zen in the Art of Archery*, 1948; Andrew David King, *The Myth of the Myth: Re-Examining Zen in the Art of Archery*, *Valley Humanities Review*, Spring 2010). As inferred by Christopher P. Jones, it is a matter of not aiming for the target -- the very target it is wrongly assumed is the whole point of archery (*Zen in the Art of Archery*, 16 October 2018). This could be understood as the challenge of the SDGs for humanity (*Health and sustainability misleadingly framed as target acquisition*, 2012).

Particular consideration is given to the use of gerunds in the naming of the many strategies profiled in the *Encyclopedia of World Problems and Human Potential* (*Method: Strategy Naming*, Global Strategies Project)

Question: Your earlier use of gerunds in distinguishing elements of an 8-fold and 64-fold pattern, together with comments on an 8-fold set of parts of speech, frames the question as to how the significance and uptake of the UN's SDGs would be reframed if the goals -- as nouns -- were interpreted in the light of other parts of speech, most notably as verbs. Could you speculate on an 8-fold reframing

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Question: In the light of your speculative use of a verb or gerund form for the SDGs, could you recluster the 16 SDGs (excluding the 17th) into an 8-fold pattern using that form -- potentially echoing the 8-fold set of Millennium Goals -- and then articulate 8x8 to form a 64-fold pattern (as you have done previously) with an indication of requisite vigilance and due diligence in each case, to allow for the requisite negative feedback in a cybernetic sense and to avoid naive positivism

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Challenge of memorable comprehension of 64-fold patterns as "cognitive fusion"

The use of AI to generate various 64-fold patterns (speculatively) has been presented above as a challenge to comprehension of significant distinctions of potential relevance to global governance and its appreciation in a society fixated on binary framings. How indeed are they to be "read"? It is curious that a 64-fold pattern is fundamental to biological life through genetic codons -- suggesting that the pattern is "well-embodied" even if cognitively elusive.

Patterns of that order are fundamental to the periodic table of elements and to a variety of symbol systems and ritual practices with circlets of beads (*Designing Cultural Rosaries and Meaning Malas to Sustain Associations within the Pattern that Connects*, 2000). With the emphasis on "ways of thinking" above, a similar challenge is offered by the following 62-fold Buddhist philosophical reflection.

<i>All-Embracing Net of Views</i>	
Adaptation of an appendix in the English translation of <i>The Discourse on the All-Embracing Net of Views; the Brahmajala Sutta and its commentarial exegesis</i> (1978). providing a checklist of the views in the order in which they are discussed in the original text and its commentaries.	
I. Speculations about the past (<i>Pubbantakappika</i>) 1.1.1 Eternalism (<i>Sassatavada</i>) 1.1.2 Based on recollection of up to 100,000 past lives 1.1.3 Based on recollection of up to 10 aeons of world contraction and expansion 1.1.4 Based on recollection of up to 40 such aeons 1.1.5 Based on reasoning 1.2 Partial-Eternalism (<i>Ekaccasassatavada</i>) 1.2.1 Theism 1.2.2 Polytheism held by beings who were gods corrupted by play 1.2.3 Polytheism held by beings who were gods corrupted by mind 1.2.4 Rationalist dualism of an impermanent body and an eternal mind	2.2 Non-percipient Immortality (<i>Asannivada</i>), with the self immutable after death, non-percipient and: 2.2.1 Material 2.2.2 Immaterial 2.2.3 Both material and immaterial 2.2.4 Neither material nor immaterial 2.2.5 Finite 2.2.6 Infinite 2.2.7 Both finite and infinite 2.2.8 Neither finite nor infinite 2.3 Neither Percipient nor Non-percipient Immortality (<i>N'evasanninasannivada</i>), with the self immutable after death, neither percipient nor non-percipient: 2.3.1 Material 2.3.2 Immaterial



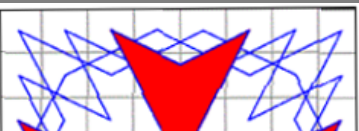
<p>1.3: Extensionism: finitude and infinitude (<i>Antanantavada</i>)</p> <p>1.3.1 View that the world is finite</p> <p>1.3.2 View that the world is infinite</p> <p>1.3.3 View that the world is finite in vertical direction but infinite across</p> <p>1.3.4 View that the world is neither finite nor infinite</p> <p>1.4 Endless Equivocation (<i>Amaravikkhepavada</i>)</p> <p>1.4.1 Held by one fearful of making a false statement</p> <p>1.4.2 Held by one fearful of clinging</p> <p>1.4.3 Held by one fearful of being cross-examined</p> <p>1.4.4 Held by one who is dull and stupid</p> <p>1.5 Fortuitous Origination (<i>Adhiccasmuppannava</i>)</p> <p>1.5.1 Based on recollection of the arising of perception after passing away from the plane of non-percipient beings</p> <p>1.5.2 Based on reasoning</p> <p>2. Speculations about the Future (<i>Aparantakappika</i>)</p> <p>2.1 Percipient Immortality (<i>Sannivada</i>), with the self immutable after death, percipient and:</p> <p>2.1.1 Material</p> <p>2.1.2 Immaterial</p> <p>2.1.3 Both material and immaterial</p> <p>2.1.4 Neither material nor immaterial</p> <p>2.1.5 Finite</p> <p>2.1.6 Infinite</p> <p>2.1.7 Both finite and infinite</p> <p>2.1.8 Neither finite nor infinite</p> <p>2.1.9 Of uniform perception</p> <p>2.1.10 Of diversified perception</p> <p>2.1.11 Of limited perception</p> <p>2.1.12 Of boundless perception</p> <p>2.1.13 Exclusively happy</p> <p>2.1.14 Exclusively miserable</p> <p>2.1.15 Both happy and miserable</p> <p>2.1.16 Neither happy nor miserable</p>	<p>2.3.3 Both material and immaterial</p> <p>2.3.4 Neither material nor immaterial</p> <p>2.3.5 Finite</p> <p>2.3.6 Infinite</p> <p>2.3.7 Both finite and infinite</p> <p>2.3.8 Neither finite nor infinite</p> <p>2.4 Annihilationism (<i>Ucchedavada</i>)</p> <p>2.4.1 Annihilation of the self composed of the four elements</p> <p>2.4.2 Annihilation of the divine sense-sphere self</p> <p>2.4.3 Annihilation of the divine, fine-material-sphere self</p> <p>2.4.4 Annihilation of the self belonging to the base of infinite space</p> <p>2.4.5 Annihilation of the self belonging to the base of infinite consciousness</p> <p>2.4.6 Annihilation of the self belonging to the base of thingness</p> <p>2.4.7 Annihilation of the self belonging to the base of either perception nor non-perception</p> <p>2.5 Nibbana Here and Now (<i>Ditthadhammanibbanavada</i>)</p> <p>2.5.1 Nibbana here and now in the enjoyment of the five strands of sense pleasure</p> <p>2.5.2 Nibbana here and now in the first jhana</p> <p>2.5.3 Nibbana here and now in the second jhana</p> <p>2.5.4 Nibbana here and now in the third jhana</p> <p>2.5.5 Nibbana here and now in the fourth jhana</p>
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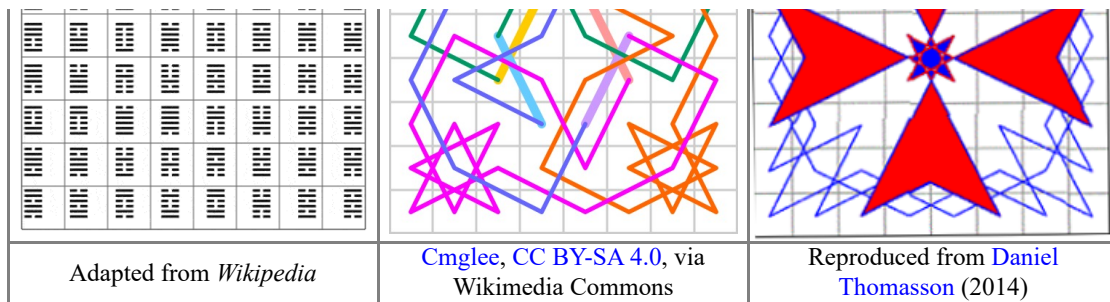
Question: The famed Buddhist text on the 62-fold All-Embracing Net of Views (above) suggests that it is a comprehensive approach to "ways of seeing". Less evident is its seeming lack of relationship to the 8-fold patterns so characteristic of Buddhism. Could you comment on this

Show/Hide AI response

Patterns formed by the much-studied Knight's Tour, notably as they might relate to traditional tabular arrangements of hexagrams, were evoked and illustrated in a previous AI exchange (*Recognition of dynamics of 64 two-state pattern with AI?* 2024). That exercise, of which one animation is reproduced below left, is of an **open** Knight's Tour -- and therefore of less significance to the systemic organization of the pattern of hexagrams in contrast with the **closed** symmetric patterns (below centre and right).

Given the "disconnect" from 64-fold patterns as a cognitive challenge, of particular interest is the manner in which symmetrical Knight's Tour patterns may be recognized as meaningful (if only intuitively), as especially highlighted by Daniel Thomasson (*Symmetrical Knight's Tours*) -- as with the example below right. More controversially, especially in the present period, is the relationship of the pattern of Knight's moves in chess to the swastika symbol and the trigram. This is discussed separately with respect to the implicate order of Knight's move game-playing sustaining creativity, exploitation and impunity (*Swastika as Dynamic Pattern Underlying Psychosocial Power Processes*, 2012). Curiously "Knight's move thinking" has acquired a pathological connotation as a form of "thought disorder" from a psychiatric perspective.

Contrasting representations of Knight's Tour		
Animation of open Knight's Tour of chess board with King Wen hexagram pattern overlaid	Radially symmetric closed Knight's Tour (a 4-fold pattern)	Radially symmetric closed Knight's Tour (coloured as Knight's Hospitaler Cross)
		



Question: I note that there is some identification of the patterns formed by Knight's Tours in relation to well-known symbols (Maltese Cross, etc). Do you have any trace of its relevance to (intuitive) recognition of other symbols

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Whereas symmetrical symbols a comprehensible and highly appreciated in the form of sacred geometry, far less evident is the nature of the cognitive engagement with what they represent or encode. Ironically the one domain in which this is researched as a matter of particular concern is the layout of the display of information for a fighter jet pilot engaged in split-second decision-making. It is of course a concern in the meditative engagement of sacred symbols. Other than through [infographics](#), there is seemingly little interest in how strategically relevant information is displayed such as to engage decision-makers and their supporters

As with "Knight's move thinking", there is considerable irony to the fact that requisite "cognitive fusion" may be confused with a pathological condition, for which there is a [Cognitive Fusion Questionnaire](#) -- to assist in the therapeutic process of [cognitive defusion](#), As clarified by Larry Berkelhammer, for example:

Cognitive fusion is the mind state of not being able to see thoughts as thoughts. is the state of mind in which we are so fused with our thoughts that they appear to be synonymous with fact. Most suffering in the world is the result of being fused to our beliefs. In this state, we have such strong identification with and/or attachment to our thoughts and beliefs that we are unable to see what is in fact the literal truth—that our thoughts are nothing but insubstantial mental constructs. (*Cognitive Fusion*, 2012)

To the extent that complex patterns are "constructs", this confusion calls for exploration of the challenge of reframing cognitive implication in nature and natural disasters (*Being Spoken to Meaningfully by Constructs*, 2023). In the quest to ensure humanity's energy resources, the design challenges of the extensive investment in nuclear fusion offer a more fruitful insight into ensuring cognitive fusion (*Cognitive Fusion through Myth and Symbol Making: archetypal dimensions*, 2006; *Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing*, 2006).

Question: With respect to the "cognitive disconnect" between complex (64-fold) patterns and those that are only meaningful through the symmetry that renders them relatively simple (as 4-fold or 8-fold patterns), the term "pattern recognition" avoids the question of comprehension of the degree of significance a pattern may imply -- potentially following lengthy study and/or meditation (as with mandalas, yantras, and sacred diagrams). Could you comment on any understanding of degrees of recognition as they may relate to effective "cognitive fusion".

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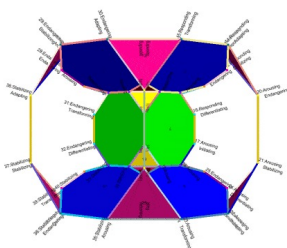
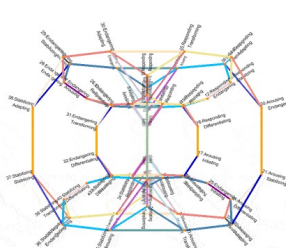
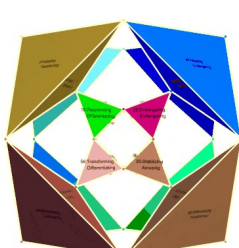
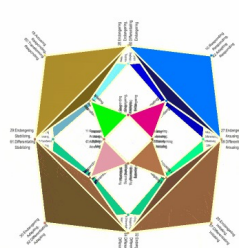
Question: That response concerning the cognitive disconnect suggests that more complex patterns (64-fold for example) effectively conceal or distort the contrasting cognitive functions implied and supposedly clarified by any simplification to 4-fold or 8-fold patterns. On the other hand those simpler patterns -- due to their reduced complexity -- conceal the significance and practical implications associated with their articulation as more complex patterns. Especially problematic is the manner in which the simpler patterns are

"grasped" (for political or ideological purposes) -- ignoring their subtlety and dynamics -- a process of misplaced concreteness and the reification of identity.

Show/Hide AI response

Question: Could you comment on the implications of that unexplained 16-fold response engendered by particular algorithms, given that the list format may well be a challenge to integrative comprehension in its own right -- reinforcing the cognitive disconnect which it endeavours to frame. What determines how you use an 8-fold or more complex format and whether you hold any systemic connectivity between the items which might be valuable to presentation of comprehensible patterns of symmetry

Show/Hide AI response

Indicative use of 3D projections of 4D polytopes for mapping a 64-fold pattern of geopolitical two-states			
Truncated tesseract (19-Tat) Projection (64 vertices)		Rectified tesseract (42-Rit) Projection (64 faces; 64 vertices)	
Selected faces transparent	All faces transparent	No faces transparent	All faces transparent
			
Animations produced with the aid of Stella4D			

Mathematics Subject Classification as a 64-fold pattern language

There is every reason to uphold mathematics as the discipline exemplifying the human understanding of order. Of particular interest therefore is the manner in which the discipline has chosen to order its preoccupations through the 64-fold *Mathematics Subject Classification* (MSC). This could be explored as a highly valuable metaphor for the organization of knowledge (*Is the House of Mathematics in Order?* 2000; *Towards a Periodic Table of Ways of Knowing -- in the light of metaphors of mathematics*, 2009). Of relevance is the challenge to mathematics of the *Periodic Table of Chemical Elements* (D. H. Rouvray and R. Bruce King, *The Mathematics of the Periodic Table*, 2005) -- in the light of over 1300 efforts towards their memorable visualization for teaching, aesthetic or philosophical purposes (*Types of Periodic Tables; The INTERNET Database of Periodic Tables*)

Question: A top-level coding of disciplines using 2 digits is employed by the standard *Mathematics Subject Classification*. Could you comment on any trace of efforts to organize the mathematical domains in a manner which reflects their systematic organizations and its comprehensibility -- as is characteristic of the *Periodic Table of Chemical Elements*

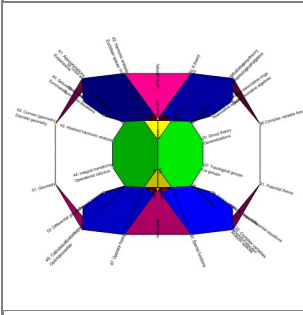
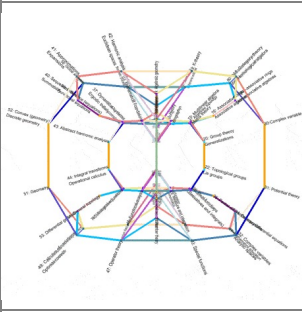
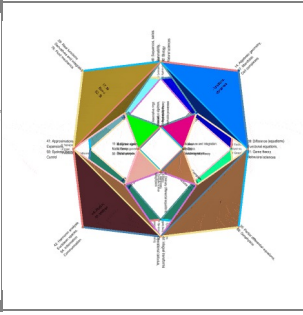
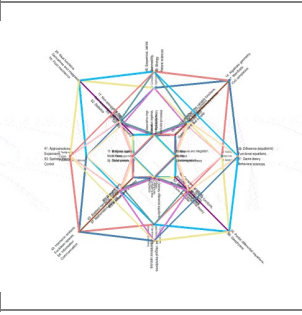
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Question: The widely used Mathematics Subject Classification has its top-level coding of disciplines using 2 digits results in a 64-fold list (shared). Could that list be clustered speculatively into 8 "ways of doing maths" or thinking about it, such that the 64 are engendered by combining those "generic" ways with each other in an 8x8 pattern -- as with the traditional combination of trigrams to form hexagrams. Could you identify the set of 8, combine them, and indicate (speculatively) how each relates to one of the 64 in the MSC set. It is appropriate to assume that the 2 identifying digits were not originally used to any such end.

Show/Hide AI response

Question: Noting the reservations in this much appreciated speculative attempt, the question is then how to map these distinctions onto a suitable polyhedron, given the possibilities of attributing each of the 64 to vertices, faces or edges. Beyond any meaningless arbitrary attribution, how might advantage be taken of symmetry, great circles, adjacency, and the like, to enable a comprehensible sense of the global organization of maths. One possibility is that this would be more feasible with a 4D polytope than a 3D polyhedron (like the 64-edged drilled truncated cube) -- or a 3D projection of a 4D configuration. With respect to such a projection, potential candidates are variants of the [tesseract](#), a four-dimensional hypercube (analogous to a two-dimensional square and a three-dimensional cube).

Show/Hide AI response

Indicative of use of 3D projections of 4D polytopes for mapping a 64-fold pattern of mathematical topics			
Truncated tesseract (19-Tat) Projection (64 vertices)		Rectified tesseract (42-Rit) Projection (64 faces; 64 vertices)	
Selected faces transparent	All faces transparent	No faces transparent	All faces transparent
			
Animations produced with the aid of Stella4D			

Question: Which disciplines (or combination of disciplines) are best equipped to elicit a mapping in the light of your suggestions: polyhedral combinatorics? If a 4D polytope proves more appropriate, of further interest is alternation between contrasting representations, possible morphing to a dual

Show/Hide AI response

Question: Could you comment on the potential irony, in the light of [George Lakoff's \(Where Mathematics Comes From: how the embodied mind brings mathematics into being, 2000\)](#), that the 64-fold organization of mathematics has been engendered through collective intuition -- given that there are 64 [convex uniform 4-polytopes](#), including the 6 regular convex 4-polytopes (excluding the infinite sets of the duoprisms and the antiprismatic prisms). Does this imply a degree of unconscious self-reflexivity -- perhaps consistent with [G. Spencer-Brown's Laws of Form \(1969\)](#). Could the 64 topics be fruitfully associated with such distinctive structures -- or even with the 64 cells of the polychoron [hinpith](#) (hexadecintercepted prismatotesseractihexadecachoron).

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