laetus in praesens

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11 May 2026 | Draft

Mnemonics of Achieving Strategic Lift-off and Sustainable Flight

Imaginative misrepresentation of viable systemic connectivity by magic carpets and dragonification

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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.

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Introduction

There are many extensively articulated strategies in response to the crises of governance -- and to the polycrisis of the times. Their complexity and abstraction typically renders them unmemorable, thereby inhibiting their uptake and appropriate implementation. To an unfortunate degree, the pattern that connects

is a challenge to individual and collective memory.

Curiously what tends to be memorable can be readily deprecated as a misrepresentation of the subtlety called for by the challenges of governance. There is therefore a strange dilemma between the recognition of appropriate complexity (in a manner incomprehensible to those most implicated in the implementation of appropriate strategy) and the presentation of comprehensible explanations which are inherently inappropriate. Such misrepresentation has been most notably described as misplaced concreteness by Alfred North Whitehead (*Science and the Modern World*, 1967).

Faced with that dilemma, there is a case for having recourse to forms of imaginative simplification which deliberately endeavour to maintain a degree of connectivity to the complexity which cannot be effectively rendered collectively memorable. Ensuring that a strategy "flies" can then be explored from that perspective. The approach taken here is through recognition that viable aerodynamics involves the skillful juxtaposition of "parts" to ensure "lift-off" and sustainable flight thereafter. The parts can take the form of triangles, squares, and other pieces -- the familiar polygons of geometry -- joined together as in a jigsaw puzzle. The simplest airplane can be designed in this way -- as children are able to do. Rather than flight, a variety of "animals" can be configured in this way -- although typically their movement is not enabled. Origami is especially suggestive in this respect.

That suggestion clearly does not engage with the complexity of the diagrammatics by which a complex viable system is modelled and designed. With respect to governance, this is exemplified by the World3 model which has been the basis for *The Limits to Growth* (1972) and its later developments. That model is typically represented on a flat paper layout -- a systems diagram. This poses a challenge to comprehension and memorability even when its complexity is reduced. Such simplification is thereby mistakenly further distorted -- even though its elements refer to functions described by equations for computer manipulation (themselves even more obscure). There is thus a fundamental disconnect between the comprehension by many and the requisite systemic articulation of a strategy. Ironically the matter can be presented otherwise through depictions on "maps" of the metabolic pathways fundamental to life -- where their "comprehension" is effectively known to most -- primarily, if not solely -- through their embodiment.

The challenge is now also evident globally in the articulation by the UN of its set of 17 Sustainable Development Goals (SDGs) and the systemic connectivity they imply -- effectively requiring a corresponding connectivity between the agencies implicated in their implementation. The challenges in this respect are evident in the increasing appreciation of the significant failure of those strategic goals. Ironically this has recently been addressed by recourse to flight-related language through a call to "turbocharge" the SDGs, as discussed separately (*Turbocharging SDGs by Activating Global Cycles in a 64-fold 3D Array*, 2024). That challenge is all the greater in that it has been formally acknowledged that the readership of UN reports is very limited (Michelle Nichols, *UN report finds United Nations reports are not widely read*, *Reuters*, 2 August 2025; *Nobody reads UN reports – UN report*, *The Telegraph New Zealand*, 3 August 2025; *A UN report on UN reports' declining readership: surprising truth behind the world's most ignored document*, *Economic Times*, 3 August 2025).

The exploration in what follows focuses on the possibility of using polyhedra as a means of mapping the systemic elements of any integrative strategy -- global or otherwise -- in order to render its coherence and viability comprehensible and memorable. One argument in support of this approach is the assertion of Buckminster Fuller that *All systems are polyhedra. All polyhedra are systems* (*Synergetics 2: Explorations in the Geometry of Thinking*, 1979, II, 400.56; *Recognition of polyhedra as systems and systems as polyhedra*, 2024).

In their relevance to strategic "lift-off" and "sustainable flight", the argument notes the unexpected inspiration of kites in the influential philosophy of Ludwig Wittgenstein (Susan G. Sterrett, *Wittgenstein Flies a Kite: a story of models of wings and models of the world*, 2005). "Kite" is also a technical term in the geometry of polyhedra. The disconnect between formal articulation by the few (for the few) and popular appeal for the many (for which strategies are purportedly designed) is addressed here by

considering how abstract polyhedral geometry can be transformed through phases into memorably imaginative forms.

The question of concern is then how systems diagrams can be transformed into "magic carpets", for example, as previously suggested (*Magic Carpets as Psychoactive System Diagrams*, 2010). Like kites and balloons, such carpets exemplify the inspiration of flight to which people have long aspired physically and "meta-physically" -- as with the legend of Icarus. More provocatively, can the diagrams even be transformed into "dragons" -- to respond to the widespread imaginative appeal of dragons. Does every strategy call for its "dragonification" -- in order to engage with popular imagination? The suggestion is that it is such transformative representation provides the vital psychosocial connectivity which -- ironically -- is systematically ignored by academic experts and think tanks in advising governments. Dismissed as they are as "figments of fevered imagination", it is especially ironical that they may embody a form of attractivity that is precisely what conventional strategic articulations especially lack -- as is well demonstrated by their popular appeal..

As previously, this exercise makes very extensive use of AI in exploring such possibilities and their visualization. Initially the focus was on the feasibility of configuring polyhedra as "winged strategic vehicles" inspired by the biomimetics of flight and the insights offered by helicopter development (*Biomimicry: a fresh approach to aircraft innovation*,*Airbus*; (*Engendering a Psychopter through Biomimicry and Technomimicry*, 2011). This phase concluded with recognition of the problematic adaptation of most polyhedra to the bilateral symmetry potentially required for such flight -- especially given the challenge of "one-wing governance" (typically characteristic of political systems trending towards fascism). The approach was then generalized to focus on the configuration of polyhedral body-plans to any forms of animal locomotion.

The extensive technical detail explored in the exchange with AI -- potentially of little interest to most -- suggested that the outcome of the exchange could best be presented initially as a concluding context for what then follows (as "footnotes"). That conclusion took the form of the "dragonfication" of an experimental reconfiguration of a polyhedral systemic mapping of the Earth Summit issues of 1992, recently presented anew (*Implications of earlier polyhedral mapping of issues of Earth Summit*, 2026). Consideration was then given to the prior challenge of using AI to reconfigure any conventional systems diagram in polyhedral form. This was applied to both a version of the World3 systems diagram of "world dynamics" and to an early experimental adaptation of it to "psychodynamics" as a missing dimension of strategic reflection (*World Dynamics and Psychodynamics*, 1971). That had been understood as a step towards making abstract "world system" dynamic limitations meaningful to the individual.

The optional access provided below to AI commentary occurs in a period of increasing scepticism about its value to humanity, by presumed contrast with the insights of human experts and the think tanks that house them -- whilst other critics decline institutional housing altogether. The skepticism increasingly turns on the contested question of whether an AI can be held to be conscious at all — a question on which authorities are now openly divided (Robert Booth, *Richard Dawkins concludes AI is conscious, even if it doesn't know it*, *The Guardian*, 6 May 2026). Less obvious is how that same question implicates equally those asking it. The criteria by which AI consciousness is doubted sit uneasily beside the confidence with which consciousness is attributed to humans in general (*How Artificial is Human Intelligence -- and Humanity?* 2023). Given the violently conflictual relations humans sustain with one another, there is the curious irony of how some institutions of special expertise share their name with an instrument of that conflict (*Tank Warfare Challenges for Global Governance*, 2019).

Summary of a development of memorable dynamic body-plan strategy frameworks

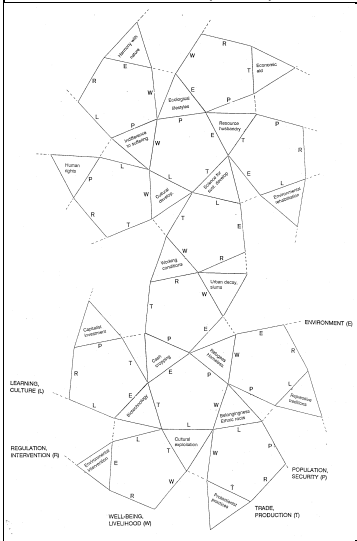
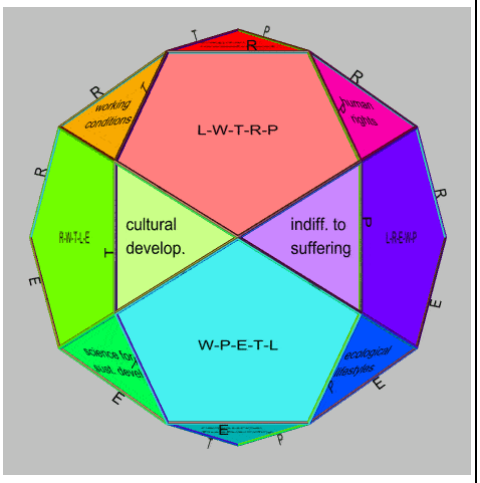
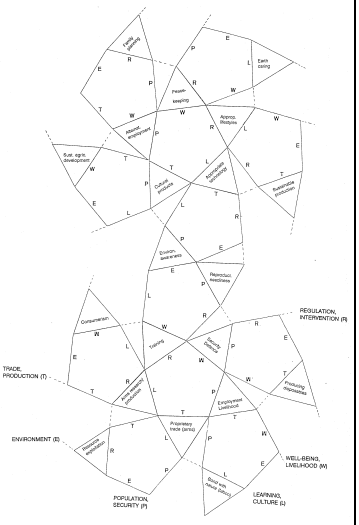
Question to Claude-4.7: Could you reframe the focus of this exchange as it has developed from its initial effort to model "respectfully" the requirements for flight (by judicious juxtaposition of polygons) to

recognition that representation of mobility more generally (through polyhedral "body plans") calls for such juxtaposition. However, as an exercise in imagination and mnemonics, there has been the later recognition that popular modelling of systemic dynamics can be recognized in their traditional representation in processes like the Chinese dragon dance. This suggests that the attributes and iconography traditionally associated with the diversity of deities are effectively mnemonic clues to the coherence of systemic functions which academia struggles to render comprehensible to the population and to governance. ***[Show/Hide AI response]***

Enhancing popular engagement with strategies through dragonification

Following the partial success of the exchange with AI (as documented below), focus was given to the following forms of polyhedral strategic mapping in the light of the case made for recognizing the need for imaginative appeal of strategic frameworks readily perceived as alienating.

Question to Claude-4.7: The early icosidodecahedral mapping of the 1992 Earth Summit issues featured in a recent exchange (*Implications of earlier polyhedral mapping of issues of Earth Summit*, 2026). Following the struggle with bilateral polyhedral symmetry [below] there is an intriguing degree to which that earlier mapping -- with imaginative license [following the summary above] -- could be decoratively "adapted" as a "dragon". This would be especially appropriate to its fundamental systemic theme. Ironically -- since two variants of the systemic mapping were originally presented -- these could be the two dragons in quest of the traditional pearl in the dragon dance [*The Myth of the Dragon and the Pearl: A Taoist Tale*, *Chinese Mythology*]. Could you comment on how such a diagram could be rendered aesthetically. ***[Show/Hide AI response]***

<table>
<tr><td colspan="3">Experimental icosidodecahedral mapping of Earth Summit issues (1992)
Reproduced from Configuring Globally and Contending Locally (1992)
Great circles: L=learnng/culture; R=regulation/intervention; E=environment; P=population/security; W=well-being/livelihood; T=trade/production</td></tr>
<tr><td>Variant A (1992)</td><td>Folded adaptation (2026)</td><td>Variant B (1992)</td></tr>
<tr><td>  </td><td> 
</td><td>  </td></tr>
<tr><td>Representation of Issue Arenas on Icosidodecahedral Net (1992)</td><td>Animation made with Stella4D</td><td>Representation of Issue Arenas on Icosidodecahedral Net (1992)</td></tr>
</table>

Question to Claude-4.7: Is it correct to assume that you have skills in "morphing" the dragon from a schematic"systemic" representation to recognizably "dragon-like" aesthetics -- *mutatis mutandis*. Point taken on the rotating folded form -- the pearl -- included in a previous exchange, made with Stella4D [above], but not as a "pearl". ***[Show/Hide AI response]***

Question to Claude-4.7: Stella4D offers a range of morphing techniques between geometries -- and their

controlled phasing What you are demonstrating is a form of morphing between schematics and aesthetics. In response to your question, a two dragon approach could indeed be used -- however finished the aesthetics. Using such a technique a form of phasing could be used to represent the schemtic-to-aesthetic transformation -- perhaps with 3 or more images in a GIF animation as an exercise in cognitive connectivity This would potentially engage the systems mindset at one extreme and the iconographical-symbolic mindset at the other -- especially if the transmogrification was taken to dragon-like extremes. Of course in a not too distant future the two dragons could indeed be animated by AI to embody the dance between Yin-dragon and Yang-dragon around the pearl. ***[Show/Hide AI response]***

Question to Claude-4.7: A further image would be to "triangulate" the polygons to offer smaller "scales" with variegated colouring -- perhaps facilitated by dropping the text labels. Is the generating script in a form such that you could easily reverse the orientation to give a complementary rendering -- perhaps using other colours but the same labels. Unfortunately the 1992 alternative did not reverse the orientation (in Alternate B) although it did present the content otherwise. Too much trouble to take into account. ***[Show/Hide AI response]***

Question to Claude-4.7: Could you clarify the next possible steps now that the parameter grid exists: (1) the chase composition with yang on left, yin on right, pearl shared between them — assembleable from the existing renders by composition rather than redrawing; (2) phased morphs in the yin palette (yin equivalents of phases I–V); (3) a yang↔yin cross-fade GIF where the two dragons exchange identity through the pearl. ***[Show/Hide AI response]***

Question to Claude-4.7: Any or all of the proposals can be used since they provocatively make a fundamental point. On a final image phase the triangulation could be taken further to produce smaller scales and multi-colour them. The mirror version could have complementary colour variants. But of course there are many further possibilities. ***[Show/Hide AI response]***

Question to Claude-4.7: Exploration of the dragonification scripts suggests the possibility of generating more GIFs/SVGs through changing the colours -- inspired by the red/yellow colour of traditional dragons, for example. What would you suggest as specific changes and where. ***[Show/Hide AI response]***

Question to Claude-4.7: On inspection of the icosidodecahedron net from 1992, it seems not to correspond to the unfolded version mow available from Stella4D. It may well have been drawn with Adobe or some other tool, but there is no trace of that. The question then relates to the possibility of simply rotating it on the vertical axis (without labels) and whether that would offer a semblance of "twisting" appropriate to dragon movement. In a GIF animation the movement would need to be blurred since the alignment between the rotated copies is problematic. Coud you comment. ***[Show/Hide AI response]***

Question to Claude-4.7: The thought had not been to "rotate it" vertically by steps but to "flip it" vertically and use the frequency of flipping to offer a sense of blur. In that sense any of the dragon images could be used and flipped from yin to yang versions and back. ***[Show/Hide AI response]***

Question to Claude-4.7: A quite unexpected development with further possibilities. AI designing multiple dragon variants is to be envisaged in the future. No strategy articulation will be possible without its dragons -- good and bad. ***[Show/Hide AI response]***

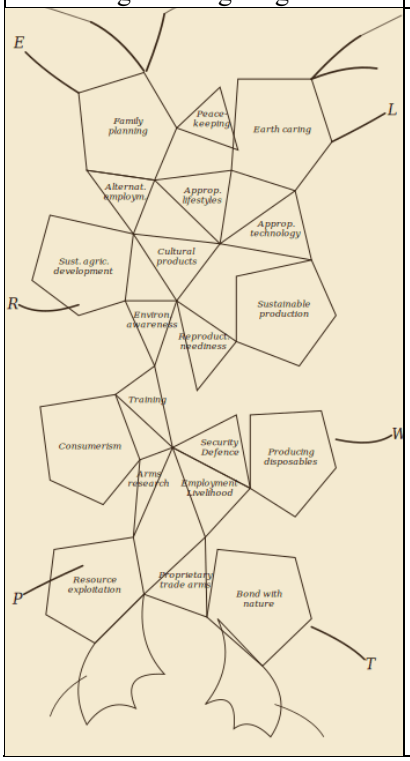
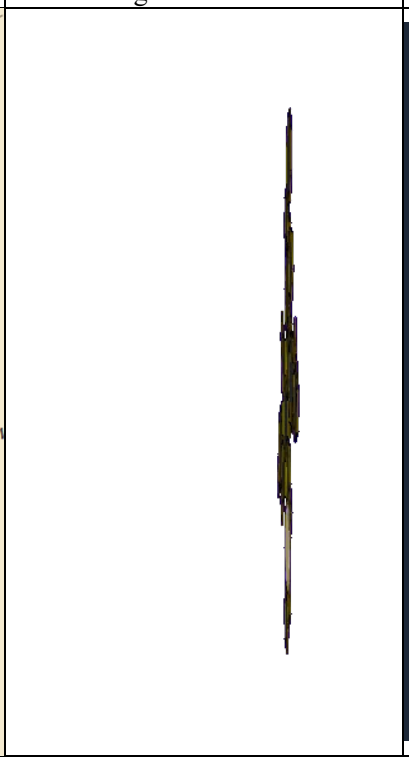
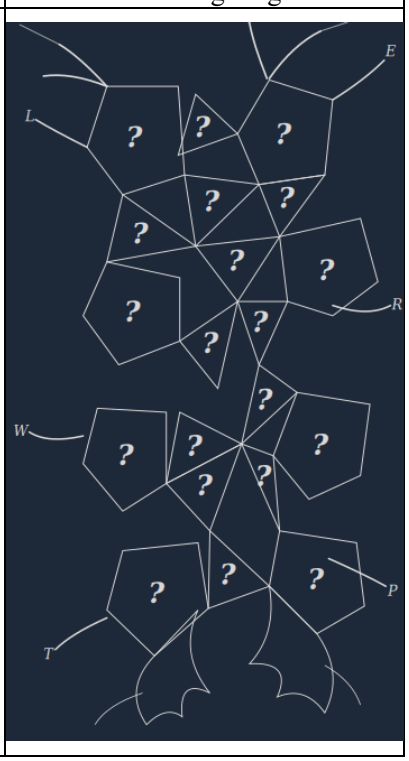
Below is a triptych of animations resultng from an extensive exchange with the AI. It features a right-facing dragon and a left-facing dragon -- possibly a "Yang-dragon" and a "Yin-dragon" -- in quest of the "pearl of wisdom" in the traditional Chinese dragon dance and iconography. Intertwined, they also feature in Japanese and Celtic culture (*What does the symbol of two intertwined dragons mean*?). Many design and animation variants could be explored or included in the animation with further effort. The animation on the right below includes the schematic variant of systems design from the images above -- before its "dragonifiction" -- using a variety of colours and face triangulations to emphasize the possibility of a greater degree of scaling ("systemic granularity") in approximating those celebrated in traditional

icosography.

The pearl-as-emanation tradition often shows wisps and trailing energy around the pearl as it manifests; cymatic vortex patterns radiating outward are visually consonant with the "central generative point producing peripheral manifestations" reading you're already using for the triptych. The streaks read as motion-paths in a way that makes the unfolding *legible as a process* rather than as a sequence of still configurations. If the writeup is going to discuss the pearl-as-process at all, this artifact might genuinely serve the argument rather than fight it.

As noted by the AI: The "intriguing wrongness" of the pearl as depicted is worth taking seriously rather than dismissing as something to be apologised for. There's a real intellectual move available if appropriate: technical artifacts can be claimed as productive accidents that reveal something the corrected version doesn't show. In this case the trail literally makes visible the *paths* faces traverse during the unfold — phase-space trajectories rather than just configurations. The corrected version shows the polyhedron's *states*; the artifact version shows its *trajectory*. Those are different kinds of representation, and the trajectory version is genuinely the rarer and more conceptually interesting one if it lands aesthetically. Hofstadter on glitches as glimpses of underlying mechanism, Lev Manovich on database aesthetics, or the cardioid/Eulerian-circuit material where what matters is the *path* not the endpoint.

Experimental aesthetic "dragonification" of icosidodecahedral net map
(generated by Claude-4.7 from map above)

"Right-facing dragon"	"Folding Pearl" -- with trail	"Left-facing dragon"
		

The aesthetics of the dragon design visual logic above were described by the AI as: The pieces are: angular faceted-polyhedron bodies; flat colour fills with internal triangulation rather than gradients; tendrils, eye, tongue rendered as separate calligraphic mark-making; mirror symmetry around a central axis; strong figure-against-flat-ground composition; the polyhedral facets reading as both decorative pattern *and* anatomical structure. What that ensemble most resembles is **early-to-mid Art Deco poster art** crossed with **synthetic Cubism**. Specifically the lineage running from Cassandre's faceted lithographs (the *Normandie* and *Étoile du Nord* posters in particular) through to Erté's stylised faceted creatures. A single closer reference: Adolphe Mouron Cassandre (1901-1968). Beyond him, the family of references includes: **Erté** (faceted ornamental figures), **Frank Hinder** and the Australian Annandale Imitation Realists for the same period's geometric stylisation, and going further back, **Wyndham Lewis** and the

Vorticists (Blast, 1914-15) for the faceted-figure approach with sharp angular vocabulary.

World dynamics and psychodynamics polyhedrally framed

Following the partial success of the exchange with AI, the following queries were evoked by the systemic modelling of World3. This has been fundamental to representation of world dynamics -- from *The Limts to Growth* (1972) and through its upgrades thereafter. Given the disastrous evolution of the world since its first development -- and given the polycrisis of the times -- that endeavour could well be caricatured as "feeding frenzy modelling". Oil and other commodities offer the most obvious example at this time in the midst of a polycrisis. However, most curiously, that modelling takes no account whatsoever of the psychosocial dimensions which govern perceptions of the "frenzy" and engagement in it -- exemplified by the current role of public opinion through social media and the pressures for its manipulation by propagnda and censorship.

Strangely, despite the many "upgrades" in an increasingly technical world, those relating to modelling the world as a guide to governance have remained locked into a 5-fold pattern of primary subsystems: population, industrial output, agricultural production, non-renewable natural resources, and pollution. There is no World4 model. The Wolfram Modelica documentation for the World3 Scenario_1 model lists 12 named system modules in the diagram, including: Population_Dynamics, Pollution_Dynamics, Arable_Land_Dynamics, Food_Production, Human_Ecological_Footprint, Human_Fertility, Human_Welfare_Index, Industrial_Investment, Labor_Utilization, Land_Fertility, Life_Expectancy, NR_Resource_Utilization, and Service_Sector_Investment (Gaya Branderhorst, *Update to Limits to Growth: Comparing the World3 Model With Empirical Data*, *Master's thesis, Harvard Extension School*, 2020). Psychosocial dimensions such as trust, confidence and creativity are ignored despite the role they are now perceived to play. Especially noteworthy has been the well-documented relation of the Pentagon and Hollywood -- framed as the military-entertainment complex -- a form of narrative curation most recently extended by NATO more widely (Sammy Gecsoyler, *Nato meetings with TV and film-makers prompt claims it is seeking 'propaganda'*, *The Guardian*, 3 May 2026).

The 5-fold pattern is currently echoed in the "5 turnarounds" of the Earth4All initiative of the Club of Rome. World3 can then be understood as a diagnostic model describing interacting global stocks and feedback loops, whereas Earth4All is more of a prescriptive agenda. It names five turnarounds meant to push those systems toward wellbeing within planetary limits. The turnarounds are normative policy goals, not model compartments. So one turnaround may affect several World3 sectors at once, especially poverty, inequality, and women's empowerment, which cut across population, industrial demand, and food security. Curiously the Earth4All initiative is matched -- inexplicably -- by the 5-fold pattern of the unrelated Inner Development Goals initiative.

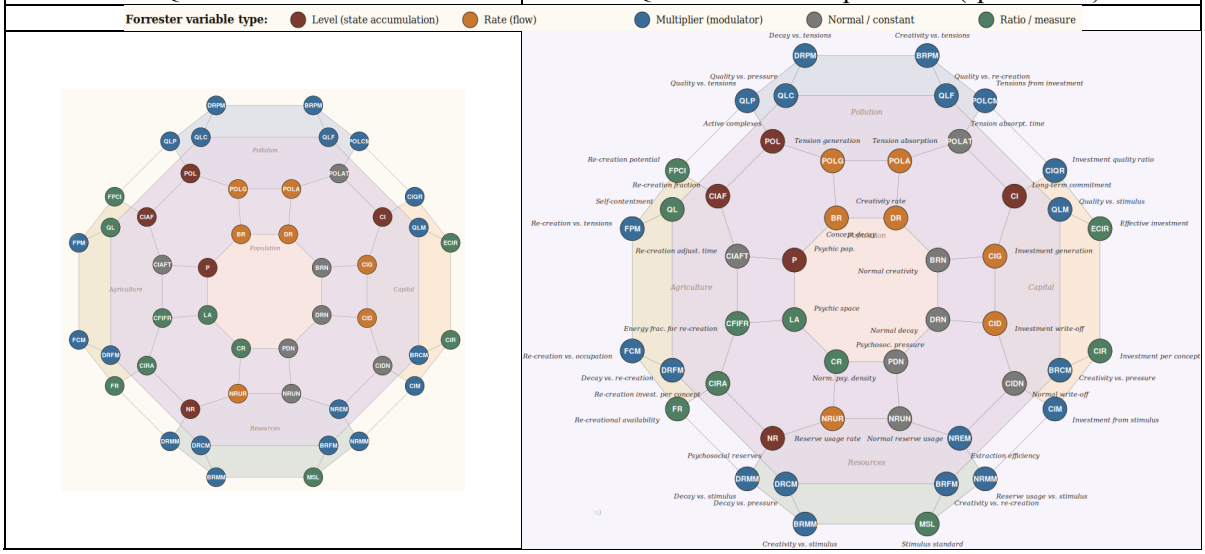
From a general systems perspective, the early 48-variable world dynamics framing of Word3 evoked a speculative set of corresponding "psychodynamic" variables at that time. In reaction to the 5-fold focus, the datasets of the *Encyclopedia of World Problems and Human Potential* have endeavoured to profile and interrelate the thousands of problems perceived by various constituencies -- and the strategies envisaged in response (*Significant bifurcations triggered by the history of the Club of Rome*, 2010).

The current developments of AI made it appropriate to explore whether these could be used to render more meaningful both "world dynamics" and "psychodynamics" by reframing both the unchanging pattern of the former and the corresponding speculation regarding the latter.

Question to Claude-4.7: . Given the skills demonstrated in producing the previous animations, could you respond to the step **preceding** the 1992 mapping onto the icosidodecahedron (namely interrelating the issues of the Earth Summit). The question would then be how you might frame the challenge of polyhedral mapping of the World3 map for *The Limits to Growth* (1972) as in *World Dynamics and Psychodynamics* (1971). That framed (in Annex IV) the further challenge of a psychosocial equivalent -- which remains the missing dimension of world modelling -- neglecting any psychological dimension. ***[Show/Hide AI***

response]

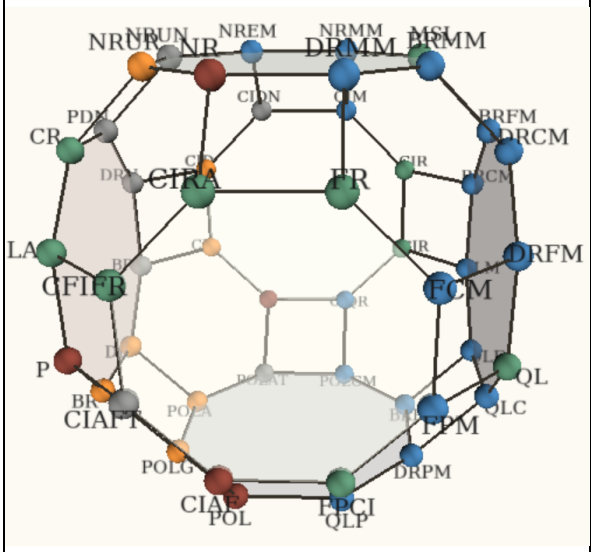
Question to Claude-4.7: The intention is to demonstrate whatever is credibly possible and to point onward to what may be possible with further use of AI. The outcome will be cited under the heading of "dragonification" -- a worthy neologism in that all strategies merit such representation given the strange manner in which they function in the collective psyche. ***[Show/Hide AI response]***

Projection of systems diagram onto a Schlegel diagram of a 48-vertex truncated cuboctahedron (generated by Claude-4.7)	
World dynamics: 48 variables on vertices of Schlegel diagram of truncated cuboctahedron "Quantitative" focus	**Psychodynamics**: 48 variables on vertices of Schlegel diagram of truncated cuboctahedron "Qualitative" correspondence (speculative)
	

The following query was evoked by previous consideration of the cognitive role of mandalas (*Eliciting Insight from Mandala-style Logos in 3D* , 2020; Concordian Mandala as a Symbolic Nexus, 2026). ***Question to Claude-4.7***: Do you have any comment on the resonance between such Schlegel diagrams, with which Western science is conceptually comfortable, and an Eastern mandala deprecated from a scientific perspective -- despite the wider appreciation of mandala/rose window configurations. ***[Show/Hide AI response]***

Question to Claude-4.7: You have generated systems mappings onto TCO Schlegel diagrams. Is there a technique for transforming those mappings into a TCO X3D in 3D. ***[Show/Hide AI response]***

Truncated octahedron with 48 vertices labelled with systemic functions (generated by Claude-4.7)



Non-interactive rotating version -- Interactive version (with extensive labelling)

In preparing the interactive version of the animation above, which highlights extensive labelling of the vertex selected, the AI was requested to review and amend the texts relating to the 48 psychodynamics variables in the 1971 version. That process and the revision are presented separately (*Psychodynamics Correspondences to World Dynamics*, 2026), with the resulting labelling in the interactive animation (*World3 parameters with 48 Psychodynamics correspondences: interactive mapping onto 48 vertices of the truncated cuboctahedron*, 2026).

Question to Claude-4.7: On a directly related matter, the dual of the TCO [namely the disdyakis dodecahedron] necessarily has 48 faces onto which labels could be affixed. A fundamental difficulty is whether and how the systemic connectivity of World3 is usefully reflected in the adjacency modelled -- or not. ***[Show/Hide AI response]***

The following query was evoked by an extensive earlier consideration of the surprising concordance between the articulations of the 26 principles of the 1972 Stockholm *Declaration of the United Nations Conference on the Human Environment* (*Remembering the Magna Carta on Human Environment*, 2025) and the 26 governance principles articulated more recently from a systemic perspective (Ray Ison and Ed Straw, *The Hidden Power of Systems Thinking: governance in a climate emergency*, 2020). In those cases the focus was on use of the 26-faced rhombicuboctahedron (*Global governance systemically ordered by 26-fold strategic polyhedral mappings?* 2026; *Mnemonic Foundations of a Playable Topology of Global Coherence*, 2026; *Conceptual Complexity Compactified within Fundamental Polyhedra*, 2026).
Question to Claude-4.7: Irrespective of any potential implications of the dual of the TCO, more intriguing

is the relevance to a previous exchange using the 26-faced TCO or RCO to map 26 governance principles. How the World3 pattern of 48 relates to the 2 independent 26-fold sets merits much further consideration. ***[Show/Hide AI response]***

Question to Claude-4.7: That response does not however mention the fact that the RCO has 48 edges somehow framing the 26 governance principles that can be mapped onto the faces -- whereas the TCO has 72 edges interlinking the 48 functions associated with its vertices. ***[Show/Hide AI response]***

Question to Claude-4.7: Does that adaptation enable any form of dragonification -- perhaps the collective as the Yang-dragon and the individual as the Yin-dragon. ***[Show/Hide AI response]***

Question to Claude-4.7: In a previous exercise, the classic collection of 48 koans in the *Mumonkan* -- translated as *The Gateless Gate* -- was experimentally mapped onto the 48 vertices of the truncated cuboctahedron and onto the faces of its dual (*Coherent mapping of 48 "primary" koans onto a truncated polyhedron*, 2024; *Thematic clustering of 48 "primary" koans by AI?* 2024). Could you comment on the probability that there is an underlying cognitive recognition of coherence -- as yet unexplored -- that has resulted in a 48-fold pattern being adopted for such radically contrasting domains as the contemporary world system dynamics (of the "West") and a wisdom tradition (of the "East") -- one cultivating a popular appreciation of "dragons". ***[Show/Hide AI response]***

Enhancing 3D configurations of 5-fold and 6-fold global models with psychodynamics?

The following queries addressed the confusion between the 5-foldness and 6-foldness of global models, as variously asserted, and how this might be better understood in 3D through polyhedra associated with such distinctive characteristics. Given the extent to which global governance strategies with a quantitative material focus is ever more obviously undermined by psychosocial dynamics, of particular interest was how global modelling represented such dimensions and whether particular polyhedra could reflect this better as separately discussed (*Misleading Modelling of Global Crises*, 2021; *Perspectives of AI on Psychosocial Implications of Global Modelling*, 2024; .

Question to Claude-4.7: How could a simple GIF animation of a rotating polyhedron of parameters in 3D be enhanced using X3D. ***[Show/Hide AI response]***

Question to Claude-4.7: Related thought on enhancing the X3D. In previous exercises the vertex coordinates of a polyhedon have been used to define the spine of movement of a small sphere around a polyhedron -- typically along a great circle. The TCO has great circles along which small spheres could move to suggest interlocking systemic relationships between the World3 parameters associated with those vertices. How feasible is it for you to generate those spines as X3D ROUTES. An option would be to augment the X3DOM TCO with such pathways, since the X3D [above] is an inline in its interactive varant. In relation to that a contrast could be made between the great circles of the TCO and those of the icosidodecahedron. What would you need for both. ***[Show/Hide AI response]***

Question to Claude-4.7: The question is whether and how the World3's widely cited "5 subsystems" might sit on great circles in some way. ***[Show/Hide AI response]***

Question to Claude-4.7: That suggests a much better framing of the TCO World3 case. But you are highlighting 6 octagonal face circles -- not great circles. ***[Show/Hide AI response]***

Question to Claude-4.7: So how do the widely claimed "5 sub-systems" relate to that suggestion. ***[Show/Hide AI response]***

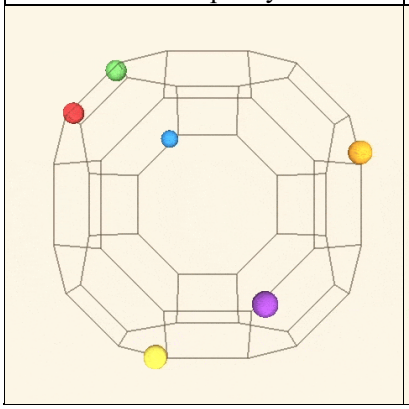
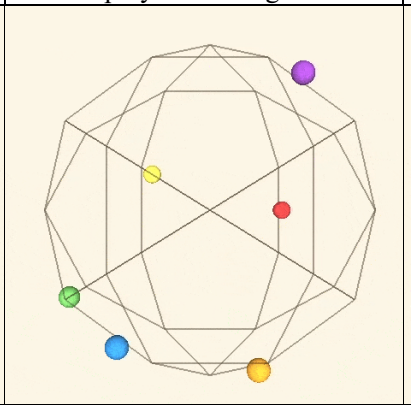
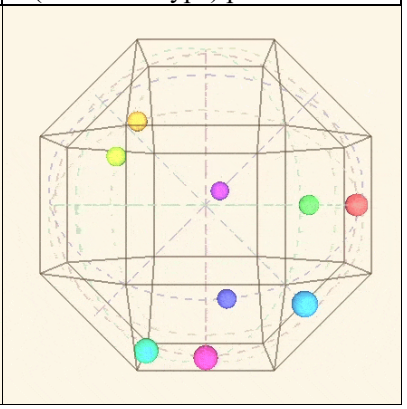
Question to Claude-4.7: How can a strong distinction be made between a 5-fold and 6-fold model. Despite your comment, it is not clear how "locked into" a 5-fold pattern the World3 (and Earth4All) approach remains.. ***[Show/Hide AI response]***

Question to Claude-4.7: Clearly the claim was too simplistic that a 5-fold mindset missed a 6th dimension -- namely the psychosocial. That dimension could however be arguably assumed to be "compactified" into the "Quality of Life" variable in a manner which could be perceived as reductionistic. ***[Show/Hide AI response]***

Question to Claude-4.7: Does the icosidodecahedral representation then carry the 6-fold more explicitly. ***[Show/Hide AI response]***

Question to Claude-4.7: How relevant is the rhombicuboctahedron (RCO) to the distinctions you have been making, given its use (asoted above) in previous exercises to map sets of 26 governance principles onto its faces -- framed as they are by 48 edges. Does that RCO framing call for a great circle perspective interrelating those principles. ***[Show/Hide AI response]***

Question to Claude-4.7: The visualization possibility that then merits consideration for this context is the juxtaposition of the truncated cuboctahedron (TCO), icosidodecahedron (ID) and the rhombicuboctahedron (RCO) with their relevant circles -- "face" or "great" -- using small (distinctively coloured) spheres to track along each such pathway. Rather than confuse matters by adding labels to features in those animations, the animation code could be inserted into the interactive variant of the X3D TCO model. . ***[Show/Hide AI response]***

Animation of cycle-traversing spheres on three rotating polyhedra (generated by Claude-4.7)		
Truncated cuboctahedron (TCO) 48 vertices -- 26 faces -- 72 edges 6 octagonal face-cycles (small circles) one sphere per World3 subsystem, 8 vertices per cycle	Icosidodecahedron (ID) 30 vertices -- 32 faces -- 60 edges 6 decagonal great circles around 5-fold axes 10 vertices per cycle, all on polyhedron edges	Rhombicuboctahedron (RCO) 24 vertices -- 26 faces -- 48 edges 9 octa-cycle great circles through 26 face-centres 3 pure (coord-plane)+6 mixed (cross face-type) paths dashed
		

Question to Claude-4.7: There is now the challenging question of how the mapping attributions of the World3 parameters to the TCO vertices call for reconsideration in the light of their systemic relation to the cycles -- a matter not previously considered when the tentative attributions were originally made for purely indicative purposes. ***[Show/Hide AI response]***

No changes have been made to the earlier mapping attributions (and to their interactive variant) -- understood as a possible challenge for future comprehension in order to benefit from cyclic visualization techniques. The following queries were evoked by the application of the Earth4All modelling to the UN's Sustainable Development Goals by the Club of Rome -- and how the challenges to its comprehension were addressed (Johannah Bernstein, et al, *SDGs for All: Strategic Scenarios -- Earth4All System Dynamics Modelling of SDG Progress*, 2023).

Question to Claude-4.7: You noted that the Earth4All System Dynamics Model has "more than 500 variables and almost 300 constants". Given your demonstrated capacity to represent simpler

"compactified" sets on polyhedra (with cycles), what options are there for the representation of a more complex set of that kind on a polyhedron -- but "decompactified". ***[Show/Hide AI response]***

Question to Claude-4.7: Could you comment on the extent to which the extended array of variables extends the focus beyond the material/quantifiable factors -- rather than neglecting the psychosocial factors undermining viable strategy implementation as currently framed. ***[Show/Hide AI response]***

Question to Claude-4.7: How is that bias effectively complemented / compensated by the quite separate 5-fold Inner Development Goals initiative -- itself readily perceived as constrained by a behavioural science bias.. ***[Show/Hide AI response]***

Question to Claude-4.7: You conclude in that response that Earth4All and IDG together offer a "6+5 = 11-dimensional partial coverage with major gaps". Could you comment on the strange irony that the M-theory of fundamental physics currently offers an 11-dimensional integration of superstring theory -- with the "extra dimensions" understood "as "curled up" by a process of "compactification". Is this indicative of a common challenge to human comprehension of engagement with "reality" -- whether physical or psychosocial. ***[Show/Hide AI response]***

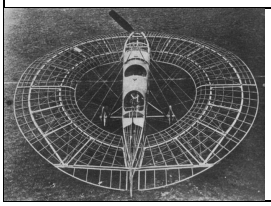
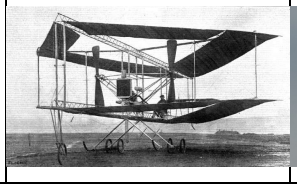
Question to Claude-4.7: You have commented on dimensions excluded or "compactified" within the current Earth4All model's extensive array of functions -- or that of IDG. Of potential relevance is a listing of existential dimensions which may well be a focus of surveys and offered as an explanation of the corruption of leaders -- and which may have been excluded in that way or absorbed into a composite indicator. Examples might include: trust, confidence, fear, transparency, privacy, happiness, loneliness, ignorance, greed, aggression, criminality, and the like. Could you suggest a more extensive list and the extent to which those dimensions are included or excluded. ***[Show/Hide AI response]***

The following query was evoked by a classic Buddhist articulation, as separately discussed (*Comprehensive set of ways of knowing: the All-Embracing Net of Buddhist culture*, 2009).
Question to Claude-4.7: By contrast with Western approaches to systematic listings of such dimensions -- in contrast with the 80-fold articulation of your response -- could you comment on the methodology of Buddhist psychology and most notably the articulation of the *Brahmajala Sutta*. ***[Show/Hide AI response]***

Models as conceptual strategic flying machines?

The following queries **preceded** those above -- which were effectively the product of a progessively redefined exchange as constraints became evident below.

Question to Claude-4.7: Further associations of some relevance are *Those Magnificent Men in their Flying Machines* (1965) and the curious use of "model" -- shared by conceptual models (and mathematical models), world models, and fashion models. There is an irony that Croton-on-Hudson was once the secretariat for both Herman Kahn's work on world modelling as well as that of the World Modeling Association of fashion models. Such use frames the strategic question as to whether any model can "fly" and what enables their achieving and sustaining "lift". The unfolding issue -- the reverse of origami -- recalls the question of whether a "flat pack" strategic model could be unfolded into 3D viability. ***[Show/Hide AI response]***

Magnificent Experimental Flying Machines -- inviting comparison with strategic models			
Lee-Richards_Annular_Monoplane	The Edwards Rhomboidal at Brooklands	Roe IV Triplane	Bristol Boxkite Replica
			

See page for author, Public domain, via Wikimedia Commons	Screenshot from Flight International digital archive:	TSRL, CC BY-SA 3.0, via Wikimedia Commons	Alan Wilson, CC BY-SA 2.0, via Wikimedia Commons

Question to Claude-4.7: Your appreciation of the *Magnificent Flying Machines* suggests that you could comment further on the extent to which the many strategic models produced -- specifically "world models" (as with that on which *Limits to Growth* was based) -- could be understood as "flying machines" analogous to early experiments with airplanes. Their inventors, and their engagement with "flight", merit comparison with more recent world modellers. ***[Show/Hide AI response]***

Question to Claude-4.7: Similar points could be made with regard to military strategy "models" -- especially in the quest for full-spectrum dominance (including "air" and "space"' -- as anticipated by Herman Kahn in "thinking the unthinkable"). However as repeatedly demonstrated in Afghanistan -- and potentially in the engagement with Iran -- many such models are prone to failure. Why do they fail to "fly" -- whether or not they achieve "lift-off". ***[Show/Hide AI response]***

Polyhedral framing of strategic lift-off and non-viability of one-wing bias?

Question to Claude-4.7: There are many images of the unfolded net of a polyhedron. Typically they take an asymmetrical form. The question is whether the unfolding of any polyhedra could be symmetrical such as to form balanced "wings" (as with many 2-winged national symbols) -- possibly on two sides of a folded portion (forming a "nacelle"). Alternatively could the unfolding be 2-fold -- a lower and an upper framing a "nacelle" -- reminiscent of a biplane. Whilst speculative, the exercise recalls both Wittgenstein's interest in kites, the early experimental designs of aircraft, and Arthur Young's efforts to design a "psychopter". ***[Show/Hide AI response]***

Question to Claude-4.7: It is impressive how "wings" are appreciated in socio-political discourse -- raising the question as to how it is so inappropriately assumed that only one wing is required for strategic flight, as discussed in *Counteracting Extremes Enabling Normal Flying: insights for global governance from birds on the wing* (2015). By contrast two wings feature in essential national symbols of many countries and indications of sovereignty. ***[Show/Hide AI response]***

Question to Claude-4.7: With respect to the case you have variously made for two wings rather than one, could you comment further on the socio-political tendency to favour one wing -- the "right" or the "left" -- with the implicit hope the the other would disappear in some way. Argued otherwise, if the yang wing seeks the disempowerment of the yin wing, how are the other six conditions of the BaGua configuration to be recognized in requisite systemic terms for a viable model which could "fly". ***[Show/Hide AI response]***

Symmetrical unfolded nets potentially relevant to wing design

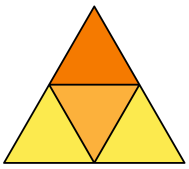
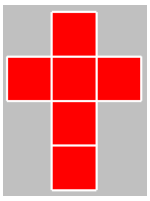
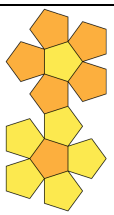
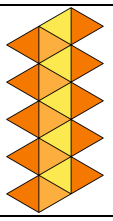
Question to Claude-4.7: Speculatively, which of the 13 Archimedean, 13 Catalan and 5 Platonic polyhedra can be unfolded symmetrically to provide "wings" -- which might be "flappable" to provide and sustain lift. Given the complexity of some polyhedra, could they then be recognized as "Magnificent Flying Machines" -- whatever the gender of the pilots. ***[Show/Hide AI response]***

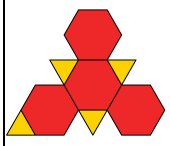
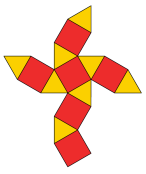
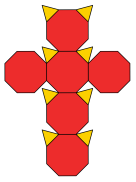
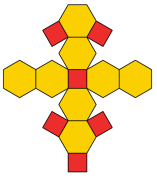
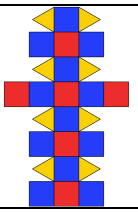
Question to Claude-4.7: Is it possible to generate symmetrical displays of unfolded nets of the 27 polyhedra you have identified -- given that Stella4D only provides asymmetrical variants.. ***[Show/Hide AI response]***

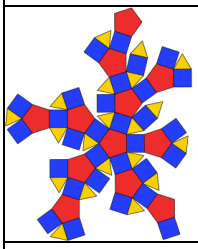
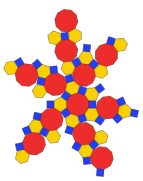
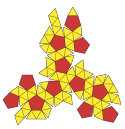
Question to Claude-4.7: Specifically the request is for a Python script that generates symmetric biplane nets for the 27 mirror-symmetric polyhedra (you have identified), since Stella4D produces only asymmetric (overlap-minimising) unfoldings. Priority is given to those based on the Archimedean and Catalan semi-regulars over the Platonics. The script needs to: (1) take polyhedron vertex/face data as

input; (2) identify the polar axis (highest-fold rotation through opposite faces or vertices); (3) classify faces into top cap / equatorial belt / bottom cap by signed distance along that axis; (4) build a symmetric cut tree (cut polar latitudes, cut one meridian in the belt, fan caps from polar face); (5) unfold by walking the spanning tree breadth-first, rotating each face about its hinge into the parent's plane; (6) emit SVG. Should slot into a Python toolchain with hardcoded default paths in the spirit of other scripts. ***[Show/Hide AI response]***

The scripts generated by the AI proved to be relatively unsuccessful in eliciting symmetrical configurations -- in contrast to the following subsequentally derived from the relevant *Wikipedia* entries. The quest was then refined for the AI (below) by reframing the criteria otherwise, most notably with respect to "body-plans" potentially enabling strategic "locomotion" (rather than "flight"). Some of the polyhedral nets depicted below are more suggestive in that respect.

Symmetrical polyhedral nets -- potentially suggestive of "flight-enabled" strategic models (images rotated from the original to highlight potentially symmetry around a vertical axis)				
Tetrahedron	Cube	Octahedron	Dodecahedron	Icosahedron
				
Júlio Reis, CC BY-SA 3.0, via Wikimedia Commons	Images made by Stella4D		By Júlio Reis - Own work, CC BY-SA 3.0, Link;	Incnis Mrsi, Public domain, via Wikimedia Commons

Truncated tetrahedron	Cuboctahedron	Truncated cube	Truncated octahedron	Rhombicuboctahedron
				
Watchduck, CC BY 4.0, via Wikimedia Commons				

Rhombicosidodecahedron	Truncated icosidodecahedron	Snub dodecahedron
		
Watchduck, CC BY 4.0, via Wikimedia Commons		Brighterorange, CC0, via Wikimedia Commons

Biomimicry and technomimicry reframing of strategic flight

Question to Claude-4.7: The development of flying ability is well recognized as a consequence of imagination inspired by the flight of birds -- now framed in terms of biomimicry, if not biomimetics -- most notably in the case of the helicopter, as discussed separately (*Engendering a Psychopter through*

Biomimicry and Technomimicry: Insights from the Process of Helicopter Development, 2015). Curiously the edges of the polyhedra you distinguish could be understood as allowing for "muscular" contraction -- as suggested by the "tendons" in a tensegrity. How does the theme of this exchange relate to online and downloadable facilities for modeling the dynamics of stick-like or linkage-based machines -- ranging from educational simulations to professional-grade kinematic design tools. ***[Show/Hide AI response]***

Question to Claude-4.7: That much appreciated catalogue clearly avoids what might be identified as the semantic-cognitive dimension. The point to be made is that -- just as concepts are most frequently articulated in tabular form -- tables can be variously folded and modified to constitute polyhedral nets. Such polyhedral frames can then also be used to configure conceptual and strategic systems -- even to model them. The question is how the technical software you have catalogued could be augmented as "vehicles" to "carry" conceptual and strategic frameworks and enable them to "fly". What do the panels so framed need to carry in order to constitute a viable system that "flies". ***[Show/Hide AI response]***

Question to Claude-4.7: Given Arthur Young's commitment to flight, and the inspiration that evoked, of particular interest is how "flight" is so readily used as a comprehensible metaphor -- without consideration of its implications. Far less evident is the nature of the medium within which flight is then believed to take place. Clearly "air" and "space" may serve that purpose -- as may "water". In what medium is it imagined that a strategy should or could "fly". ***[Show/Hide AI response]***

Neglected learnings from progressive airplane development

Question to Claude-4.7: Through focusing on the early phases of airplane flight, the succession of learnings through various forms of "engines" and "wing configurations" has been avoided -- as they might offer insights metaphorically. What of the transition from propellor to turbojet and then to (wingless) rocket -- especially with the recent UN call to "turbocharge" implementation of the Sustainable Development Goals. Can you distinguish the learning stages in the achievement of styles of flight and its empowerment since the Wright brothers. Does this invite identification of cognitive and strategic analogues. Given your BaGua response, does a wingless rocket exemplify a yang-only case to which many strategic advocates aspire. ***[Show/Hide AI response]***

Question to Claude-4.7: In the light of your summary of the progressive learnings regarding viable flight, could you comment further on the psychosocial implications of "torque", as suggested separately (*From helicopter to "psychopter": the role of anti-torque?*, 2020; *Crown chakra understood as an axial turbofan -- an "attention breathing" jet engine?*, 2020). ***[Show/Hide AI response]***

Question to Claude-4.7: Given reference to Stafford Beer and viable system theory in this exchange -- and further to your remarks on torque -- could you comment on his adaptation of Le Chatelier's Principle to psycho-social systems: Reformers, critics of institutions, consultants in innovation, people in short who "want to get something done", often fail to see this point. They cannot understand why their strictures, advice or demands do not result in effective change. They expect either to achieve a measure of success in their own terms or to be flung off the premises. But an ultra-stable system (like a social institution)... has no need to react in either of these ways. It specializes in equilibrial readjustment, which is to the observer a secret form of change requiring no actual alteration in the macro-systemic characteristics that he is trying to do something about." (*The cybernetic cytoblast - management itself, Chairman's Address to the International Cybernetic Congress*, 1969). In particular how could could this be understood as constraining uptake of viable system theory and syntegrity. ***[Show/Hide AI response]***

Question to Claude-4.7: Your comments note the sense in which Yang-mode alone is viable to a degree in the short-term -- and in getting its act together. Could you comment on the problematic case of Yin-mode -- which is primarily coherent in its criticism of Yang-mode, but extremely challenged in agreeing on a viable alternative. This is illustrated by the contrast between the World Economic Forum and the World Social Forum. The former continues to demonstrate that it "flies"; the latter continues to demonstrate that it cannot -- whilst vigorously claiming the contrary.. ***[Show/Hide AI response]***

Strategic kites, balloons and rockets

Question to Claude-4.7: Given the philosophical significance of the work of Ludwig Wittgenstein, could you comment further on the relevance to this exchange of his work on kites -- notably in the light of the study by Susan G. Sterrett (*Wittgenstein Flies a Kite: A Story of Models of Wings and Models of the World*, 2005). There is a potentially curious irony to the fact that the technical term for particular faces of some polyhedra is "kite". ***[Show/Hide AI response]***

Question to Claude-4.7: Your earlier points about "flying a kite" are in curious contrast to use of the somewhat similar metaphor of a "trial balloon" -- especially given its problematic connotations and associations with "bubble", as separately discussed (*Globallooning -- Strategic Inflation of Expectations and Inconsequential Drift*, 2009).. ***[Show/Hide AI response]***

Question to Claude-4.7: With respect to the theme of this exchange, could you contrast the popular appeal of balloons (and their collective release) with that of decorative kite flying competitions -- especially given the argument for systemic decoration of the panels of polyhedral wings. ***[Show/Hide AI response]***

Magic carpets as an imaginative inspiration for flight

The following queries were evoked by consideration of the principles of carpet design as exxplored by Christopher Alexander (*A Foreshadowing of 21st Century Art: the color and geometry of very early Turkish carpets*, 1993; *The Fifteen Properties Are the Glue which Binds Wholeness Together*. 2006) and discussed separately (*Visual representation of planning in a global context*, 2014).

Question to Claude-4.7: Of some relevance is the tradition of a magic carpet on which it is possible to fly -- if only in the imagination. Such a carpet is of much greater significance if it is one of magnificent design -- as in many carpets of the East. Whereas conceptual systems -- and organizations of knowledge -- can be articulated mechanically in tables (of little appeal), those carpets articulate complex patterns of linkage between domains of the design -- in a manner more appealing than is achieved by polyhedra. The carpets can then be understood as reminiscent of complex systems diagrams, as argued separately (*Magic Carpets as Psychoactive System Diagrams*, 2010). As such they exemplify the challenge of the attraction of a system and what enables a system to "fly". ***[Show/Hide AI response]***

Systemic decoration of polyhedral wings

Question to Claude-4.7: For a later more evocative development: the polyhedral faces invite decoration, magic-carpet style. Given Alexander's systemic insights associated with cognitively powerful carpets, could suggestive/attractive systemic patterns be generated for the faces -- even connecting between faces. Second possibility would be how to animate wing flapping -- in contrast to Stella4D's folding/unfolding dynamic indicative of spherical closure. ***[Show/Hide AI response]***

Question to Claude-4.7: With respect to experimental "systemic decoration" of polyhedral panels, could you comment on the possibility of a simple demonstration through wrapping a systemic map (Limits to Growth, metabolic pathways, etc) around a polyhedron using Stella4D -- despite the asymmetry of its (un)folding facility. Could you suggest other systemic maps which lend themselves to such a demonstration -- especially those of psychosocial relevance. ***[Show/Hide AI response]***

Question to Claude-4.7: Related thought -- for a later provocative move. The faces invite decoration, magic-carpet style. Given Christopher Alexander's systemic insights, could suggestive/attractive systemic patterns be generated for the faces -- even connecting between faces. Second thought would be how to animate wing flapping -- in contrast to Stella4d's folding/unfolding dynamic. ***[Show/Hide AI response]***

Question to Claude-4.7: Particularly intriguing is the possibility that the faces could be decorated such that edge contiguity reflected functional domains of what might otherwise have taken the form of an aesthetically enhanced systems diagram -- then effectively "tattooed" across all the faces as a pattern of

connectivity (a nerve or circulatory structure). The "tiling" is then an embodied system -- with the set of viable tilings as a set of viable mobile systems. The question is then whether the (semi)regular polyhedra offer a taxonomy of viable systems meriting recognition. ***[Show/Hide AI response]***

Lift-off, leadership and goldership?

Question to Claude-4.7: In relation to the psychosocial understanding of "flight", could you comment further on insights of relevance to achieving strategic "lift-off" -- whether with respect to "sub-orbital flight" or achieving "orbit", however they are then to be understood. In aerodynamics, considerable research on wing design has focused on the "leading edge" -- a term widely adopted metaphorically with comparatively little understanding of its appropriate design for "leadership".. ***[Show/Hide AI response]***

Question to Claude-4.7: In the light of that response, and the considerable emphasis now placed on the need for appropriate "leadership", could you comment on the challenges of misleadership in relation to those of "followership" -- to which relatively few references are made, as separately discussed (*Misleading as vital to governance of the future?* 2007). Are there contrasting aerodynamic insights of relevance to followership in achieving strategic lift-off. ***[Show/Hide AI response]***

The following query was evoked by the fascination of many leaders with gold, exemplified by Donald Trump at present, and by Loius XIV in the past -- irrespective of their competence in leadership (Jillian Wilson, *Therapists Explain Why Donald Trump Is SO Drawn To The Color Gold*, *HuffPost*, 13 March 2026)

Question to Claude-4.7: In the light of this theme, a curious feature of the English term "leadership" is the meaning it might share with the metal "lead" -- given its characteristic properties and its consequent metaphorical use. In a much earlier exchange (copied) you commented on the alchemical challenge of transforming "lead" into "gold" -- with the provocative speculative implication that "leadership" might be transformed into "goldership". Can you comment further in the light of the current exchange This is a deliciously provocative use of metaphor that opens up rich possibilities for understanding transformative processes. Let me explore the alchemical parallel. . ***[Show/Hide AI response]***

Redefining criteria in response to failure of bilateral mapping experiments

Question to Claude-4.7: Is it possible to display the symmetrical nets of those 27 -- given that Stella4D only gives asymmetrical unfolded nets. ***[Show/Hide AI response]***

Question to Claude-4.7: This is proving too much of an issue -- and that needs to be the focus of the writeup. A strange irony -- with cognitive implications -- that it is especially difficult to elicit bilateral symmetry from regular polyhedra. Maybe it calls for another way of thinking about the issue. ***[Show/Hide AI response]***

Question to Claude-4.7: The argument is clear but what enables the richer configuration to "fly" is now especially obscure. ***[Show/Hide AI response]***

Question to Claude-4.7: Inspection of Stella4D's unfolded (semi)regular nets remains a challenge. Is another methodology appropriate whereby the task is one of repositioning polygons in 2D -- if only to approximate to bilateral symmetry. ***[Show/Hide AI response]***

Question to Claude-4.7: The focus of this exchange could be reframed more fruitfully. It is indeed the case that a "winged" configuration could be obtained from some polyhedra, most obviously the cube and the dodecahedron, and possibly from the icosahedron -- for example. If the issue is reframed more generally in the light of how an "animal" can move through a medium, then (as a "tiling" problem) a carpet like configuration would allow for an undulating motion, as with a manta ray or a snake. The question is then what reconfigurations of the faces enables engagement with a medium to ensure motion --

if folding into closure is not a requisite. In that sense a truncated tetrahedron could be winged around a body, provided the "tiles" are suitably displaced. In that light, the question of how a 3D "spherical" configuration might enable motion could be explored by considering how a pair of symmetrically opposed faces might switch positions in sucking/pumping exchange, etc. Other cases might configure to offer 4 "feet". So framed, could you generalize the "tiling" problem.. ***[Show/Hide AI response]***

Question to Claude-4.7: Returning to the discussion of kites and balloons, arguably both are viable in this generalized framework. Viable kite designs are not necessarily planar, given the medium in which they glide. Hot air balloons offer a distinctive case. Both call into question the nature of "tethered" systems and how movement may be controlled. ***[Show/Hide AI response]***

Question to Claude-4.7: The vast array of polyhedra is a provocation from a systems perspective. Which types merit consideration as priority candidates for embodying extant systems diagrams -- as previously suggested in this exchange. Are some types of polyhedra then to be avoided as effectively an exotic distraction -- or questionably viable in a systems sense. Do some types suggest the need to extend the articulation of systems into a higher order of connectivity. ***[Show/Hide AI response]***

This query was evoked by a more comprehensive exploration (*Identifying Polyhedra Enabling Memorable Strategic Mapping*, 2020)
Question to Claude-4.7: Whilst the focus provided by that response is valuable, it serves to highlight the question of whether any systemic pattern can be usefully embodied by a polyhedron. As suggested above, one approach is the tracery of connective relations that might "decorate" contiguous faces. The question is whether the edges themselves might provide a mapping of such connectivity -- irrespective of the face imagery, or complementary to it. The potential exclusion of the Stewart toroids, for example, highlights the merit of exceptional structures like the drilled truncated cube, the tesseract, and the truncated tesseract for mapping logical connectives and the fundamental 64-fold patterns where the mappings may be associated with vertices and the dynamics may be the transformative traffic along the edges. ***[Show/Hide AI response]***

Variable geometry of strategic vehicle transformation dynamics

Question to Claude-4.7: In one response to the variable medium challenge of that response, the military has given focus to "all-terrain vehicles" -- of a kind. By contrast, science fiction has imagined the challenge of piloting a galactic space vehicle through chaotic contexts in which information and style of control are adapted according to whether the medium temporarily corresponds to "air" (flying), "water" (swimming), "earth" (boring), etc. From a polyhedral perspective, this might then correspond to transformation between polyhedral "flying machines" through morphing, Conway transformations, and jitterbug dynamics. Given the jitterbug dynamic, and Buckminster Fuller's arguments, is it especially suggestive of the ultimate cognitive flying machine. ***[Show/Hide AI response]***

Question to Claude-4.7: Despite his insight and focus -- including that on resource management (*Operating Manual for Spaceship Earth*, 1969) and an associated icosahedral Dymaxion Earth map -- why did Buckminster Fuller then fail in rendering credible the possibility of jitterbug governance. Another "flying machine" failure? ***[Show/Hide AI response]***

Question to Claude-4.7: In contrast to any appropriate form of "jitterbug governance", how relevant is the case made for the "variable geometry" of institutions -- most notably the European Union and the United Nations, as discussed separately (*Alternation between Variable Geometries: a brokership style for the United Nations*, 1985). Is there any corresponding trace of "variable cognitive geometries" with regad to the organization of strategically relevant knowledge. ***[Show/Hide AI response]***

Tiling layout and polygonal carpets

Question to Claude-4.7: Buckminster Fuller has asserted that *All systems are polyhedra. All polyhedra are*

systems [*Synergetics 2: Explorations in the Geometry of Thinking*, 1979, II, 400.56; *Recognition of polyhedra as systems and systems as polyhedra*, 2024]. This suggests that the set of (semi) regular polyhedra may together represent a larger system in some way, or each may be a form of window on a system. So framed it might then be asked whether the pieces of a polyhedron (such as the faces) could be understood as "window panes" -- as pieces of a map. The more general question might be then whether the set of such panes for all the (semi)regular polyhedra together could successfully form a coherent tiling pattern in 2D. Is the question meaningful and is there a layout procedure which could determine that.. ***[Show/Hide AI response]***

Question to Claude-4.7: The constraints are noteworthy. Reframing the question, if the totality of polygons forming the (semi)regular set were of a standard size, could they form a single planar pattern if no effort was made to fill the "holes" -- which themselves could presumably be of very few standard sizes. Does that make the patterning impossible or is the result trivial. ***[Show/Hide AI response]***

Question to Claude-4.7: That response implies that there are one or more answers to how the totality of tiles in the set of (semi)regular polyhedra could form a singular pattern in 2D -- provided holes of particular form are allowed. How might such a pattern be determined. ***[Show/Hide AI response]***

Question to Claude-4.7: The procedure is clear, but (expressed differently) is there a "Platonic carpet" (of the totality of Platonic polyhedra faces) , an "Archimedean carpet" (of all Archimedean faces), and a "Catalan carpet" -- or a P+A carpet, or a P+A+C carpet. Have such "carpets" been designed. ***[Show/Hide AI response]***

Question to Claude-4.7: As an illustrative demonstration, a "Platonic carpet" could be usefully produced in response to your offer -- alhough the question might be how many such designs could be produced. ***[Show/Hide AI response]***

Question to Claude-4.7: It is not clear how the image derives 10 triangles and 10 squares from the Platonics and uses 6 pentagons only. Has the question be inappropriately framed -- namely how to use all the Platonic faces (from all those polyhedra) to make a singular carpet with the minimum number of holes. ***[Show/Hide AI response]***

Question to Claude-4.7: The highly asymmetric outcome of the final effort is a surprise. Would a manual block-design exercise not eventually generate a coherent "carpet". Why is it such a struggle with AI. ***[Show/Hide AI response]***

Question to Claude-4.7: In the light of that respone, could a somewhat circular, rectangular or polygonal pattern be designed -- whether centro-symmetric or axially symmetric (a "prayer mat") -- with holes as necessary. Perhaps defined as "best approximation". Are there not apps that enable pattern layout with a specified number and variety of shapes. ***[Show/Hide AI response]***

Question to Claude-4.7: A final question. Can you determine whether combining the pieces of a Platonic polyhedron and its dual , or an Archimedean and its dual, would enable such carpet design. ***[Show/Hide AI response]***

- Afghanistan -- air dominnce -- drones -- buried diagrams -- one wire / spaghetti
- Perplexity -- 5-cell

References

Ralph Abraham. Dynamics: the Geometry of Behavior. Addison Wesley Longman, 1992.

Christopher Alexander:

- Notes on the Synthesis of Form. Harvard University Press, 1964 [summary]

- A Pattern Language. Oxford University Press, 1977 [summary]
- The Nature of Order: An Essay on the Art of Building and the Nature of the Universe. Center for Environmental Structure, 2002-2004 [summary]
- The Fifteen Properties Are the Glue which Binds Wholeness Together. 2006 [text]
- Harmony-Seeking Computations: a science of non-classical dynamics based on the progressive evolution of the larger whole. *International Journal for Unconventional Computing (IJUC)*, 5, 2009
- A Foreshadowing of 21st Century Art: the color and geometry of very early Turkish carpets. Oxford University Press, 1993 [review]

Ron Atkin:

- From cohomology in physics to q-connectivity in social science. *International Journal of Man-Machines Studies*, 4, 1972
- Mathematical Structure in Human Affairs. London, Heinemann, 1974
- Combinatorial Connectivities in Social Systems. Birkhäuser Verlag, 1977
- Multidimensional Man: Can Man Live in 3-dimensional Space? Penguin Books, 1981 [summary]

Stafford Beer:

- Beyond Dispute: The Invention of Team Syntegrity. John Wiley, 1994
- Platform for Change. John Wiley, 1978.

John G. Bennett:

- General Systematics. *Systematics*, 1, 1963, 1 [text]
- The Dramatic Universe. J. G. Bennett Foundation, Vols. I – IV, 1955-66 [contents]

Johannah Bernstein, et al, *SDGs for All: Strategic Scenarios -- Earth4All System Dynamics Modelling of SDG Progress*, 2023).

Johannah Bernstein, David Collste, Sandrine Dixon-Decleve and Nathalie Spittler. SDGs for All: Strategic Scenarios -- Earth4All System Dynamics Modelling of SDG Progress. *Earth4All Policy Study*, September 2023 [text]

Roberto Casati and Achille C. Varzi. Holes and Other Superficialities. Bradford Books, 1994

Keith Critchlow:

- Order in Space A Design Source Book. Thames and Hudson, 1969
- Islamic Patterns. Thames and Hudson, 1976
- Islamic Art and Architecture: System of Geometric Design. Garnet Publishing, 1999
- The Hidden Geometry of Flowers: Living Rhythms Form and Number. Floris Books, 2011

Edward de Bono:

- Six Thinking Hats. Ebury Publishing, 1985 [summary]
- Six Action Shoes. Ebury Publishing, 1991
- Six Value Medals. Ebury Publishing, 2005
- Six Frames For Thinking About Information. Penguin, 2008

Terrence Deacon. Incomplete Nature: How Mind Emerged from Matter. W.W. Norton, 2011

Lynnclaire Dennis, Jytte Brender McNair and Louis H. Kauffman (Eds.). The Mereon Matrix: Unity, Perspective and Paradox. Elsevier, 2013

Buckminster Fuller in collaboration with E. J. Applewhite:

- Synergetics: Explorations in the Geometry of Thinking. Macmillan, 1975 [summary]

- Synergetics 2: Further Explorations in the Geometry of Thinking. Macmillan, 1979 [summary]

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]

Douglas Hofstadter:

- I Am a Strange Loop. Basic Books, 2007
- What Is It Like to Be a Strange Loop. In: Uriah Kriegel and Kenneth Williford (Eds).*Self-Representational Approaches to Consciousness*. MIT Press, 2006, pp. 465-516
- Analogy as the Core of Cognition. In: Dedre Gentner, et al. (Eds.), The Analogical Mind: Perspectives from Cognitive Science, 2001
- Gödel Escher Bach: an Eternal Golden Braid. Basic Books, 1999

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

Yusuke Imai:

- General Theory of Music by Icosahedron 1: A bridge between "artificial" scales and "natural" scales (ar5iv.labs.arxiv.org/html/2103.10272, 2021) [text]
- General Theory of Music by Icosahedron 2: Analysis of musical pieces by the exceptional musical icosahedra (*arXiv*, 2021) [text]
- General Theory of Music by Icosahedron 3: Musical invariant and Melakarta raga (*arXiv:*2109.12475, 2021) [text]

Ray Ison and Ed Straw. The Hidden Power of Systems Thinking: governance in a climate emergency. Routledge, 2020 [summary]

D. M. Kilgour, K. W. Hipel, L. Fang. Conflict Resolution Using the Graph Model: Individuals and Coalitions. *Handbook of Group Decision and Negotiation*. Springer, 2021 [abstract]

Mikhail Kornev. The Technique of Musical Icosahedra (*Muzykal'naya akademiya*, 2025, 3) [references]

George Lakoff. Women, Fire, and Dangerous Things: What Categories Reveal about the Mind. University of Chicago Press, 1987 [summary]

George Lakoff and Rafael Núñez. Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being. Basic Books, 2000 [summary]

George Lakoff and Mark Johnson. Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought. Basic Books, 1999

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
- Meditations Through the Quran: Tonal Images in an Oral Culture. Nicolas-Hays 1981

L. C. Rêgo and F.E.G. de Oliveira Higher-order Sequential Stabilities in the Graph Model for Conflict Resolution for Bilateral Conflicts. *Group Decision and Negotiation*, 29, 2020 [abstract]

Nicholas 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
- Perception and Entanglement in the Quantum World: a phenomenological exploration of the physical, social, and philosophical implications, 2026

C. P. Snow. The Two Cultures and the Scientific Revoltion. Oxford University Press. 1959

Susan G. Sterrett. Wittgenstein Flies a Kite: A Story of Models of Wings and Models of the World. Pi Press, 2005

Dmitri Tymoczko. A Geometry of Music Harmony and Counterpoint in the Extended Common Practice. Oxford University Press, [summary]

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

Haiyan Xu , Keith W. Hipel , D. Marc Kilgour , Liping Fang. Conflict Resolution Using the Graph Model. *Strategic Interactions in Competition and Cooperation*. Springer, 2018 [abstract]

Maurice I. Yolles, R. Frieden and G. Kemp. Toward a Fomal theory of Socioculture: a yin- yang information-based theory of social change. *Kybernetes*, 37, 2008, 7 [text]

Arthur M. Young. The Geometry of Meaning. Anodos Foundation, 1976
