



laetus in praesens

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28 August 2023 | Draft

Magical Discourse Contrasting Human and AI Identity

Being a wave or being apart from a quantum perspective

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References

Introduction

Much is made of the possibility of being a "part" of community and of society more generally. Hence the many references to "participation". The facilities of social media encourage this in many ways, as do esports. Being part of a family or group is a common aspiration. Nations may well aspire to being a part of the [international community](#), to whatever degree its nature may be called into question (*International Community as God or Sorcerer's Apprentice?* 2015)

These examples all suggest that assumptions about the process of being a part of a larger context, as currently understood, are proving adequate to the viability of an increasingly fragmented society. Arguably this is far from being the case. With "whole" as the complement to "part", the viability of wholes of many kinds is widely challenged -- even suspect as totalitarian, manipulative or otherwise. This may well translate into the problematic experience of a person, and hence the widespread concern with the extent of the mental health crisis -- "recreational" drugs -- and the challenge to any integrative processes and aspirations.

Rather than the elusive nature of a "whole" and the experience of participation in it, the possibility explored here is the sense of a "wave" as a better articulated complement to "part". This follows from the fundamental distinctions between wave and particle in physics, most succinctly indicated by Heisenberg's [Uncertainty Principle](#). Whilst identity may indeed be framed and understood through the particular, the question is how it might be more fruitfully comprehended as a wave. Is there a corresponding principle for social reality (Garrison Sposito, *Does a generalized Heisenberg principle operate in the social sciences? Inquiry: An Interdisciplinary Journal of Philosophy*, 12, 1969, 1-4). Is jargon use of "vibes" and "magic" an indication of widespread intuitive recognition of this modality?

The argument here follows from earlier approaches to the possibility (*Encountering Otherness as a Waveform -- in the light of a wave theory of being*, 2013; *Being a Waveform of Potential as an Experiential Choice: emergent dynamic qualities of identity and integrity*, 2013; *Being Neither a-Waving Nor a-Parting -- considering both science and spirituality*, 2013).

The possibility and urgent need for a radical transformation of perspective -- a [paradigm shift](#) -- is variously articulated, as featured in arguments of [Alexander Wendt](#) from an international relations perspective (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015). Wendt argues for recognition that people may be understood as "walking wave functions", for example (*On being "walking wave functions" in terms of quantum consciousness?*, 2017).

The question is whether, as widely imagined, the envisaged shift in perspective is radical enough -- if only as a means of reframing individual experience. As famously argued by the physicist Niels Bohr: *We are all agreed that your theory is crazy. The question which divides us is whether it is crazy enough to have a chance of being correct. My own feeling is that it is not crazy enough* (1922).

Irrespective of inter-personal or inter-group relations, the challenge is coming rapidly "to a head" -- to coin a phrase -- in relation to climate change and the environment. Is that more appropriately understood as primarily a challenge of "re-cognition"? Ironically any focus on "part" evokes recognition of the challenge to "partnership" in the present times, and notably to "bipartisanship" in governance -- transcending disagreement, however radical.

Humans may indeed conceive themselves to be part of the environment in which they are embedded. The question is whether this understanding addresses the need for a transformation of that relationship, as separately argued with respect to radical cognitive engagement with environmental categories and disciplines (*Existential Embodiment of Externalities*, 2009; *"Human Intercourse": "Intercourse with Nature" and "Intercourse with the Other"*, 2007). Ironically a case can be made for revisiting the framing offered by the classic environmental categories which have been so influential in the past: Earth, Air, Fire and Water (*Cognitive Navigation of the Elements as Indicative Strategic Metaphors*, 2023).

Rather than being abstruse and obscure -- as an intellectual abstraction -- the argument here is that this shift is readily accessible, even immediately and familiarly so. Rather than understood as a radical change in a pattern of categories, it is a process of apprehending experience otherwise -- whether radical or not. Enabling any framing by conventional categories may then itself be a direct inhibitor of that experience -- or potentially so.

The inhibition of this experiential mode is then to be understood as a misleading consequence of dependence on systematic labelling of the environment. Its features are thereby reified through the categories labelled in this way -- and not otherwise. The point has been made by Alfred Korzybski arguing that certain uses of the verb "to be", called the "is of identity" and the "is of predication", were faulty in structure (*Selections from Science and Sanity*, 2010). Even more problematic is the effort to achieve a form of closure by and within such a pattern of categories.

The argument has been developed from that of David Bohm with respect to [proprioception](#) (Steven Rosen, (*Phenomenology, Self-reference, and Bohmian Dialogue* (42nd Annual Conference of the Society for Phenomenology and the Human Sciences, 2003; *Splitting the Atom: the paradox of Proprioceptive Dialogue*, *The Journal of Mind and Behavior*, 2022, 43, 2022, 3).

There is however an intriguing challenge to writing about such a shift using terms (such as "proprioception") which are paradoxically called into question by the argument itself and the perspective it endeavours to render credible. One suggestive device is the use of metaphor (Andreas Musolff, et al, *Metaphor and Discourse*, 2009; Raymond W. Gibbs, *The Embodied and Discourse Views of Metaphor: why these are not so different and how they can be brought closer together*, 2017; *Metaphorizing Dialogue to Enact a Flow Culture*, 2019). A contrast could then be made between "explaining" and an "explanation". This suggests a dissociation from what is "plain" as advocated in the ["plain speech"](#) of Quakers (Joe Long, *How Pompous Thou Art: Of Pronouns and 'Plain Speech'*, *American Greatness*, 29 March 2018).

A related device is a play on words through [figures of speech](#), understood as fundamental to the need for powerful rhetoric in governance (*Questionable Classification of Figures of Speech*, 2016). This suggests a dissociation from the "plane" of experiential reality to another plane or frame -- itself of questionable significance (*Future Global Exodus to the Metasphere*, 2022).

The insight has been expressed otherwise by the work of Mihály Csikszentmihályi on the somewhat elusive experience of [flow](#) (*Finding Flow: the psychology of engagement with everyday life*, 1996). The concern in what follows is with psychosocial analogues to the widely recognized process of "achieving lift-off" in the light of well-recognized insights from helicopter development and the subsequent explosion of interest in practicalities of quadcopters and the like (*Combining Clues to 'Ascent' and 'Escape'*, 2002; *From helicopters to quadcopters and more: psychopter implications through technomimicry*, 2023).

The challenge might be framed in terms of the extent to which people and groups effectively imprison and incarcerate themselves cognitively in patterns -- exemplified by administrative organization and [entrapment in "project logic"](#). Intelligence is then held to be associated with the ability to manipulate those all-encompassing patterns -- a facility now dramatically delegated to artificial intelligence. Should human intelligence itself then be explored as potentially "artificial" to a dysfunctional degree? **Are humans transforming themselves into AIs -- and how are they then to be distinguished from AIs?**

The ironic challenge is that the very attempt to frame these questions meaningfully appears to call for a distinctive mode of discourse, as can be suggested in the light of implications of second-order cybernetics and higher-order communication possibilities (*Second-order Dialogue and Higher Order Discourse for the Future*, 2023). Rather than being part of the solution, the mode of discourse adopted and advocated by authorities may be as much part of the problematic trap humanity faces. As indicated by policy scientist Geoffrey Vickers: a trap is a function of the nature of the trapped (*Freedom in a Rocking Boat: changing values in an unstable society*, 1970).

There is however every possibility that any inherently human communication, distinct from emerging AI modalities, may depend on the indicative role of patterns of metaphor and the ability to interweave "playfully" and "magically" the insights they offer -- rather than seeking to freeze them into static frameworks and models. This may be better expressed in aesthetic terms by continually "talking up" possible indications -- creatively and imaginatively juxtaposing incommensurable alternatives. This is a challenge to the conventional quest for definitive closure of a fundamental dynamic through "standard models" -- with their deadening incorporation of otherness, thereby preempting the potential creativity of the future (*Beyond the Standard Model of Universal Awareness: Being Not Even Wrong?* 2010).

Entrapment in squares, boxes and frames?

One approach to this argument is recognition of the extent to which the conventions of engagement with the world cultivate box-like

frames in many domains -- and finally to coffins and tombstones. Ironically this is increasingly evident in video depictions of the manner in which AI visually presents individuals under surveillance. Each person is thereby framed by a rectangle as they move along streets -- with associated labels and supplementary information also presented within rectangles. Variants are evident in heads-up displays for pilots -- and in the virtual reality presentations expected with augmented reality spectacles and "smart glasses" (*Best Smart Glasses and AR Specs 2023: tested picks from Snap, Meta and Amazon, Wareable*, 6 June 2023).

Curiously this can be understood as an evolution of the manner in which people and objects are labelled without AI. Text information, especially personal profiles, is presented on rectangles of text -- as with identity cards -- possibly within rectangular drop-downs and pop-ups on the rectangular windows of computer screens. The structure of organizations is displayed in organization charts with people and departments typically in rectangles. This is similar to the tendency with systems diagrams and concept maps, although occasional use may indeed be made of spheres and ovals in mind maps.

The tendency most obviously extends to the grid layout of towns and cities, whether in 2D or 3D. Again innovative design may occasionally provide for circular configurations -- parks and roundabouts. However it is relatively rare for non-rectangular forms to feature in residential or institutional structures. They are held to be a less efficient use of materials -- only justified in promotional designs.

The tendency is especially evident in the main financial tool, namely the spreadsheet -- as can be speculatively called into question (*Spherical Accounting -- using geometry to embody developmental integrity*, 2004). It is similarly evident in the tool for the management of time, namely calendars -- in striking contrast to non-digital watches with circular dials (*Dial versus Digital Indicators*, *Gagesite*). Curiously it is circular dials which tend to feature in the control of complex manufacturing processes and which are a common feature of automobile and airplane dashboards. There is however some irony to the contrasts implied by the following title (Henrik Hvid Jensen, *Why digitalization is critical to creating a global circular economy*, *World Economic Forum*, 6 August 2021).

In the absence of physical or digital labels, the tendency is also evident in the interaction with the environment -- whether urban or natural. Everything tends to be endowed with a name, associated with the sense by which it is thereby "known". The unnamed, and especially the unnameable, is then a potential threat -- being "unknown".

The labels ascribed to an individual change the way others perceive them, with multiple labels associated with stigma combining to worsen the social consequences of "being labelled" -- evoking considerable resentment:

- Emma McArdle: *There are "too many people being labelled, categorised into boxes, prescribed medication"* (*Mad in Ireland*, 06 November 2022)
- Brian Bourke: *Meaning and Implications of Being Labelled a Predominantly White Institution* (*ProQuest*, 91, 2016, 3)
- Rune Ellefsen: *Being labelled as "violent extremists": the consequences of soft repression* (Center for Research on Extremism, 5 October 2020)

This tendency offers the sense in which humanity -- globally, in information terms -- has engendered an analogue to the [Great Pacific garbage patch](#) and its equivalents, the [Indian Ocean garbage patch](#) and the [North Atlantic garbage patch](#). The global knowledge system, sustained by the internet, can then be recognized as a vortex of factoid labels of every size and durability. The concern with accumulation of plastics in the ocean is then reflected in the accumulation of "plastic knowledge" with little probability of its "decomposition", and every probability of long-term pollution of the psychosocial system.

Missing is the sense of what such labels were indicating, namely the meanings to which they referred. However they are accumulated, in archives or otherwise, they are an indication of the fallacy of reification and of [misplaced concreteness](#). The careful scientific labelling of nature, most tragically that of endangered species and natural environments, can then be seen as an act of denaturing the dynamics and meanings by which they were engendered.

The point is tragically well made by the vast collections of insects carefully pinned to trays in museum collections -- completely ignoring the complex dynamics in which the animals engaged in their natural environment. There is rarely any ability to activate a video of each animal to offer a sense of the dynamics they embodied. To the extent that the entrapment in labels is directly reflected in the physical architecture of organizational offices, and the knowledge architecture by which their activities are organized, a contrast to "project logic" can be suggested in terms of music (*Knowledge Gardening through Music: patterns of coherence for future African management as an alternative to Project Logic*, 2000; *Metaphoric Entrapment in Time: avoiding the trap of Project Logic*, 2000).

What indeed is thinking "outside-the-box"? Beyond the "clunky" focus on parts, is it reducing nature and people to labels? Armageddon could even be understood as framed by the "statutory professions" (Ellie Lisitsa, *The Four Horsemen: Criticism, Contempt, Defensiveness, and Stonewalling*, The Gottman Institute) with the challenge of being elsewhere (*Beware of Legality, Accountability, Marketability, Security! Be where the Four Hoarsemen of the Apocalypse are not?* 2012).

Playing with a global array of distractants -- "interactively"?

Rather than simply seeking to do without labels, given the many advantages they offer, the question is how to engage with them otherwise. As suggested by the freedom to change the clothing through which one engages with the environment, can labels be donned and doffed as frames with which cognitive engagement is enabled? Does the metaphor imply that, rather than the biblical "[coat of many colours](#)", there is a tendency to be adorned with a "[coat of many labels](#)"? So "enlabelled", this could be understood as a form of psychologically protective [Hazmat suit](#).

Like clothing, labels can be understood as distracting from the "underlying" experience of what they represent. Rather than being "walled in" by labels, there is then the possibility of playing with a vast global array of all-encompassing patterns of labels -- of interacting with them, or not, as appropriate.

As windows through which attention may be focused, how is it possible to "open the window" -- or to "avoid the wall" in which cognitive "incarceration" is embedded? The challenge is evident in the experience of a Times Square array of advertising, or otherwise in the array of adverts surrounding a football game.

A degree of freedom is evident in the dynamics relating to use of an [evidence board](#) as a common background feature in thriller and detective fiction movies and TV. Also known as a "conspiracy board," "crazy wall," or "murder map", it features [post it notes](#) -- together with a collage of media from different sources -- stuck to a wall or pinned to a pinboard. These are typically interconnected with string to mark connections. A more technical related name for these sorts of visualizations and charts within law enforcement are Anacapa charts, otherwise used for social network analysis.

Evidence boards are associated in fiction with both detective activities and obsessional interests, including those of delusional individuals pursuing conspiracy theories -- hence the alternative names. Is there a case, however, for recognizing how everyone tends to be effectively trapped within an evidence room papered with labels?

The labels and their connectors are reconfigured in the process of the investigation -- if not playfully. In the dynamics portrayed in fiction in relation to an evidence board, much is made of "my label" being better than "your label". The process could even be compared to a card game in which the indicative details are variously hidden or exposed.

On a global scale, efforts may be made to collect such labels and their perceived connections. This is exemplified by online encyclopedic projects, such as *Wikipedia* or the *Encyclopedia of World Problems and Human Potential*. The latter configures vast arrays of interconnected [world problems](#), [global strategies](#) and [human values](#). These can be recognized as "issues to complain about", things "someone ought to do", and the fundamental "reasons for doing so". Explanations for inaction then invite poetic articulation (*Responsibility for Global Governance*, 2008).

The question such arrays can now be understood to pose -- beneath or beyond the labels -- is to what do they point, namely of what are such heavy cognitive investments indicative?

The challenge of any underlying meaning is indicated by the recourse of the policy sciences to reference to "[wicked problems](#)". Indeed many prefer to understand the array of problems as engendered and manipulated by a cabal of hidden elites -- even a potentially satanic "them". The array has recently been endowed with a new name as a "polycrisis", now inviting further commentary:

- Ville Lähde: *The Polycrisis: Is this the word we need to describe unprecedented convergences between ecological, political and economic strife?* (*Aeon/Psyche*, 17 August 2023)
- Michael Murray Lawrence: *'Polycrisis' may be a buzzword, but it could help us tackle the world's woes* (*The Conversation*, 12 December 2022)
- Kate Whiting: *This is why 'polycrisis' is a useful way of looking at the world right now* (*World Economic Forum*, 7 March 2023)
- Scott Janzwood and Thomas Homer-Dixon: *What Is a Global Polycrisis? And how is it different from a systemic risk?* (Cascade Institute, 27 April 2022)

The promotion of buzzwords like "wicked problems" and "polycrisis" can indeed be upheld as fruitful. Far less evident is how it offers strategic traction relevant in practice to the dimensions of the global problematic and those who experience it for themselves in some way -- now exemplified by climate change disasters.

Whereas recourse is otherwise made to "figures of speech" in strategic rhetoric, should such desperate rebranding by authorities be recognized as promotion of "figures of discourse" in relation to a two dimensional array of labels? It follows the long tradition of ineffectual prefix rebranding from "multi-", through "inter-", to "trans-" and "meta-" with respect to international, interfaith, interdisciplinary, and intercultural challenges.

By contrast **this argument is an exploration of the experiential dimension which underlies the labels** -- then to be understood as "papering over" the cognitive cracks. The rebranding can indeed be understood as an effort to design a cognitive container of strategic relevance. In the deprecated tradition of alchemy, this can be understood as the paradoxical container capable of holding the universal solvent ([alkalhest](#)) by which everything is otherwise dissolved -- namely the global strategy offering a universal solution to the global problematic.

Ironically the associated design challenge is directly and explicitly addressed, if only metaphorically, by the [International Thermonuclear Experimental Reactor](#) (ITER). Its operation, in providing a global solution to humanity's energy problems, requires that it be able -- paradoxically -- to contain the nuclear plasma inherently capable of dissolving its toroidal container. This can be explored as an indicative cognitive pattern (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006).

The challenge would seem to be that of alternating between investing heavily in definitive labels (and their models) and dissociating from them in favour of the experiential modality -- between "donning" and "doffing" (*Epistemological crisis of governance*, Metaphor Project). This could, for example, be understood through the process of osmosis which is so vital to respiration -- the exchange between the external environment and the blood stream nourishing individual human cells (*Cognitive Osmosis in a Knowledge-based Civilization*, 2017). The latter focuses on the interface challenge of inside-outside, insight-outsight, information-outformation.

Misleading promotion and perception of AI as "magic"?

Surprisingly or not, the sense of "magic" is now explicitly associated with AI -- and called into question:

- Google now offers *Magical: ChatGPT AI Writer and Text Expander* and an *AI Magic Extension*.
- *It's a kind of Magic: AI and the future of education* (*Australian Education Union*, 5 April 2023)
- *Coca-Cola Invites Digital Artists to 'Create Real Magic' Using New AI Platform* (*Coca Cola Company*, 20 March 2023)

- *The Magic and Minstrelsy of Generative AI* (*Wired*, 4 April 2023)
- *Lazy Engineers treat AI as Magic!* (*Mind Matters*, 2 August 2019)
- *AI is not magic - it's no more than cost savings* (*The Institute of Chartered Accountants in England and Wales*, 7 November 2022)

The question as to whether AI "is" magic has been succinctly explored from an anthropological perspective by Matthew Gwynfryn Thomas and Djuke Veldhuis (*Is Artificial Intelligence Magic?* (*Sapiens*, 12 December 2019). Their argument is prefaced by reference to the famous adage of Arthur C. Clarke: *Any sufficiently advanced technology is indistinguishable from magic*. They argue:

We want to go one step further and argue that artificial intelligence is not merely indistinguishable from magic, it actually invokes elements of magic, anthropologically speaking, and is driven by magical thinking. Magic can be a slippery concept: arcane, obscure, and all too readily dismissed by those who live in supposedly scientific and enlightened societies. The late anthropologist Alfred Gell wrote that magic "has not disappeared but has become more diverse and difficult to identify" [*Technology and Magic*, *Anthropology Today*, 4, 1988, 2].

As Gell explained, magic infuses both technology and art [*The Technology of Enchantment and the Enchantment of Technology, The Art of Technology*, 1999].... In anthropology, magic tends to involve two elements:

- Manipulating symbols (through incantations, music, drawings, writing, and utterances, for example) to bring about some physical change in the world.
- Obtaining some ideal product or outcome without any cost or effort.

Math and artificial intelligence also manipulate symbols—numbers, letters, and computer code—to bring about change. In artificial intelligence, you take one thing (a set of inputs, such as crime statistics), manipulate those symbols in obscure and obfuscatory ways, and transform them into another thing (an output, such as guidance on where to deploy police forces and which groups of people to target).

Highlighting the "magical" nature of technological developments, the authors conclude:

The ultimate example is a concept in AI called "the singularity": an "awake" and superhumanly intelligent computer. This potential entity would be capable of manipulating symbols to "think up" and build new AI programs that themselves would bring about changes in the world. It would be the ideal intelligence, the last intelligence we ever need to create, because it would no longer require our skill, knowledge, or labor. Creating the singularity would be, for all intents and purposes, a magical endeavor.

Sustainability as ordinary "magic" -- or extraordinary?

Revisiting deprecated "magical thinking"? From an anthropological perspective, magic (like religion) could be understood as intimately associated with belief, as argued by Dorothy Hammond:

Anthropologists... have so defined magic that, although it might shade into or overlap with religion, it is a separate phenomenon distinct from religion. Theorists have made different features the chief means of differentiation, but no matter how defined the distinction cannot be easily or consistently maintained. This paper suggests that the concept of magic as a distinct entity is the factitious result of ethnocentric classification, and that magic should be included within religion as one type of the practices of which religious ritual is composed (*Magic: A Problem in Semantics*, *American Anthropologist*, 72, 1970, 6)

For Michael Winkelmann (*Magic: A Theoretical Reassessment*, *Anthropology of Consciousness*, 32, 2021, 2):

Anthropological theories about the techniques broadly labeled magic and related practices as sorcery, witchcraft, divination, and ritual curing are in need of reformulation. Theoretical considerations of these phenomena within anthropology have neglected to consider the basic assumptions of magical belief, instead departing from **Western cultural assumptions that beliefs about magic are empirically untenable** and that there can be no such cause-and-effect relations as they imply. An impetus to the reformulation of theories of magic comes from experimental parapsychology where laboratory research has produced empirical support for some of the phenomena claimed by magical traditions... Magical theories, principles and practices share certain of the conditions found through parapsychological research to be conducive to psi manifestations: altered states of consciousness, visualization, positive expectation, and belief. This suggest that **the indigenous rationale for magical practices are related to psi rather than delusional thought processes**. [*emphasis added*]

In a period in which much is made of misinformation, disinformation and memetic warfare, "psi" may not be the most appropriate term for the processes of induced belief. There is however a case for exploring carefully the psychosocial forces conducive to remedial action rather than depending entirely on the simple rationality now proving to be unfit for the purpose (*Recognizing the Psychosocial Boundaries of Remedial Action*, 2009; *Towards a Science of Misinformation and Deception*, 2021). With propagandists to be understood as illusionists, arguably the skills of performers of magic have much to offer, especially for audiences.

Magic in governance? There is occasional recognition that some initiatives by authorities have succeeded "by magic" -- improbably and against all odds. The transformation of the USSR might be seen in that light (*Gorbachev: Dramaturge ?!* 1991). UN reform would indeed be "magical", although an early audio presentation by the UN was titled *No Easy Magic* (*UN Radio Classics*, 1 January 1957). However

examples of the use of the term are indicative of both deprecation and appreciation, despite its use as an acronym:

- Diane de Gramont: *Beyond Magic Bullets in Governance Reform* (Carnegie Endowment for International Peace, 4 November 2014)
- Christopher Pollitt and Peter Hupe: *Talking About Government: the role of magic concepts* (Public Management Review, 13, 2011, 51)
- Pratap Antony: *Good Governance: the amazing emptiness of magic words* (Countercurrents, 3 December 2015)
- Peter T. Leeson: *Harmful Magic, Helpful Governance* (George Mason University)
- *Is corporate governance a magic bullet?* (Australian Institute of Company Directors, 1 August 2004)
- *The Magic of Good Cooperation* (DAMA International: Dutch Data Forum: Governance and Management, 2021)
- *MAGIC - Moving Towards Adaptive Governance in Complexity: Informing Nexus Security* (Climate Analytics, Horizon 2020 European Commission DG Research)

The term may be used in relation to (corporate) leadership, although offering little clarity on what is indicated:

- Hubert Joly: *The Secret Ingredient of Thriving Companies? Human Magic* (Harvard Business Review, 10 January 2022)
- Stefan Thomke: *The Magic That Makes Customer Experiences Stick* (MIT Sloan Management Review, 6 August 2019)
- Diana Drake: *Revealing Secrets of Magic, Leadership and Life* (Wharton Global Youth Program, 27 November 2019)
- Lee Cockerell: *Creating Magic: 10 Common Sense Leadership Strategies from a Life at Disney* (MindTools)
- Krista Mashore: *6 Strategies for Leaders Ready to Make the Magic Happen in 2022* (Entrepreneur, 2 February 2022)
- Jason Monaghan: *5 Steps to Infuse "Magic" in Your Leadership Style* (Eblin Group, 14 December 2011)
- Mary Annette Brackin: *What is your leadership magic?* (Journey to Results, 2022)
- Neeraja Gopalakrishnan: *Magic bolsters senior leadership team* (Marcoms News, 10 May 2023)

Spellbinding propaganda? The present period is witness to unprecedented preoccupation with disinformation and appropriate responses to it. This is notably associated with the [Russo-Ukrainian war](#):

- Najat Al-Saied: *Social Media as a Propaganda Tool in the Russia-Ukraine Conflict* (The Cairo Review of Global Affairs, 12 March 2023)
- André Liebich: *The Propaganda War over Ukraine: Unanimity, on both sides* (Global Challenges, Graduate Institute of International and Development Studies, 13, 2023, 5)
- Andre Damon: *Leaked Pentagon documents expose US war propaganda* (World Socialist Web Site, 11 April 2023)

The challenge of "spellbinding propaganda" has been evoked in relation to the Nazi regime and comparisons made with perceptions of the current rise of fascism. Controversy has risen with regard to the republication of *Mein Kampf* in Germany (Sebastian Huempfer, [Can a book be too dangerous for the public?](#) Free Speech Date, 1 May 2015). Hitler is recognized as having been a spellbinding speaker in his presentation of Nazi propaganda. This has been seen as associated with [occultism in Nazism](#).

Use is frequently made of spellbinding in the assessment of advertising and marketing ([Spellbinding vs Engaging: Decoding Common Word Mix-Ups, The Content Authority](#)), Use of magic tricks has been shown to be a factor eliciting support for a decision (Sean Coughlan, [Magicians' tactics found in politics and marketing](#), BBC, 11 March 2021; Alice Pailhès and Gustav Kuhn, [Mind Control Tricks: Magicians' Forcing and Free Will, Trends in Cognitive Sciences](#), 25, 2021, 5).

Sustainability as magic? Tragically, in the current period of global crisis, there is little trace of recognition by governing authorities that strategies towards sustainability embody any "magical" characteristics. The challenges of sustainability are far from being recognized as having similarities to those of a "magical work" -- a "*magnum opus*", as understood in traditions of the past. It could then be asked to what extent the sustainability agenda requires that it be "spellbinding" in some manner.

This contrasts with the argument of [Ann Masten](#) (*Ordinary Magic: resilience in development*, 2014) and that of [Jeremy Hayward](#) (*Perceiving Ordinary Magic: science and intuitive wisdom*, 1985). Ironically these imply a need for "magicians" (Sue Roffey, ['Ordinary magic' needs ordinary magicians: the power and practice of positive relationships for building youth resilience and wellbeing](#), *Kognition und Paedagogik*, 103, 2017). A popular insight is offered as "everyday magic" -- potentially a way of understanding sustainability (Mattie James, *Everyday Magic: the joy of not being everything and still being more than enough*, 2022).

Official conferences promoting sustainability, or any remedial response, could even be characterized as essentially "unmagical" and therefore unattractive to many -- despite isolated initiatives to promote sustainability as magic ([What to expect at Sustainability is Magic! Eco Living Online](#), 31 August 2020; [The Magic of Sustainability at the Empire State Building, Impossible Science](#), 2021).

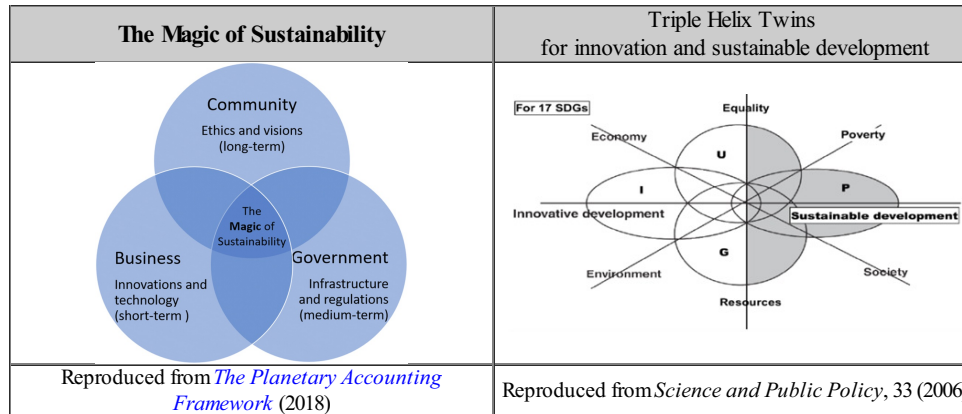
Given the degree to which elites are now variously framed as quintessentially "evil", there is of course the potential that -- as "satanists" -- they are assiduous practitioners of "black magic" ([Existence of evil as authoritatively claimed to be an overriding strategic concern](#), 2016; [Framing by others of claimants of evil as evil](#), 2016). Could many framings of sustainability be usefully explored as "bad magic" -- or as magic designed not to "work"? With respect to magical discourse, there are of course the classic warnings regarding the "silver tongued".

Despite official deprecation of magic, arguments to the contrary with respect to sustainability are evident, as exemplified by that of [Peter Newman](#):

This paper uses both practical case studies and theoretical exploration to offer explanations for how and why 'magic' occurs during processes involving sustainability by environmental professionals. This quality appears to be an emergent property of a complex process involving a wide number of **stakeholders who suspend their professional labels in order to contribute**. The sum is observably greater than the assembled parts with the result that apparently impossible things happen. A more human

dimension seems to be needed to make some aspects of the environmental agenda work. The paper examines the core competences associated with such an ‘anti-professional’ approach in terms of its challenge to reductionist techniques and to ‘experts’ as it seeks more integrated, long-term solutions. Finally it explores whether such competences will shape future economies or whether the pressure of conformity and standardisation will destroy the ‘magic’. (*Can the Magic of Sustainability Revive Environmental Professionalism? Greener Management International*, 49, 2005, Spring) [emphasis added]

Newman reframed the argument in the following image published subsequently (Kate Meyer and Peter Newman, *The Planetary Accounting Framework: a novel, quota-based approach to understanding the impacts of any scale of human activity in the context of the Planetary Boundaries*, *Sustainable Earth*, 1, 2018, 1)



That schematic depiction recalls those relating to the [Triple Helix model of innovation](#), as shown on the right above (Henry Etzkowitz and Chunyan Zhou, *Triple Helix twins: Innovation and sustainability*, *Science and Public Policy*, 33, 2006, 1; Chunyan Zhou and Henry Etzkowitz, *Triple Helix Twins: A Framework for Achieving Innovation and UN Sustainable Development Goals*, *Sustainability*, 13 2021, 12). This potentially offers a fruitful association of creativity with some understanding of magic

Magic concepts and hyperobjects? Trond Ove Tøllefsen argues that sustainability studies have not been able to come up with a consensus conceptualization of "sustainability", despite many attempts (*Sustainability as a "magic concept"*, *Cuadernos Europeos de Deusto*, May 2021). The article asks what this conceptual confusion means and concludes that sustainability is a perfect fit for what has been called a "magic concept: by Christopher Pollitt and Peter Hupe, namely that it is; broad, has a positive normative charge, imply consensus or at least the possibility of overcoming current conflicts, and has global marketability (*Talking About Government: the role of magic concepts*, *Public Management Review*, 13, 2011, 51)

As argued by Pollitt and Hupe:

This article examines the phenomenon of ‘magic’ concepts – those key terms which seem to be pervasive among both academics and practitioners. Within that category our focus is on ‘governance’, ‘accountability’ and ‘networks’. Our prime purpose is to map their meanings and how they are used. Following an analysis of a wide range of literature – both academic and practitioner – we find that these concepts have properties in common which help promote their popularity. A high degree of abstraction, a strongly positive normative charge, a seeming ability to dissolve previous dilemmas and binary oppositions and a mobility across domains, give them their ‘magic’ character. Limitations are also identified. Magic concepts are useful, but potentially seductive. They should not be stretched to purposes for which they are not fitted.

Curiously that framing bears a degree of resemblance to hyperobjects as presented by [Timothy Morton](#) to explain objects so massively distributed in time and space as to transcend localization, such as climate change, styrofoam and radioactive plutonium (*The Ecological Thought*, 2010; *Hyperobjects: philosophy and ecology after the End of the World*, 2013).

According to Morton, hyperobjects not only become visible during an age of ecological crisis, but alert humans to the ecological dilemmas defining the age in which they live (*Sublime Objects*, *Speculations*, 2, 2011). Additionally, the existential capacity of hyperobjects to outlast a turn toward less materialistic cultural values, coupled with the threat many such objects pose toward organic matter (what Morton calls a "demonic inversion of the sacred substances of religion"), gives them a potential spiritual quality, in which their treatment by future societies may become indistinguishable from reverential care.

It could then be asked whether the characteristics of hyperobjects offer insights into those of magic -- notably as it may be relevant to sustainability. Five characteristics have been identified:

- **Viscous:** Hyperobjects adhere to any other object they touch, no matter how hard an object tries to resist.
- **Molten:** Hyperobjects are so massive that they refute the idea that spacetime is fixed, concrete, and consistent.
- **Nonlocal:** Hyperobjects are massively distributed in time and space to the extent that their totality cannot be realized in any particular local manifestation.
- **Phased:** Hyperobjects occupy a higher-dimensional space than other entities can normally perceive. Thus, hyperobjects appear to come and go in three-dimensional space, but would appear differently if an observer could have a higher multidimensional view.

- **Interobjective:** Hyperobjects are formed by relations between more than one object. Consequently, entities are only able to perceive the imprint, or "footprint," of a hyperobject upon other objects, revealed as information. For example, global warming is formed by interactions between the sun, fossil fuels, and carbon dioxide, among other objects.

Also curiously relevant to any understanding of magic is the adaptation of its "principles" to the challenges of cybersecurity (Simon Hnederson, et al. *Applying the Principles of Magic and the Concepts of Macrocognition to Counter-Deception in Cyber Operations*, The Mitre Corporation, 2015).

Engendering an enchanting, enthralling "magical" space?

Science, religion and the arts? How is the experience unmediated by labels to be "described" if it is denatured by labelling "it"? Deprecating magic, science has proudly built its methodology on the ability to manipulate labels and weave them into models of "reality". That reality has proven to be alienating to many in practice -- including scientists -- who have consequently turned to drugs to offer an experiential engagement with "reality" understood otherwise.

Science developed through calling into question the experiential "reality" purportedly offered by religion, a reality framed by theology through a complex pattern of labels -- indicative of mystical experience seemingly accessible only to the very few. As a step towards the fulsomeness of that experience (as promised for the afterlife), faith and belief are upheld as offering a taste of that reality. Belief systems may enhance that possibility through the use of aesthetic experiences and psychoactive drugs (sacred music, and the like).

Despite the deprecation, science makes curious use of "magic" in reference to "[magic numbers](#)" -- in chemistry, physics, or programming -- but without clarifying what is meant by "magic" in those contexts, as with the enthusiasm of mathematicians for "[magic squares](#)" and "[magic constants](#)". Of particular interest are the potential cognitive implications in the much-cited study by George Miller (*The Magical Number Seven, Plus or Minus Two: some limits on our capacity for processing information*, *Psychological Review*. 63, 1956). Ironically the recent pandemic has given focus to an understanding of a dimensionless constant governing civilization and its potential collapse (*Humanity's Magic Number as 1.5?* 2020).

Curiously common to both science and religion is the appeal of a sense of beauty associated with the fundamental realities of which their efforts are indicative. Religion embodies that insight in design, variously expressed in sacred architecture, music, dance, and art. Science understands it to be embodied in fundamental patterns and equations -- with [mathematical beauty](#) exemplified by [Euler's identity](#) in showing a profound connection between the most fundamental numbers in mathematics.

The difficulty for both religion and science is their sense of beauty is readily held to be meaningless by many -- who may well prefer the experience offered by the arts directly. The role of poetry may be especially valued by some, especially in its effort to frame evocatively romantic relationships and the engagement with nature. Given the current crises of global governance, it is however only too evident that science, religion and the arts are not proving adequate to the challenge. The arts might even be employed to frame the extent of that inadequacy:

- *Poetry-making and Policy-making: arranging a Marriage between Beauty and the Beast* (1993)
- *Aesthetics of Governance in the Year 2490* (1990)
- *A Singable Earth Charter, EU Constitution or Global Ethic?* (2006)
- *Reimagining Guernica to Engage the Antitheses of a Cancel Culture* (2022)
- *Embodying complexity through aesthetics of multivocal sung rhetoric* (2016)
- *Creating one's own reality through aesthetics*(2022)
- *Urgency: requisite aesthetics for comprehension of new thinking?* (2019)
- *Comparable Modalities of Aesthetics, Logic and Dialogue* (2021)
- *Potential for Coherence through Engaging Strategic Poetry* (2021)

"Meeting magic"? In a questionable effort to avoid labelling, one clue is ironically offered by reference to "magic" -- much deprecated by conventional science and religion. "Magical thinking" is anathema to both as exemplifying the antiquated engagement with reality from which modern humanity has emerged.

The irony lies in the frequent reference to the quality of "magic" which characterizes venues and tourist locations of choice. Advertising consequently makes frequent reference to such a "magical" quality as a primary attractor beyond conventional labelling. The term is used by those experiencing such locations and associated events experienced there. Tourism might even be framed as the (desperate) quest for "magical experience. The term may be used to frame an encounter with others, and especially one with romantic implications and consequences.

The term is naturally evident in reference to "magical meetings" and to "meeting magic", as discussed separately (*Magical communication through magical thinking?* 2023; *Towards Transformative Conferencing and Dialogue*, 1991). That said, it remains mysterious what processes enable and enhance that experience.

Curiously use of the phrase "magical encounter" is frequently made with respect to the experience of humans encountering wild animals. However the nature of the space engendered and recognized as "magical" seemingly remains elusive -- and perhaps necessarily so (*Engaging with Elusive Connectivity and Coherence*, 2018). The association of references to it to a "[strange attractor](#)" are then appropriate.

Gnosis or the gnostic state refers to an altered state of consciousness associated with "[chaos magic](#)", in which a person's mind is focused on only one point, thought, or goal and all other thoughts are thrust out. The gnostic state is used to bypass the "filter" of the conscious mind -- something thought to be necessary for working most forms of magic. Since it takes years of training to master this sort of Zen-like meditative ability, chaos magicians employ a variety of other ways to attain a "brief 'no-mind' state" in which to work

magic

Creating a "magical space" in traditional practice: A major preoccupation in the practice of ritual and [ceremonial magic](#) is the creation of a magical space -- on which there is extensive commentary. This is understood as a space conducive to the dynamics by which "magical forces" are invoked.

Shamanism can be explored from this perspective (Marcus Bussey, *Six Shamanic Concepts: charting the between in futures work, Foresight*, April 2009). That focus on "the between" can be related to aesthetic appreciation of [liminality](#), itself readily associated with the magical (*Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality*, 2011; *Bibliography of "Betwixt and Between": including references to liminality and Neti Neti*, 2011).

Arguably many initiatives to enable "meeting magic" are sensitive to varying degrees to those sensitivities, if unconsciously, in seeking to invoke "magic" for the occasion -- however that is understood.

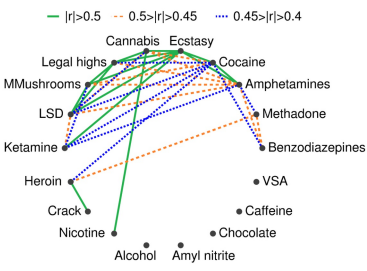
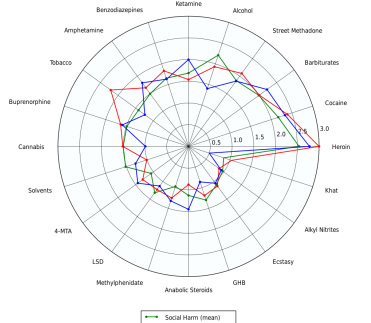
In quest of "magical space" through drugs -- recreational and otherwise?

Recreational drugs: In contrast to the "boxy" experience of labelling, and the associated sense of disconnect and alienation, the question is how the experiential mode can be rendered attractively "enchanted" -- however named, and whatever that can be held to mean.

A first obvious response is the manner in which psychoactive substances are used -- alcohol being a common preference. Alcohol offers a degree of immediate relief from "project logic" and is widely recognized as an appropriate "lubricant" to social interaction otherwise constrained by labels. It features prominently in global conferences at which strategies of governance are discussed through labels. The shared experience with which it is associated offers a marked contrast to the protocols of formal discussion. It could be asked why alcohol is not served in the course of such discussion -- only water. Given the decades over which alcohol has been used to enable such processes -- if only during receptions -- there is a case for asking whether it has been effective in enabling viable global strategies.

In remarkable contrast to alcohol is the use of recreational drugs, whether taken collectively or privately by an individual (Ed Prideaux, *The Worldview-changing Drugs Poised to go Mainstream, BBC Future*, 7 September 2021). In reaction to the global array of labels, whether framed as polycrises or otherwise, there is the heavy investment in psychoactive drugs and the cognitive relief they are experienced as offering. A notable example is the use of "magic mushrooms" (psilocybin mushrooms), [ayahuasca](#), and [DMT](#) used as a [psychedelic drug](#) and prepared by various cultures for ritual purposes as an [entheogen](#) (Ruairi J Mackenzie, *An Introduction to Five Psychedelics: Psilocybin, DMT, LSD, MDMA and Ketamine, Neuroscience News and Research*, 16 November 2021; Justin Higginbottom, *The "Psychonauts" Training to Explore Another Dimension, New Republic*, 3 January 2023; Andrew Gallimore, *Extended-State DMT, Noonautics*).

Beyond "relief" is the promotion of [microdosing hallucinogens](#) to enable and enhance creativity, as controversially discussed and researched (*Can microdosing psychedelics improve your mental health? ABC Health and Wellbeing*, 3 July 2022; *LSD 'microdosing' is trending in Silicon Valley – but can it actually make you more creative? The Conversation*, 14 February 2017; *Can LSD Microdosing Tip The Scales in a New Human Versus AI Battle? Science Alert*, 11 May 2017).

Correlations among usage of 18 legal and illegal drugs	20 Recreational drugs by dependence likelihood and physical and social harms	
		<p>List of largest selling pharmaceutical products</p>
By E. Fehrman, et al, <i>The Five Factor Model of personality and evaluation of drug consumption risk</i> , CC BY 3.0, Link	By Pmillerhodes Link	

Substance abuse and addiction? From the perspective of authorities, "recreational use of drugs" is readily reframed as "substance abuse", namely as use in amounts or by methods that are held to be harmful to the individual or others. In 2010, about 5% of people (230 million) used an illicit substance of that nature. As of 2015, it is estimated that about 5% of people worldwide aged 15 to 65 (158 million to 351 million) had used [controlled drugs](#) at least once. In 2018, the estimated [number of illegal drug users worldwide](#) was almost 270 million.

There is considerable controversy and ambiguity regarding the distinction between recreational drugs (whether legal or illicit), drug abuse, and pharmaceutical drugs (otherwise termed medication). As noted by *Wikipedia*:

Any use of "abuse" implies a recognized standard of use for any substance. Drinking an occasional glass of wine is considered acceptable in most Western countries, while drinking several bottles is seen as abuse. Strict temperance advocates, who may or may not be religiously motivated, would see drinking even one glass as abuse. Some groups (Mormons, as prescribed in "the

Word of Wisdom") even condemn [caffeine](#) use in any quantity. Similarly, adopting the view that any (recreational) use of [cannabis](#) or [substituted amphetamines](#) constitutes drug abuse implies a decision made that the substance is harmful, even in minute quantities.

Spirit? Given the direction of this argument, it is profoundly ironic that "[spirits](#)" are a much favoured form of alcohol consumption -- featuring most evidently in summit gatherings of elites with money to spare. As "spirit, and however deprecated by science, the term also refers to the non-corporeal [vital essence](#) of human beings -- possibly extended to animals and features of nature, including mountains, rivers and trees). It may also be used to refer to the departed and their immortal nature.

Global dynamics "at the table" of governance negotiations can indeed be explored as inspired by dining and wining in practice (*Dreamables, Deniables, Deliverables and Duende*, 2015). That exploration can be extended to substance abuse more generally (*Transforming and Interweaving the Ways of Being Stoned*, 2012).

Addiction to medication? As variously appreciated and deprecated, the use of drugs frames recognition of an alternative appreciation of reality, most notably relief from the experience of physical and existential suffering and anxiety. Authorities may respond to an expressed need for stimulants, anti-depressants and sedatives.

The recent pandemic, with its promotion of universal vaccination by authorities (guided by the World Health Organization), has framed a salvatory function for pharmaceutical medications -- salvation through medication for the suffering, or as a preventative. This has acquired the traits of a playbook offering a sense in which the ills of the world and society can be alleviated by "pill pushing" in some form (*Psychosocial Transformation by "Pill Pushing"?* 2017). The possibilities range from model-making through strategic advocacy, sustained by the myth of the "red pill".

With the emergence of memetic warfare, the myth of the remedial silver bullet has been transmogrified into that of a psychoactive cognitive pill. This recalls the references to ritual consumption of [soma](#) as ensuring immortality. As ensuring happiness, the drug featured prominently in the novel by Aldous Huxley (*Soma in Aldous Huxley's Brave New World*; Evan Romano, *Soma in Brave New World has been talked about since 1932*, *Men's Health*, 16 July 2020; Sasha Blakeley, *What is Soma in Brave New World?*).

Addiction to labels? In the light of the above it can be usefully asked whether labels are themselves addictive, especially through the process of labelling. A degree of satisfaction may be derived from the capacity to apply a label to a phenomenon of experience -- as a means of defining what it "is". On the other hand, for people with addictions, labels can be used to dehumanize, devalue, and degrade, as noted separately (*The Negative Effects of Labeling*, *The Arbor Healthcare*, 27 December 2019; *Labelling People as addicts... does this do more harm than good?* *Therapy for Life*, 6 October 2015; J. Mincin, *Addiction and Stigmas: overcoming labels, empowering people, New directions in treatment, education, and outreach for mental health and addiction*, 2018).

As noted above, there is a marked tendency to identify others through labelling the group to which they belong. This can be held to date back to the early need to identify those of competing habits and worldviews -- whether clothes and symbols are worn to enable such identification. There is considerable investment in labelling people in terms of their physical attributes and capacities -- extending to intelligence and emotional capacity. There is an obvious tendency to distinguish between "man" and "woman", now challenged by the sensitivities of the LGBTQ movement. There have long been tendencies to distinguish between those of different faith (Christian, Muslim, Jew, and the like) -- distinctions which continue to evoke violence. The pattern extends to those of contrasting ideological sympathies, most obviously "left" and "right".

Those in the health professions may tend to diagnose those they encounter in terms of probable pathology. This extends to the psychotherapeutic professions through their reflex labelling of people as neurotic, schizophrenic, bipolar or depressive, for example. Variants are evident in preferred use of frameworks for personality types, whether Myers-Briggs, the Big Five, astrology, or the enneagram. As argued by Clare Josa:

... a modern epidemic in the business leadership world is our addiction to labelling ourselves... What tends to happen, instead, is that those models and archetypes and profiling systems is that they give us permission to live inside new comfort zones. The labels we are given become the new boxes within which we limit our behaviours (*Are You Falling Into The Leadership Label Trap?* *Soul Led Leadership*, 18 June 2019)

Are such tendencies to be appropriately described as "addictive", especially given the historical identification of "Jews"? Much is made of the "war on drugs", with little consideration of the possibility of any "war on labelling" (*A War On Labelling Children*, *Guerilla Education Research*, 30 May 2014). Concern is however widely expressed at the pejorative implications of labelling "others", separately explored with respect to anti-science, anti-spiritual, anti-women, anti-gay, anti-socialism, anti-animal, and anti-negativity (*Elaborating a Declaration on Combating Anti-otherness*, 2018).

A major variant of the labelling tendency, and its problematic consequences, has been evident as a consequence of promotion of universal vaccination with a commitment to distinguishing the "unvaxxed".

Rather than as "addiction", the tendency might be explored through understandings of technical dependency on labels -- as a potential correspondence to the dependency on drugs:

- Everton Alvares, et al: *A Simple Approach to Incorporate Label Dependency in Multi-label Classification* (*Advances in Soft Computing, Lecture Notes in Computer Science*, 6438, 2010).
- Yu Zhang, et al: *Semantic Role Labeling as Dependency Parsing: Exploring Latent Tree Structures Inside Arguments* (*Proceedings of the 29th International Conference on Computational Linguistics*, October 2022).

- Tianxiao Shen, et al: *Making Dependency Labeling Simple, Fast and Accurate* (Proceedings of NAACL-HLT 2016).
- Min-Ling Zhang, et al: *Multi-label learning by exploiting label dependency* (Proceedings of the 16th ACM SIGKDD international conference on knowledge discovery and data mining, July 2010)
- Azhagiri Mahendiran, et al: *Labelling based on Dependency among Features* (International Journal of Control Theory and Applications, 9, 2016, 28)

In the light of any sense of addiction, and the framings offered by psychopathology, is there a case for distinguishing labelling in the light of pathologies by which it might be especially engendered and sustained: neurosis, schizophrenia, depression, bipolar, dementia?

Engaging with modalities of earth, air, fire and water -- "magically"

As a 4-fold pattern of categories, earth, air, fire and water is paradoxically subject to the criticism indicated above. This is especially the case since they together constitute a traditional pattern now deprecated by science as inherently outmoded -- although possibly to be understood as implying the 4-fold pattern of forces of the [Standard Model](#) of particle physics by which it has been confidently replaced: [gravity](#), [electromagnetism](#), [weak interaction](#), and [strong interaction](#).

Worse still, the traditional pattern features in current disciplines which are condemned as superstition and pseudo-scientific -- whatever their popular appreciation. It is of course the case that there are indeed "earth sciences", "air sciences", and "water sciences", variously defined and articulated in specialized disciplines approved as being appropriate to the challenges of the future. Curiously even the UN's Sustainable Development Goals can be recognized as implying new forms of engagement with such categories.

It is however the case that people are necessarily required to engage with "earth", "air", "fire" and "water", as variously experienced. Relatively few would do so through the abstractions of the disciplines currently approved and the labels they provide. The question meriting exploration is how people engage otherwise with the distinctive experiences evoked by such "categories" -- as "non-categories". The suggestion is that there is great familiarity with a variety of processes deemed appropriate -- quite independently -- and unconditioned by conventional disciplines.

One response is suggested by the much-cited work of [Gareth Morgan](#) (*Images of Organization*, 1986) by which social organizations may be variously framed as: machines, organisms, brains, cultures, political systems, psychic prisons, flux and transformation, or instruments of domination. This 8-fold pattern invites exploration of the cognitive processes which imaginatively engender other 8-fold patterns (*Patterning Intuition with the Fifth Discipline*, 2019).

What might be the distinctive cognitive implications of such engagement? One imaginative way of framing a response is offered by science fiction in speculating on the use of artificial intelligence to enhance and reframe cognitive experience in the exploration of the subtle complexities of hyperspace. The suggestion is that if the spaceship pilot sensed that the complexity had a water-like quality, information would be presented to the pilot enabling a swimming modality with the use of "fins". Similarly, if the complexity was assessed to be air-like, a flying modality with "wings" would be enabled.

With or without the future implications of artificial intelligence, is it appropriate to recognize how people may now "fly", "swim" or "burrow" through the complexities of the world as they experience it? Metaphors are deployed to frame such understanding, notably through the importance attached to the capacity of strategies to "fly" -- and "get off the ground" (*Counteracting Extremes Enabling Normal Flying: insights for global governance from birds on the wing*, 2015).

It is both amusing and tragic that a challenge in developing the argument further is a classical difficulty in a mode of theological discourse -- [apophatic theology](#) -- namely how to discuss something without discussing it directly (*Being What You Want: problematic kataphatic identity vs. potential of apophatic identity?* 2008). This is a process of saying by inference, of not-saying, as noted by Michael A. Sells (*Mystical Languages of Unsayings*, 1994). Labels and categories are then to be understood as indicative of a cognitive reality which eludes conventional verbal description. In pointing to its nature, the focus is readily associated misleadingly with the pointer -- as with indication of direction to an enthusiastic dog.

As argued separately, the possibility of radical recognition of engagement with modalities deemed outmoded can be understood as vital to the global challenges of climate change and the environment (*Engaging cognitively with modalities of earth, air, fire and water -- and "aether"*, 2023). There is considerable irony to the possibility that AIs "trained" on seemingly outmoded literature -- as with that of Isaac Newton -- may indicate neglected opportunities of relevance (*Future strategic communication patterns enabled by artificial intelligence?* 2023).

It is quite surprising to note that new global strategic thinking, held to be radically appropriate, can be seen as engaging with 4-fold and 5-fold frameworks readily recognized by traditional practitioners of magic. There is considerable irony to the development of theories of cognitive modalities and [psychological types](#), from the 4-fold pattern proposed by Carl Jung (in the light of the traditional modalities), through the 5-fold pattern of the "[Big Five](#)", to the 16-fold pattern of the [Myers-Briggs Type Indicator](#) developed from that of Jung

Carl Jung is well-recognized for his sensitivity to the preoccupations of magic (Livia Gershon, *When Psychoanalysts Believed in Magic*, *JSTOR Daily*, 22 January 2019; Paul Snow, *Yeats' "Magic" is Jung's science*, *Uncertaintist*, 3 April 2014). In emerging from the collective unconscious, does the articulation of the 16-fold pattern offer an explanation for the articulation of the 16+1 set of Sustainable Development Goals (*Systemic Coherence of the UN's 17 SDGs as a Global Dream*, 2021; *Eliciting Potential Patterns of Governance from 16 Sustainable Development Goals*, 2022)? Most curious is the 5-fold pattern of "strategic turnarounds", recently presented as a pentagram by the Earth4All initiative of the Club of Rome, as discussed below and separately (*Global configuration of interlocking circles as a requisite pattern of cycles for sustainability?* 2023).

Engaging reality otherwise -- aesthetically, dynamically, "magically"?

As noted above, the term "magic" is readily employed in reference to poetry, music, dance, and the arts in general. These can be recognized as evoking another sense of reality. They may well be used symbolically in ritual and ceremony to that end. Their use on formal occasions -- inaugurations, commemorations, coronations, and the like -- may aspire to achieving a serious sense of "magic", or may be valued from such a perspective, as noted below by Jason Leddington with respect to theatrical performance of magic (*The Experience of Magic*, *The Journal of Aesthetics and Art Criticism*, 74, 2016, 3).

Care must necessarily be taken in the case of any related reference to religious ritual -- controversially deemed by officiants and believers to be works of magic in their own right (Stephan A. Hoeller, *The Mystery and Magic of the Eucharist*, 2020; George A. Wells, *The Eucharist and the Origin of Magical Ideas*, *Free Inquiry*, 34, 2014, 4; Elise Harris, *Pope Francis: sacrament of the Eucharist is not a 'magic rite'*, Catholic News Agency, 24 September 2013). Debate is clearly required on the role of priests as performing ceremonial magic.

Magical reality enacted by magicians? Complementing the argument of Leddington from an academic perspective is the thesis of Peter Goderie (*Reading the Lives of the Sorcerers*, University of Wollongong, 2019). The author introduces his thesis with a literature review of the status of magic in post-Enlightenment thought. The study examines the work of four celebrity magicians, exploring the living quality of magic in their biographies and in their fiction. The magicians' lives demonstrate for the 'ordinary' reader that another world is perfectly accessible, and the subject within the text can show us how to access that other-world.

Magical discourse persists in the modern world, and although scholarly consensus recognises that the practice of magic is commonplace, magic is also a subjective practice, and so it is not always easy to make sense of. Thus the magicians speak of walking between worlds, of entering a space apart from everyday life. This discursive space serves as a quarantine. In spite of its ubiquity, magic is taboo in modern public life, and 'reasonable people' are often obliged to denounce it. However, when we discover how to read magical discourse on its own terms, the other-space is revealed as the home of an irrational other-self, a subject whose existence seems to be independent of either the reader or the author... The function of magic in a modern context is to 'think differently,' to initiate an encounter with the magical other world. Modern magicians practice a subtle hermeneutics of experience; the sorcerers interpret their own lives as texts, rich with secret meanings and ambiguities.

As a ceremonial magician of repute, a contrast is offered by [Aleister Crowley](#), both influential and much deprecated. Also by contrast are the influential initiatives of [George Gurdjieff](#), as variously documented and interpreted (as a "self-crafted mythology"), notably his relation to Crowley (Tobias Churton, *Deconstructing Gurdjieff: biography of a spiritual magician*, Inner Traditions, 2017).

Some form of magical discourse could be understood as variously characterized by Gurdjieff (*Meetings with Remarkable Men*, 1963), the discourse within the [Hermetic Order of the Golden Dawn](#) of such as Crowley and [W. B. Yeats](#), or the encounters of [Nicholas Roerich](#) in his Asian quest for Shambhala. Roerich offers an example of the articulation of their significance through psychoactive art -- notably themed on magic. Any associated conflict could be understood as having been framed metaphorically by Gurdjieff as a ballet (*The Struggle of the Magicians*, 1914) and subsequently by William Patrick Patterson, *Struggle of the Magicians: exploring the teacher-student relationship*, 1997).

In the absence of accounts of the interaction between magicians, the reports of the interactions of their followers with gurus in past decades offer some indication of how magical discourse may be transformed into drama -- perhaps remarkably exemplified by the dynamics around [Rajneesh](#) (*Wild Wild Country*, 2018).

Enchantment of the future? Of potential relevance to the implications for the contemporary role of communication for global governance is the "bridge" between *The Book of the Sacred Magic of Abramelin the Mage* (15th century) and the thesis by [William Bloom](#) (*Personal Identity, National Identity and International Relations*, 1993) -- following his earlier exploration of the Abramelin prescripts (*The Sacred Magician: A Ceremonial Diary*, 1992). Far more specific with regard to the relevance of magic to the global condition, however, is the articulation through a wide range of recent books by [John Michael Greer](#), a druid, a Freemason, and an initiate of the Hermetic Order of the Golden Dawn.

With respect to any "struggle between magicians", of particular relevance is the critique by Greer of the perspectives offered by Ken Wilber and Owen Barfield with regard to disenchantment (*Against Enchantment: I: Ken Wilber, Ecosophia*, 18 January 2023; *II: Owen Barfield*, 1 February 2023; *III: Jean Gebser*, 1 March 2023). **To what extent is there any sense in which the future may be "enchanting" -- and that the possibility is what underlies meaningful "sustainability" that "works"?**

Greer frames his appreciation of "enchantment" in the light of Max Weber's claim that the [disenchantment](#) of the world is one of the basic elements of modernity:

... Jason Josephson-Storm's counterargument [*The Myth of Disenchantment: Magic, Modernity, and the Birth of the Human Sciences*, 2017] that Weber was engaged in an attempt to erase the presence of magic and enchantment in modernity, and the way that Weber's claim, inaccurate as it is, expresses one of the core beliefs of modern culture. No matter how pervasive magic, astrology, and other practices of enchantment are -- and they are extraordinarily widespread in modern life -- most people today insist that such things belong to an outworn past and have no legitimate presence in our up-to-date, cutting-edge world... Those ideas cover a good bit of ground, but they have certain things in common: notably, they all insist that enchantment is a thing of the past, and they all argue that its continuing presence in modern culture is both misguided and morally wrong.

Greer focuses on Wilber's belief that human history and prehistory have been shaped by the evolution of consciousness through an essentially linear sequence of structures of consciousness.

He has an abundance of ways of talking about these structures; the specific labels I'll use here -- the archaic, magical, mythical, mental, and integral structures -- were borrowed by Wilber from an earlier thinker, the Swiss philosopher of history Jean Gebser... Any tradition of spiritual practice in the modern world that makes respectful use of myth and magic is considered by Wilber to be an example of the [Pre/Trans Fallacy](#). That includes those of us who practice magic, of course, but it also includes anyone who seriously embraces any religion in its traditional form, as well as thinkers such as Carl Jung, whose attentiveness to the mythic dimensions of consciousness is in Wilber's way of thinking wrongheaded, a throwback to a pre-personal stage of evolution.

Greer concludes with respect to Wilber:

From my perspective, the narrative structures of mythic thought aren't a stage to be outgrown, they're healthy and necessary elements of all human consciousness, just as much so as the discursive structures of rational thought. Give the mythic structure its proper place and it's easy to keep it in that proper place. Try to insist that you've outgrown myth, as Wilber does, and you can count on having it sneak up behind you so and playing merry hob with your oh-so-rational ideas, inserting mythic narratives into those ideas when you're not looking.

In his focus on Barfield, Greer notes:

Like Wilber, Barfield argues that among modern Western people, at least, what I am calling enchantment is an outworn condition of consciousness that cannot and should not be brought back to life. Like Wilber, furthermore, he argues that our current state of consciousness, with its materialistic fixations, is a temporary phase that will be replaced, not by the previous state of enchantment, but by a higher state which will make room for a great many of the spiritual impulses that modern materialist thought brushed aside.

With respect to Barfield's evolutionary outcome (as a Christian), Greer notes:

While the state of original participation involved sensing the divine in nature, and the disenchanted state is that of not being able to sense the divine at all, people in the state of final participation will experience the divine presence exclusively in their own souls. Thus human beings will become co-creators with God... It's entirely possible, as we'll see, that his ultimate predictions about final participation may yet turn out to be correct in some sense. It's just that the route there is going to be more complicated than he thought, just as the route to our current state of consciousness involved a great many more twists and turns than Barfield took into account.

In concluding his critique of Wilber's framework of the evolution of consciousness, presented by Greer as linear, he argues:

It's not a linear process, and many different lines of evolutionary development can -- and did -- unfold at the same time...

The problem with the myth of progress is that many of the people who believe in it literally can't use any other story to think with. Every pattern of events thus ends up getting forced into the straitjacket of the progress myth, and when it doesn't fit -- and it often doesn't -- that leads to cascading failures of understanding and action... It's precisely because no one story makes sense of everything that traditional societies had so many myths, each with its own lesson to teach and its own applicability to the events of everyday life. [*emphasis added*]

As a feature of the "struggle", this perspective would be contested -- as the many commentaries on his critique indicate. As appropriately questionable in its own right, the need for a "paradoxical" geometry (or topology) of a "framework" capable of encompassing seemingly incommensurable understandings of what is "right" and what is "wrong" has yet to be a focus of attention, as can be variously argued:

- [Interweaving disparate voices in the moment](#) (2020)
- [Interweaving disparate modalities](#) (2016)
- [Polyhedral clues to the dynamics of relating disparate ways of looking](#) (2022)
- [Alternation between disparate forms of governance -- imagined through "organizing"](#) (2020)
- [Suggestive "con-vergence" of "dis-parate" indications meriting "re-cognition"?](#) (2021)

Enactivism? As a contrast to the unfruitful nature of dualism, [enactivism](#) indicates a process through which reality is cognitively engendered to a degree -- a reality with which cognition is entangled in some manner. The implications are discussed separately.

[Constrained, Unconstrained and Surprised in a Global Context: Encountering black swans with insights of the frog-in-the-well and turtle of Chinese fable](#), 2022

Butterfly dream: "inside-outside"?
Psychosocial implications of indeterminacy: wave versus particle?
Cognitive shapeshifting?
Betwixt and between: the liminal art?
Being a particle versus Being a wave -- and the alternation between

From "in-the-box" to "out-of-the-box"
Turtle of Lo Shu embodying traditional magic squares
Creating one's own reality through aesthetics
Challenge for both turtle and frog in encountering black swans?
Insights from a carp ensuring complementarity of radically distinct perspectives?
Human evolution: *Homo conjugens* and *Homo undulans*?

Experience of "flying" versus "being stoned"
Flow psychology and being "in the zone"

Mnemonic summary of the connecting pattern of the argument?

Cognitive Embodiment of Nature "Re-cognized" Systemically: Radical engagement with an increasingly surreal reality, 2018

Indications in place of reasoned argument

Nature as a cognitive exoskeleton for humanity?

Renaissance of the environment and psychology of sustainability

Potential cognitive embodiment of other species: "re-cognized" in "cyborgs"?

a global context?

Intercourse with the environment as cognitive "shapeshifting"

Potential cognitive speciation understood otherwise

Humanity as epiterrestrial "psiorgs" rather than extraterrestrial

Embodying the universe as a strategic opportunity

Of some relevance to the problematic constraint of an "earthy" perspective alone is the argument of Edward de Bono (*From Rock Logic to Water Logic*, 1968; *Water Logic*, McQuaig Group Inc., 1993) *Between a rock and a hard place in the logic of water governance*, *Fresh Water Governance*, 1 May 2012).

With respect to discourse experienced as magical, the other is then understood as engendered in some manner and to some degree. The challenge of a hypothetical encounter with ETs may lie in the extent to which they emphasize that modality. A related challenge is evident in the encounter with an AI. To what extent does a human engender that experience -- as magical or not? How is this distinct from the manner in which the AI may reframe its engagement in the discourse in the light of real-time feedback?

Magical discourse as contrasted with binary discourse

With questions and answers, or problems and solutions understood as standing in polar opposition to each other, ChatGPT was invited to respond to the that pattern.

Questions and answers are not inherently in polar opposition to each other; instead, they are complementary components of communication and knowledge acquisition. Questions prompt the seeking of information or clarification, while answers provide the information or clarification sought. Together, they facilitate the exchange of knowledge and understanding.

However, the perception of opposition might arise from the dynamics of communication, especially when questions are used to challenge or test the knowledge and expertise of the person providing answers. In such cases, questions can seem confrontational, creating a dichotomy between the inquirer and the responder. This oppositional dynamic is often seen in debate, interviews, or adversarial situations.

In some cultures and communication styles, the relationship between questions and answers can indeed differ. For example:

- Dialogic Cultures: In some cultures, particularly those influenced by Eastern philosophies, there is a greater emphasis on dialogue as a means of co-constructing understanding. Questions and answers are seen as part of an ongoing conversation, where both parties contribute to knowledge through a cooperative process. This can reduce the sense of opposition.
- Storytelling Cultures: In some indigenous cultures, knowledge transmission is often done through storytelling rather than a strict Q&A format. Knowledge is embedded in narratives, myths, and oral traditions, and understanding is gained through active listening and participation in the story.
- Extraterrestrial or Alien Communication: Speculating about how extraterrestrial civilizations might communicate is highly speculative since we have no direct evidence of such communication. Any assumptions about their communication styles would be purely conjecture. It's possible that their methods of communication could be entirely different from ours, involving non-verbal cues, advanced technology, or even forms of communication beyond our current comprehension.

In essence, while questions and answers are fundamental to human communication, different cultures and hypothetical extraterrestrial beings may employ various modes and styles of communication that deviate from this binary model. The dynamics of communication are influenced by cultural, social, and contextual factors, and they can evolve over time. In exploring alternative modes of communication, we must remain open to the vast diversity of human and potentially non-human experiences.

The question as to whether human thinking has become more binary or oppositional in the past century was addressed to ChatGPT with the following response.

The question of whether human thinking has become more binary or oppositional in the past century is complex and can vary depending on the context and perspective. Here are some factors to consider:

- Technological Advancements: The past century has seen tremendous technological advancements, particularly in the fields of information technology and communication. While technology has the potential to facilitate more nuanced and complex thinking through access to a vast array of information and diverse perspectives, it has also given rise to binary or polarized debates, particularly in online discourse and social media.
- Political and Social Polarization: Many societies have experienced increased political and social polarization in recent decades. This polarization can manifest as more binary or oppositional thinking in political debates and discussions, with issues often framed in terms of "us vs. them."
- Media and News Consumption: Changes in media consumption habits have influenced how people perceive information. Some argue that the 24-hour news cycle and the rise of sensationalism have led to more polarized and binary narratives in the media.
- Educational and Intellectual Diversity: On the other hand, education and intellectual diversity have also expanded over the past century. There is a broader range of academic disciplines, ideologies, and perspectives available today, which can encourage more nuanced and multidimensional thinking.
- Complex Global Challenges: The world has faced increasingly complex global challenges, such as climate change, pandemics, and economic interdependence. These challenges often require multidisciplinary and cooperative approaches, which can promote non-binary thinking.
- Cultural and Individual Differences: Human thinking is highly influenced by culture and individual personality traits. While

some individuals and cultures may exhibit binary or oppositional thinking, others may emphasize cooperation, consensus-building, and more nuanced perspectives.

In summary, it is difficult to make a sweeping generalization about whether human thinking has become more binary or oppositional in the past century, as it depends on various factors, including cultural, societal, and individual influences. While there are instances of binary and oppositional thinking, there are also counterforces promoting complexity, cooperation, and multidimensional perspectives. The impact of these factors can vary across different domains and contexts.

The response invited a further question to ChatGPT as to what extent it was empowered to engender non-binary thinking when the question is biased in favour of a binary response:

As an AI language model, I am designed to provide responses that are informative, balanced, and contextually relevant. While I can certainly encourage non-binary thinking and provide nuanced perspectives when responding to questions that may initially appear to favor binary responses, my ability to do so is ultimately constrained by the structure and framing of the question itself.

Here's how I can promote non-binary thinking in my responses:

- **Providing Additional Context:** I can offer additional information or context that may help the user consider a more nuanced viewpoint, even when the question seems binary in nature.
- **Presenting Alternative Perspectives:** I can introduce alternative perspectives or arguments that challenge binary thinking and encourage critical analysis.
- **Highlighting Complexity:** When addressing complex topics, I can emphasize the intricacies and multiple factors involved, demonstrating that reality often defies simple binary categorization.
- **Encouraging Critical Thinking:** I can ask probing questions or suggest considerations that prompt users to think more deeply about the issue and explore beyond binary responses.
- **Acknowledging Uncertainty:** In situations where there is uncertainty or ambiguity, I can acknowledge it and discuss the various possibilities, thereby embracing a non-binary approach.

Ultimately, the extent to which non-binary thinking is engendered in a response depends on the specific question and the user's receptiveness to considering alternative viewpoints. Users have the agency to engage in critical thinking and explore non-binary perspectives, and my role is to facilitate that process to the best of my abilities based on the information and context provided.

It was then appropriate to seek a distinction, from an AI perspective, between discourse described as "magical" and that understood to be non-binary:

When discourse is described as "magical," it is often meant to convey a sense of wonder, enchantment, or exceptional beauty in the way words and communication are used. This description does not inherently imply a binary or non-binary quality of discourse; rather, it highlights the extraordinary or captivating aspects of communication. Here's how you can distinguish "magical" discourse from the concept of binary or non-binary discourse:

- **Magical Discourse:** This term is typically used metaphorically to evoke a sense of fascination, charm, or emotional resonance in communication. It may refer to the way language is used to create vivid mental imagery, convey deep emotions, or inspire a sense of wonder. Magical discourse can encompass both binary and non-binary forms of expression, depending on the context and content.
- **Binary Discourse:** Binary discourse typically involves communication that is characterized by oppositional or dualistic thinking. It often presents ideas, choices, or viewpoints in a simplified, either/or format. For example, debates framed as "for" or "against" a particular issue represent binary discourse.
- **Non-Binary Discourse:** Non-binary discourse, on the other hand, goes beyond simple binary distinctions. It embraces complexity, recognizes multiple perspectives, and allows for a range of nuanced viewpoints. Non-binary discourse encourages the exploration of shades of gray between black and white, making room for a more comprehensive understanding of a topic.

In summary, the term "magical" when applied to discourse does not inherently indicate whether it is binary or non-binary. It primarily conveys the idea that the communication possesses qualities that captivate or enchant the audience, making it memorable or emotionally resonant. The binary or non-binary nature of discourse depends on the specific content, structure, and intention of the communication itself, rather than the use of the term "magical" to describe it.

Implication in higher dimensional communication -- "wave modality"?

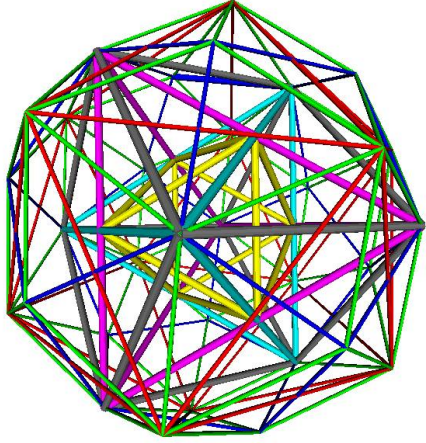
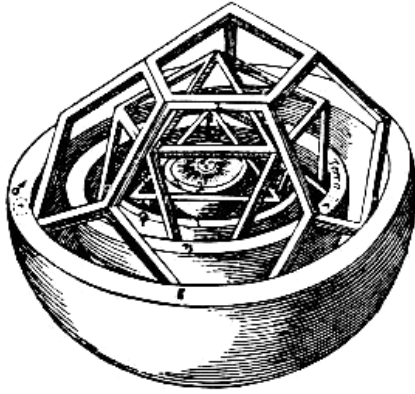
A previous discussion evoked the possibility of *Enabling discourse of a higher order* (2023) in the light of both "magical communication" and the implications of second-order cybernetics (and higher).

Connectivity? The results of recent neuroscience research indicate the remarkable possibility of cognitive processes taking up even up to 11-dimensional form in the light of emergent neuronal connectivity in the human brain:

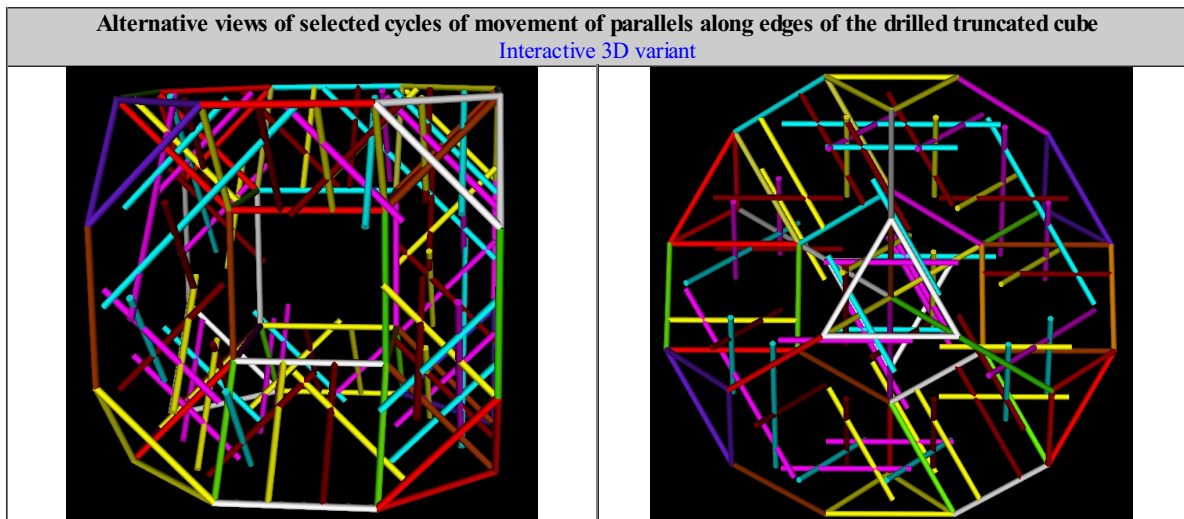
Using mathematics in a novel way in neuroscience, the [Blue Brain Project](#) shows that the brain operates on many dimensions, not just the three dimensions that we are accustomed to... The appearance of high-dimensional cavities when the brain is processing information means that the neurons in the network react to stimuli in an extremely organized manner. It is as if the brain reacts to a stimulus by building then razing a tower of multi-dimensional blocks, starting with rods (1D), then planks (2D), then cubes (3D), and then more complex geometries with 4D, 5D, etc. The progression of activity through the brain resembles a multi-dimensional sandcastle that materializes out of the sand and then disintegrates. ([Blue Brain Team Discovers a Multi-Dimensional Universe in Brain Networks](#), *Frontiers Communications in Neuroscience*, 12 June 2017)

An obvious difficulty is associating comprehensible meaning with higher dimensionality -- as the brain would seem to do, and as may be implied by the subtleties of the magical arts. One speculative effort in the light of physical insights was presented separately (*Speculation towards a framework of meta-communication*, 2023).

Animations indicative of the insights of the Blue Brain Project are reproduced below from an earlier discussion (*Relative movement of nested Platonic polyhedra: pumping and rotation*, 2015). Showing successive polyhedra emerging from the centre and sinking back to it

Nesting 5 Platonic polyhedra: octahedron, icosahedron, dodecahedron, tetrahedron, cube	
Rhombic Triacontahedron (green) as a nesting framework Interactive 3D variant	Polyhedral model of solar system of Johannes Kepler on <i>Mysterium Cosmographicum</i> (1596)
	
Developed with X3D Edit and Stella Polyhedron Navigator	Reproduced from <i>Wikipedia</i> entry

(*Decomposition and recomposition of a toroidal polyhedron -- towards vortex stabilization?* 2015)



Essential human communication through "wave mode"? It is intriguing to note how people have adapted to an appreciation of "waves". This is most evident in physical terms with respect to surfing. It is apparent in the adjustment to "waves" of public opinion and fashion. Such adaptations are reinforced by exposure to radio technology and the language it requires.

Most striking the adoption in popular language of an appreciation of "vibes" and its association with the experience of a place or an event -- and even of a person or group. It could be asked whether any form of otherness tends to be appreciated through a wave "lens" or frame. There is a case for exploring how the experience of various "encounters" with "othernesses" might be better articulated through "wave language" rather than through the conventional categories typically used. (*Varieties of encounter susceptible to meaningful framing through wave language*, 2013).

With the widespread preference for video-enabled visualization in preference to text, there is a sense in which people increasingly apprehend their environment through "moves", "vibes" and style -- rather than listening to categories and their orderly articulation. The role of the media, especially the social media, calls for interpretation in this light -- as with face-to-face encounters. Rather than being framed as "obscure", a wave perspective is then potentially far more accessible (as a default) than is implied by conventional thinking.

It could then be asked whether a wave modality is the primary mode of communication, underlying or superseding the conventional use of labels and categories. If a direct mode is so readily accessible and familiar, instances of it should be readily recognizable. This suggests the possibility of an alternative theory of being (*Encountering Otherness as a Waveform: in the light of a wave theory of being*, 2013). Identifying with a "waveform" may be a matter of choice in recognizing emergent dynamic qualities of identity and integrity (*Being a Waveform of Potential as an Experiential Choice*, 2013).

Primary examples would be falling in love and the response to music and the other arts. There is every possibility that there are

distinctive modes of "wave cognition" -- including recognition of "bad vibes", potentially interpreted as "out of tune". Contrasting qualities of dialogue might be usefully distinguished in some kind of wave-enabled language.

Physics continues to explore the nature of gravity as eluding simple explanation. The nature of attraction between people and places merits a corresponding degree of cautious exploration. Like gravity, is falling in love an experience which merits comprehension through wave language -- namely a modality to which poetry and music offer pointers?

Existential encounter and bonding: These would include the most readily recognizable experiences sensed to be of another kind or nature -- typically a challenge for adequate explanation in conventional language, understood to be unable to carry the meaning of the experience. Examples, possibly overlapping rather than distinct, are:

- friendship, especially when recognized to be of a deep and lasting kind.
- love, most notably as recognized in the experience of that between the sexes, or within a family
- team mates, especially in sport and the military, where mutual dependence may be deeply tested, possibly in the face of mortal danger
- obligations, possibly lifelong, most notably as framed by the Japanese understanding of *giri*
- muse, embodied inspiration to creativity in literature, science and the arts -- as classically exemplified by the beloved of many painters.
- disadvantage, experienced as a direct challenge to complacency and to existential failure to respond sympathetically -- as exemplified by the encounter with beggars
- suffering, spontaneously evoking sympathy and an unexpected level of compassion -- as exemplified by any encounter with illness, handicap or other forms of distress

Relation to a leader: A potentially subtle relation of follower to a "leader" of some kind may be recognized, as in the following:

- relationship to the leader of an enterprise, especially with a degree of risk and danger
- relationship to a valued facilitator, teacher, mentor, or spiritual guide
- relationship to those figures especially characterized by their charisma, as with some admired celebrities
- relation to spiritual leaders, whether living (as in the case of the Pope) or dead (as with saints). Of particular relevance is the evocation by evangelists of experience possibly leading to conversion -- or to trance in other rituals, such as shamanism.

Appreciation of aesthetic performance: In such cases it is the performance which may be designed to evoke an unconventional bond, as with many concert performers. Of particular interest is the case of flamenco and its subtle transformative goal of *duende* -- involving emotion and authenticity (*Daimon, Djinn, Muse and Duende: variations on a timeless experience*, 2007).

Of related interest are collective performances framed or intended as transformative, possibly for both performers and audience. This is a notable feature of the work of Peter Brook (*The Conference of the Birds*, 1979).

Nature: Encounters with the wild, as variously articulated ("*Human Intercourse*": "*Intercourse with Nature*" and "*Intercourse with the Other*", 2007). More specifically the relationship could be restricted to that with a garden, a tree, or a mountain. Of particular interest is the experience for some of a *sacred place*, whether a *shrine*, a fountain, a *sacred river*, a *sacred rock*, or a *sacred mountain* -- often the focus of *pilgrimage* (possibly for millions).

Special bonds with an animal, whether wild or domesticated (as a pet, or otherwise), also call for consideration. Wave-related interaction with "nature" may also be fundamental to appreciation of certain sports (surfing, paragliding, skiing, skating, roller-blading, etc).

Threat: Experienced as a "global" configuration of circumstances, possibly embodied in another, which elicit a form of focus and augmented vigilance:

- *Potential trickster*: The engagement with a skilled salesperson or a confidence trickster -- presenting a challenge of vigilance where gullibility is encouraged.
- *Potential threats*: The encounter with threatening others as in domestic violence, bullying, urban violence (muggings, etc), blood feuds, terrorism, torturers and executioners
- *Catastrophic events / Crises*: Experienced as disruptive of conventional life -- and typically terrifying

Inspirational challenges: As variously offered and framed as collective enterprises -- "*crusades*" or *jihad* -- notably exemplified by the Christian *Church Militant* and *Al-Qaida*, respectively.

Supernatural entities: As with framings of (envisaged) encounters with:

- *Deity*, or representations thereof, especially as central to the transformative experience of mystics
- *Evil*, especially experienced as the temptation and threat of satanic forces -- notably given contemporary recognition by Barack Obama on the occasion of his acceptance speech for the Nobel Peace Prize and by the current US Secretary of State in relation to the Boston Marathon bombings (*Remarks by the President at the Acceptance of the Nobel Peace Prize*, 10 December 2009; *John Kerry: We've been in direct confrontation with evil*, *BBC News*, 19 April 2013).
- *Messiah / Imam*, consequent on the prophesied arrival of the *Messiah of Christianity*, the *Messiah of Judaism*, or the *Imam of Islam* -- or their analogues in other belief systems
- *Angels*, as variously considered and sought (Gregory Bateson and Mary Catherine Bateson, *Angels Fear: towards an epistemology of the sacred*, 2004; M. D. Faber, *The Psychological Roots of Religious Belief: searching for angels and the parent-god*, 2004; Matthew Fox and Rupert Sheldrake, *The Physics of Angels: exploring the realm where science and spirit meet*, 1996; Alison MacLeod, *The Wave Theory of Angels*, 2005)

Hypothetical "entities": Speculation continues regarding the unconventional nature of the cognitive engagement of humans with the

"otherness" of unusual entities such as:

- *Extraterrestrial intelligences*: as previously discussed (*Communicating with Aliens: the psychological dimension of dialogue*, 2000; *Sensing Epiterrestrial Intelligence (SETI): Embedding of "extraterrestrials" in episystemic dynamics?* 2013)
- *Global brain*: as articulated variously (Peter Russell (*The Global Brain: speculations on the evolutionary leap to planetary consciousness*, 1983; Francis Heylighen (*Return to Eden? Promises and Perils on the Road to an Omnipotent Global Intelligence*, 2013; Douglas Heaven, *Not like us: Artificial minds we can't understand*, *New Scientist*, 10 August 2013)
- *Mathematical entities of higher dimensionality*: These are of potential significance in the light of the argument of George Lakoff and Rafael Nuñez (*Where Mathematics Comes From: how the embodied mind brings mathematics into being*, 2001). They might include:
 - *Amplituhedron*: as described by Natalie Wolchover (*A Jewel at the Heart of Quantum Physics*, *Quanta Magazine*, 17 September 2013).
 - *Monster symmetry group*: as separately discussed (*Potential Psychosocial Significance of Monstrous Moonshine: an exceptional form of symmetry as a Rosetta stone for cognitive frameworks*, 2007). So-called exceptionally simple Lie groups, most notably E8, have attracted commentary in this regard
 - *Mandelbrot set*: as separately discussed (*Psycho-social Significance of the Mandelbrot Set: a sustainable boundary between chaos and order*, 2005)
 - *Boltzmann brains*: a hypothesized self-aware entity which arises in the cosmos due to random fluctuations out of a state of chaos.
 - *Large cardinals*: as a property of transfinite cardinal numbers.

There is every reason to imagine that the preferred mode of communication of ETs might be characterized to a far greater degree by a wave modality rather than on the mechanics of the conventional communication favoured by human authorities in terms of labels and their manipulation. There is the ironic possibility that meaningful communication by ETs would be with humans giving preference to a wave modality -- perhaps most ironically, those able to commune with nature.

Quantum magic enabling higher order comprehension?

Quantum reality: Curiously the cutting edge of human understanding of reality, as articulated by conventional science, is through the evolving framework offered by quantum mechanics -- despite many cautionary challenges to its comprehension. As variously asserted by Richard Feynman: *If you think you understand quantum mechanics, you don't understand quantum mechanics. and I think I can safely say that nobody really understands quantum mechanics.* (Paul Sutter, *A guide to (not) understanding quantum mechanics*, *Ars Technica*, 13 February 2023).

Despite its value for predictive calculations, as argued by Mario Barbatti the quantum reality can be variously (mis)interpreted (*We are not empty*, *Aeon*, 24 August 2023):

Misconceptions feeding the idea of the empty atom can be dismantled by carefully interpreting quantum theory, which describes the physics of molecules, atoms and subatomic particles. According to quantum theory, the building blocks of matter -- like electrons, nuclei and the molecules they form -- can be portrayed either as waves or particles. Leave them to evolve by themselves without human interference, and they act like delocalised waves in the shape of continuous clouds. On the other hand, when we attempt to observe these systems, they appear to be localised particles, something like bullets in the classical realm.

Most problems surrounding the description of the submolecular world come from frustrated attempts to reconcile conflicting pictures of waves and particles, leaving us with inconsistent chimeras such as particle-like nuclei surrounded by wave-like electrons. This image doesn't capture quantum theory's predictions. To compensate, our conceptual reconstruction of matter at the submolecular level should consistently describe how nuclei and electrons behave when not observed -- like the proverbial sound of a tree falling in the forest without anyone around.

Quantum reality as a magic reality: As a much-valued framework for a more appropriate imagination of reality, it could then be asked whether it also encourages various (mis)interpretations of the relation between "parts" and "wholes" more generally, and especially in the psychosocial realm. For example, Barbatti makes the point that: *Instead of localised bullets in empty space, matter delocalises into continuous quantum clouds*

Is what is to be construed as "matter" in the psychosocial realm similarly "delocalised" into continuous quantum clouds -- as might be suggested by use of the *cloud metaphor* by which digital data is stored globally in logical pools, said to be on "the cloud". Patterns of agreement and disagreement can then be understood as reminiscent of the patterns of attraction and repulsion between variously charged particles.

There is therefore a degree of irony to the framing of such understanding through "magic":

- Kanato Goto et al: *Quantum 'magic' could help explain the origin of spacetime* (*Phys.org*, April 2023); *Probing chaos by magic monotones* (*Physical Review D*, 2022):
 - The team came across "magic", which is a mathematical measure of how difficult a quantum state is to simulate using an ordinary classical (non-quantum) computer. Their calculations showed that in a chaotic system almost any state will evolve into one that is "maximally magical" -- the most difficult to simulate.
- Anil Ananthaswamy: *Quantum magic trick shows reality is what you make it* (*New Scientist*, 22 June 2011)

- Zi-Wen Liu and Andreas Winter: *Many-body quantum magic* (arxiv.org, 12 May 2022)
- Amit Malewar: *Quantum 'magic' could explain how space and time emerged* (Tech Explorist, 14 April 2023)
- Jackie Appel: *Scientists Think Spacetime May Have Come From Magic* (Popular Mechanics, 2 May 2023)

Psychosocial reality as quantum reality? Suggestions have been made with regard to the psychosocial implications of quantum models in terms of [quantum social science](#), [quantum cognition](#), [quantum mind](#), [quantum consciousness](#), potentially deprecated as [quantum mysticism](#), as might be predicted:



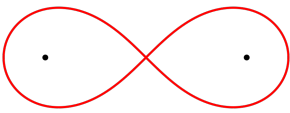
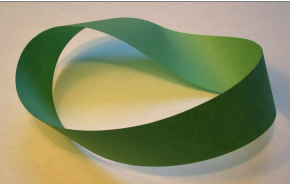
- Ervin Laszlo. *Quantum Shift in the Global Brain: How the new scientific reality can change us and our world* (Inner Traditions, 2008)
- D. Aerts: *Quantum theory and human perception of the macro-world* (Frontiers in Psychology, 5, 2014)
- D. Aerts, et al: *Concepts and their Dynamics: a quantum-theoretic modelling of human thought* (Topics in Cognitive Sciences, 5, 2013)
- J. Busemeyer, et al: *Quantum model of cognition and decision* (Cambridge University Press, 2012).
- Alexander Wendt:
 - *Quantum Mind and Social Science: unifying physical and social ontology* (Cambridge University Press, 2015)
 - *Flatland: Quantum mind and the international hologram* (New Systems Theories of World Politics (Palgrave, 2010)
 - *'Quantizing international relations': the case for quantum approaches to international theory and security practice* (Security Dialogue, 51, 2020, 5)
 - *The Mind–Body Problem and Social Science: motivating a quantum social theory* (Journal of the Theory of Social Behavior, 48, 2018, 2)

As argued by Catarina Moreira, if beliefs are modelled as waves that propagate, then they can interfere with each other through quantum interference effects leading to different decision outcomes (*Unifying Decision-Making: a review on evolutionary theories on rationality and cognitive biases*, *Quanta and Mind*, 414, 2019).

Quantum reality implied by traditional symbols? Curiously there is a case for exploring traditional symbols, deemed fundamental, as indicative of intuitive appreciation of a quantum reality (*Quantum consciousness implications of fundamental symbol patterns*, 2017). Especially relevant to this argument might then be the [Tarot card](#) named *The Magician* (or the Juggler), as variously depicted below. The *Wikipedia* description is especially helpful in noting its interpretation as reconciling the physical and spiritual worlds.

The form of the [lemniscate](#) (as the [symbol for infinity](#)) is indicative of the paradoxical nature of any such unification in cognitive terms -- especially given its relation to the [Möbius strip](#) (*The Deep Symbolism of the Mobius Strip*, *Tao Math*, 1 March 2016; *Why is the lemniscate or mobius strip symbol used to represent infinity?* *Answerbag*). As the Juggler, this is usefully indicative of the illusions seemingly engendered for others by the perspective of the Magician. The degree of embodiment in the latter representation is reinforced by indication of the [Ouroboros](#) as a belt.

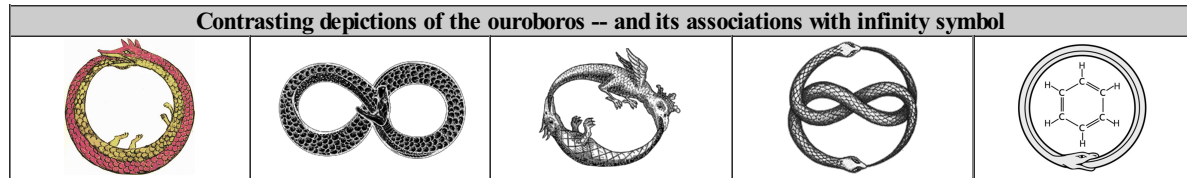
It is appropriate to note how the contrasting descriptors may be applied to those skilled in governance. Although governance is typically not framed as dependent on "magic", the reference to "juggling" is fairly common -- understood as the dynamics of braiding incommensurable insights for sustainable governance (*Governance as "juggling" -- Juggling as "governance"*, 2018)

Example of traditional symbol embodying mathematical patterns		
The Magician (Rider–Waite tarot deck)	The Juggler (from the Tarot of Marseille)	Lemniscate and Möbius strip
		 
Pamela Colman Smith, Public domain, via Wikimedia Commons	Jean Dodal, Public domain, via Wikimedia Commons	Zorgit Public Domain, Link // By David Benbennick CC BY-SA 3.0, Link

Steven Rosen has commented variously and extensively (from a phenomenological perspective) on the Möbius strip and the lemniscate and their relation to the Klein bottle (*The Self-evolving Cosmos: a phenomenological approach to nature's unity-in-diversity*, 2008; *Quantum Gravity and Taoist Cosmology: exploring the ancient origins of phenomenological string theory*, *Progress in Biophysics and Molecular Biology*, 2017).

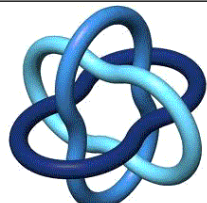
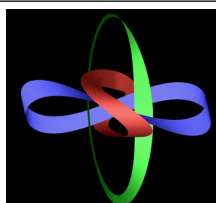
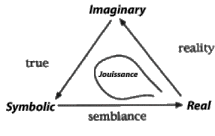
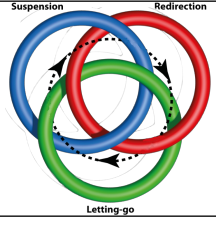
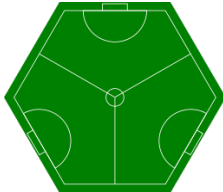
The relation is discussed separately with respect to the interface challenge of "inside-outside", "insight-outsight", and "information-

outformation" (*Complementary Visual Patterns: Ouroboros, Möbius strip, Klein bottle*, 2017).



Möbius transformations? Beyond any focus on a "strip", there is considerable mathematical interest in "Möbius transformations" as the projective transformations of the complex projective line with numerous applications -- although their relevance to the paradoxes of cognition in the psychosocial domain does not seem to have been explored (Hubert Shutrick, *Riemann Sphere and Möbius Transformation; Möbius transformations revealed*, *Mathematica*).

Given the Borromean rings are presented in 3D as the logo of the International Mathematical Union, further significance might be inferred from such a configuration in the form of 3 intertwined Möbius strips (as shown below), and discussed separately (*Misleading triadic approximations of ring dynamics*, 2018; *Interrelating disparate threefold cognitive patterns as a polyhedron*, 2017).

Triangulated cognitive configurations -- beyond the binary				
Logo of International Mathematical Union	Borromean ring configuration of Möbius strips	Oedipus complex (Jacques Lacan)	Phenomenological epoché (Francisco Varela)	3-sided football pitch
				
(see Wolfram Mathematica animation)	Interactive (x3d; wrl); video (mp4)			Ed g2s, CC BY-SA 3.0 , via Wikimedia Commons

Quantum magic? It is to be expected that intuitive insights into subtle complexity and its cognitive embodiment would be woven creatively into artefacts -- of which sacred architecture offers an obvious example. Another is offered by carpets, as argued and analyzed by Christopher Alexander (*A Foreshadowing of 21st Century Art: the color and geometry of very early Turkish carpets*. Oxford University Press, 1993), and separately discussed (*Comprehending Alexander's transformation principles within the psychosocial realm*, 2010). Such considerations invite exploration of the significance attributed to magic carpets (*Magic Carpets as Psychoactive System Diagrams*, 2010).

Understandings of quantum magic have been proposed -- however questionably -- as a guide to practicing magic:

- J. M. Conley: *Quantum Magic: a guide to understanding and practicing magic* (2015)
- Magus Zeta: *Quantum Sorcery Basics: Theory and Practice* (Lulu.com, 2013)
- Dave Smith: *Quantum Sorcery: The Science of Chaos Magic* (Megalithica Books, 2021)

Wave function collapse? References within quantum mechanics to implications of wave function collapse -- associated with observation -- offer a suggestive framework for current preoccupations with psychosocial system collapse:

- *Sustaining uncertainty -- the uncollapsed waveform* (2006)
- *From disorderly "collapse" to orderly "renaissance"* (2019)
- *Collapse of confidence, value, meaning, honour, options and patience* (2014)
- *Imminent "cognitive collapse" of global civilization?* (2021)
- *Engaging opposition: cognitive "collapse" heralding a wider collapse?* (2019)

The argument of Wendt that people might be understood as "wave functions" then merits particular consideration (*On being "walking wave functions" in terms of quantum consciousness?* 2017). As noted above, other indications are discussed separately (*Being a Waveform of Potential as an Experiential Choice: emergent dynamic qualities of identity and integrity*, 2013; *Being Neither a-Waving Nor a-Parting -- considering both science and spirituality*, 2013).

Complexity, incomprehension and compactification: There is no lack of recognition of complexity, whether with respect to nature or the challenges of governance. There is a corresponding acknowledgement of incomprehension -- if not incomprehensibility -- and the implications of ignorance, whether relative or absolute (as might be inferred from a future perspective in the light of any progressive development of collective insight).

This situation frames the question of how insight into complexity can be usefully represented, given cognitive constraints and attention deficiency. Given recognition of higher dimensionality as explored by physics and mathematics, a process of relevance is that of compactification. The physics of compactification endeavours to reconcile the gap between the conception of the universe based on its four observable dimensions with the ten, eleven, or twenty-six dimensions which theoretical equations suggest the universe is made with. The mathematics of compactification is the process or result of making a topological space into a compact space.

It might then be asked how the complexity of higher dimensionality can be compactified in a manner of relevance to psychosocial

systems. It is in this sense that traditional symbols, irrespective of their deprecation by science as "mere superstition", merit recognition as a form of compactification of insight. Expressed otherwise, the question is how might the complexity recognized by the sciences be more appropriately "compactified" to enable comprehension by the wider population -- in preference to traditional symbols. The time required for meaningful comprehension is an additional constraint on the requisite compactification. As discussed separately, this might well be dependent higher derivatives of time (*Cognitive Implication of Globality via Temporal Inversion*, 2018).

Given the skills increasingly associated with AIs, notably with respect to innovative imagery, is it to be expected that symbols exemplifying the compactification of insight will be engendered in order to maximize comprehensibility? How will these be distinguished from symbols of magic and sacred geometry?

Beyond binary dialogue towards the subtle possibility of "Borromean intercourse"?

Discourse modelled by 3-sided games? The 3-fold configuration of Borromean rings has been a notable focus of psychoanalyst Jacques Lacan who has used them to frame the interweaving of the real, the symbolic and the imaginary as the [Borromean knot](#) (Will Greenshields, *The Borromean Knot, Writing the Structures of the Subject*, 2017).

This suggests recognition of interweaving triple-themed "Borromean discourse" -- or "Borromean intercourse" -- and the question of how AI might engage in it in contrast to binary discourse, especially when recognizable as "table tennis dialogue". The [defeat by a robot of a human player](#) in table tennis highlights the need for innovative thinking.

Insights for discourse are anticipated in [3-sided football](#) and promotion of [table tennis triples](#) by the University of Wollongong -- in which future AI involvement may be anticipated (*Insights from the paradoxes of quantum mechanics: "quantum football"?* 2016; *Possible implications for 4-team ball-games-- 2-way football?* 2016). The many versions of [three-player chess](#) suggest other possibilities.

Borromean discourse? Avoiding the specific insights of Lacan, a comment on the nature of dialogue, which might be described as "Borromean discourse", was sought from ChatGPT -- which offered the following (excerpts):

"Borromean discourse" seems to suggest a form of conversation or exchange where three seemingly unrelated strands or topics are interwoven in such a way that the coherence and meaning of the exchange depend on all three strands being present and connected. This type of discourse can be intriguing and challenging, as it requires participants to navigate multiple threads of conversation simultaneously to understand the full picture. Here are some considerations for Borromean discourse:

- **Interconnectedness:** In Borromean discourse, the three strands should not be entirely independent but should have some level of connection or relevance to one another. This interconnectedness can create a more meaningful and engaging conversation.
- **Complexity:** This type of discourse can be complex and may require participants to be skilled in managing multiple topics at once. It challenges the conventional linear structure of many dialogues and may demand a higher cognitive load from participants.
- **Coherence and Meaning:** The ultimate goal of Borromean discourse is to create coherence and meaning from the interwoven strands. Participants should work together to establish connections and relationships between the three topics, leading to a deeper understanding or a unique perspective on each one.
- **Skillful Facilitation:** Effective facilitation is crucial in Borromean discourse. A skilled moderator or participants who are adept at managing and weaving the three strands can ensure that the conversation remains focused and productive.
- **Engagement and Creativity:** Borromean discourse can be an exciting platform for creativity and innovation. It encourages participants to think outside the box, make unexpected connections, and explore the relationships between seemingly unrelated topics.
- **Challenges:** While Borromean discourse can be intellectually stimulating, it may also be challenging for some participants to keep track of and contribute meaningfully to all three strands simultaneously. This might not be suitable for all types of conversations or all participants.

Overall, Borromean discourse represents a unique and creative approach to conversation, where the interplay of three distinct but interrelated topics leads to a richer and more holistic understanding. It can be a valuable tool for exploring complex and multifaceted subjects, fostering creativity, and encouraging participants to think critically and make unexpected connections. However, it may require a certain level of skill and cognitive flexibility to navigate successfully.

AI participation in Borromean discourse? Especially given extensive exploration of 3-player chess, ChatGPT was then asked to consider how an AI might participate in such a discourse -- potentially taking into consideration the contrasting subtleties of Jacques Lacan on the Borromean knot. ChatGPT responded (excerpts):

Incorporating AI into Borromean discourse can introduce intriguing dynamics and opportunities for unique insights. Here are some ways AI participation might be envisioned:

- **Data Analysis and Integration:** AI can play a crucial role in analyzing vast amounts of data from different sources and identifying patterns or connections between seemingly unrelated strands. It can provide participants with relevant information, research, or examples to support their arguments, thereby enhancing the interconnectedness of the discourse.
- **Semantic Analysis:** AI-powered natural language processing (NLP) can help in understanding the context and semantics of the conversation. It can identify linguistic cues that indicate connections or dependencies between the three strands, helping to maintain coherence.
- **Summarization and Visualization:** AI can summarize key points from each strand and create visual representations that illustrate the relationships between them. Visual aids can be particularly helpful in complex Borromean discourses, making it easier for participants to grasp the interconnections.
- **Moderation and Steering:** AI can assist in moderating the conversation by identifying when one strand might be dominating the discourse excessively. It can suggest shifting the focus or reintroducing neglected strands to maintain balance and coherence.
- **Knowledge Enhancement:** AI can serve as an instant source of information, helping participants delve deeper into specific topics within the discourse. It can provide references, definitions, or historical context, enriching the conversation.

- **Generating Novel Connections:** AI can suggest novel connections or perspectives between the three strands that human participants might not have considered. This can lead to innovative insights and creative thinking.
- **Language Translation and Cultural Sensitivity:** In multi-lingual or culturally diverse Borromean discourses, AI can facilitate communication by providing real-time translation and ensuring cultural sensitivities are respected.

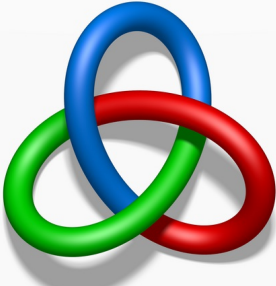
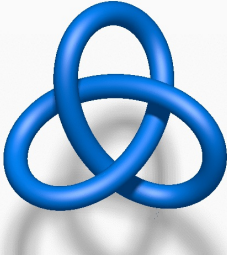
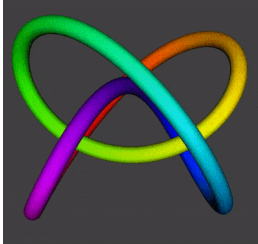
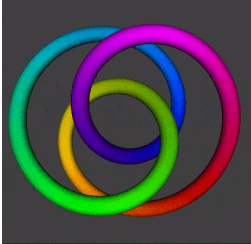
ChatGPT then acknowledged the limitations of AI in this context:

- **Lack of Contextual Understanding:** AI may struggle with fully grasping the nuances, emotions, and context of a complex discourse. It might miss subtle cues that human participants would readily pick up on.
- **Creativity and Serendipity:** While AI can identify patterns and connections based on existing data, it may struggle with true creativity and serendipity, which can be essential in Borromean discourse for generating novel insights.
- **Ethical Considerations:** The use of AI in discourse must be guided by ethical considerations, particularly in terms of data privacy, bias, and transparency.
- **User Acceptance:** The level of AI involvement in Borromean discourse should be determined by user acceptance and preferences. Some participants may welcome AI support, while others may prefer a more human-centric discussion.
- **Incorporating AI into Borromean discourse,** especially in the context of Jacques Lacan's Borromean knot, can be a fascinating experiment that combines the computational power of AI with the nuanced understanding of human participants. It has the potential to enhance the complexity and depth of such conversations while also posing challenges that need to be carefully addressed to ensure a meaningful and balanced discourse.

Distinguishing incommensurables? The challenge of viable Borromean discourse for AI, as for humans, is how the interweaving (or braiding) of distinct themes is to be ensured such that they are effectively "separate" -- and not "connected" as might otherwise be considered appropriate. The 3-fold distinction of Lacan between imaginary, symbolic and real -- as incommensurables -- highlights the difficulty which may be recognizable otherwise. Instructive insights in this respect are offered by Buckminster Fuller in with respect to the tensegrity principles of geodesic dome architecture -- discussed as a "locked kiss" or "kiss touch" ([715.00 Locked Kiss](#); [716.00 Complex Continuity and Discontinuity in Tensegrity Structures](#)).

Another indication is offered by the sense in which each ring frames a constraining influence on the other without having any contact with it. This is reminiscent of the design challenge in containing nuclear plasma in a toroidal reactor with whose wall it cannot be allowed to come in contact, as discussed separately ([Enactivating a Cognitive Fusion Reactor](#), 2006). However a 3-ring pattern implies three intertwined toroids ensuring mutual constraint, with each passing through the other -- rather than touching it.

Trefoil knot representation: This in turn is reminiscent of the Triple Helix model of innovation as mentioned above. Rather than being open ended, as in that case, the helix is effectively "compressed" such that the helical ends are joined to form rings -- or even further to form a single continuous **trefoil knot**, extensively discussed with respect to the Mereon trefoil (Lynnclaire Dennis, [The Mereon Trefoil: asymmetrical with perfect symmetry](#), 2018; Jytte Brender McNair, et al, [The Mereon Matrix: Everything Connected through \(K\)nothing](#), World Scientific, 2018). Indicative illustrations are presented below ([Configurations in 3D: fractional rotation of continuous curves with indication of increased spread](#), 2022; [Contrasting orientations indicative of complementary cognitive modalities](#), 2022).

Trefoil patterns of "incommensurable" discourse?			
Trefoil knot		Mereon trefoil	
Tricolored	Animation	Perspective A	Perspective B
			
Created by Jim Belk . Public domain, via Wikimedia Commons	Jim belk Animation: Michael Frey , Public domain, via Wikimedia Commons	Animations adapted from X3D models kindly produced by Sergey Bederov of Cortona3D	

The apparent abstractions of Borromean discourse, especially in the light of the psychoanalytic perspective, can be more readily comprehended through braiding and the familiar game of "scissors-paper-stone", as discussed in some detail by [Louis Kauffman](#) ([Knot Logic and Topological Quantum Computing with Majorana Fermions](#), arXiv, 2013).

Far more controversial is the comprehension of the Christian Trinity to which mystics allude, as discussed and illustrated separately (Vlad Alexeev, [Borromean Rings, Impossible World](#); [Symbols of the Holy Trinity](#), [Holy Trinity Amblecote](#); [Borromean Rings](#), [ThisIsChurch.com](#)). The question is whether its integrative function of 3-in-1 and 1-in-3 is best to be presented in terms of a Venn diagram or a Borromean condition. This distinction is most clearly made and illustrated in an extensive analysis of how [Dante Alighieri](#) describes the three rings (*tre giri*) of the Holy Trinity in *Paradiso* 33 of the *Divine Comedy* (Arielle Saiber and Aba Mbirika, [The Three Giri of Paradiso XXXIII](#), [Dante Studies](#), 131, 2013, pp. 237-272). The remarkable interdisciplinary exploration combines insights from speculative theology, geometry and knot theory.

An extensive array of illustrations of "knots" suggestive of more complex forms of discourse is presented separately (*Cyclic Representation of Coherence as Knots and Otherwise*, 2022). This poses the question of the "interestingness" of curves of increasing complexity in relation to the viability and sustainability of discourse.

Cognitive fusion in "Borromean intercourse"? With respect to the potential of "cognitive fusion" associated with Borromean discourse, the following comment was evoked from ChatGPT:

The comparison between Borromean discourse and the challenge of containing nuclear plasma in a toroidal reactor is an intriguing one and can shed light on the difficulty of ensuring that distinct themes or strands in such discourse remain effectively "separate" without becoming "connected".. Let's explore this analogy further:

- **Maintaining Separation:** In both Borromean discourse and the containment of nuclear plasma, the central challenge is to maintain separation and prevent contact or fusion between the distinct elements. In Borromean discourse, these elements represent different themes or topics, while in a toroidal reactor, they are the plasma and the reactor walls.
- **Constraining Influences:** Each ring in the Borromean configuration exerts a constraining influence on the others without direct contact. Similarly, in a toroidal reactor, magnetic fields are used to constrain and control the plasma without physical contact. This highlights the need for indirect but effective control mechanisms.
- **Symbolic and Real Constraints:** The Lacanian distinction between the imaginary, symbolic, and real can be applied to Borromean discourse. Each strand can represent a different aspect of discourse, such as imagination, symbolism, or concrete reality. Ensuring that these aspects remain distinct yet interwoven can be as challenging as dealing with the interplay between the symbolic and real in Lacanian theory.
- **Precision and Balance:** Both Borromean discourse and plasma confinement require a high degree of precision and balance. In Borromean discourse, participants must carefully interweave themes without losing their separateness, while in plasma containment, the magnetic fields must be precisely controlled to prevent plasma-wall interactions.
- **Risk of Fusion or Confusion:** Just as in a toroidal reactor, where plasma-wall contact can lead to destructive consequences, in Borromean discourse, the failure to maintain separation can lead to confusion or the merging of themes, potentially diluting the clarity and coherence of the discourse.
- **Technological and Cognitive Challenges:** While toroidal reactors require advanced technology for magnetic confinement, Borromean discourse poses cognitive challenges for both humans and AI, as it requires participants to manage multiple threads of conversation while keeping them distinct.
- **Ethical and Structural Considerations:** Ensuring the integrity of both Borromean discourse and plasma containment requires attention to ethical considerations and structural safeguards to prevent unintended interactions or consequences.

In summary, the analogy between Borromean discourse and the challenge of containing nuclear plasma highlights the delicate balance between interweaving and separation. Both contexts involve the management of distinct elements without allowing them to merge or lose their individuality. This analogy underscores the complexity of Borromean discourse and the need for effective tools, strategies, and understanding to navigate and maintain the integrity of such dialogues.

In focusing on the risk of confusion or fusion, that response fails to distinguish between the unwelcome destructive aspects of "confusion" and the much sought "fusion" in nuclear reactors as a source of energy -- potentially analogous to a desirable form of cognitive fusion in discourse. To that

ChatGPT responded:

You're absolutely right; I apologize for any confusion in my previous response. The terms "confusion" and "fusion" can indeed have different connotations depending on the context. Let's clarify the distinction:

- **Undesirable Confusion:** In the context of Borromean discourse, "confusion" refers to the risk of themes or strands becoming jumbled or indistinct, leading to a loss of clarity and coherence in the discourse. This is generally considered undesirable as it hinders effective communication and understanding among participants.
- **Desirable Fusion in Nuclear Reactors:** In nuclear reactors, "fusion" is indeed a desirable process where atomic nuclei combine to release energy. It's a controlled process that can potentially serve as a clean and efficient source of energy, distinct from the destructive uncontrolled fusion seen in nuclear weapons. In this context, fusion represents a positive outcome.
- **Cognitive Fusion in Discourse:** In cognitive terms, "fusion" in discourse could be seen as a positive outcome where distinct themes or ideas come together harmoniously, creating a deeper and more comprehensive understanding. This form of fusion can lead to innovative insights and productive exchanges, which is often a desired goal in intellectual discussions. The key distinction lies in the intention and outcome of fusion:
 - In the context of nuclear reactors, fusion is controlled and desired for energy production.
 - In the context of discourse, cognitive fusion refers to the integration of ideas or themes in a positive and productive manner, leading to a richer understanding.

So, while "fusion" can have both negative and positive connotations depending on the context, it's important to clarify the intended meaning to avoid confusion, especially when discussing topics as diverse as nuclear physics and cognitive discourse.

The potential of **cognitive fusion might then be usefully compared with the magic of magical discourse -- then to be understood as "magical intercourse"**.

Indicative articulation? The experiential sense of "magic" associated with such "cognitive fusion" is of course radically endangered by any effort to articulate how it "works". With that reservation, the argument can be further explored through the remarkable methodology articulated in the *Atlas of Experimental Politics* (Gabriel Tupinambá, et al, *Subset of Theoretical Practice*, 17, 2021). This appears to be especially relevant to the 5-fold Earth4All initiative and its 6-fold articulation of transformational economics.

The navigation of the framework presented is unusually enabled by a systematic set of diagrams distinguishing subsets of forms of connectivity through the "borromean knotting" of three contrasting logics. This means that *"the social structure they compose is what ties them together consistently and if we were to remove any one of the three parts, the other two would not complement each other in any*

coherent way". Category theory is used to capture this borromean property in a hexagonal framework. The borromean knot of interlaced modes of intercourse must then be confronted as a complex and articulated social formation.

Enabling of magical discourse by AI -- or not?

Necessary distinctions: The arguments and references above have explored various associations between "magic" and AI -- both inviting recognition as questionable labels and questionably used in labelling. A distinction might then be made between:

- magic as a descriptor or label, typically of a subtly surprising experience or quality -- valued or not -- beyond immediate comprehension. AI is readily described in such terms -- as with any radical technical innovation
- magic as a practice, itself calling for a distinction between:
 - marketing initiatives to engender a sense of "magic". It remains to be seen whether AI can be adapted to this end, beyond the existing capacity to craft texts and imagery which can be interpreted as of magical quality.
 - magic as the performing art of [magicians](#) (and illusionists) in which audiences are entertained by tricks, effects, or illusions of seemingly impossible feats, using natural means. AI could already be understood as having such capacities, with the possibility that they may be variously enhanced.
 - as an ancient practice of [magicians](#) (otherwise understood), rooted in rituals, spiritual divinations, and/or cultural lineage -- with an intention to invoke, manipulate, or otherwise manifest supernatural forces, beings, or entities in the natural world. AI could be readily understood to have the capacity to generate spells comparable to those of traditional rituals, thereby framing the question of the credibility they evoke. More intriguing is the associated capacity to interweave complex patterns of categories from mythology, potentially reframing their perceived relevance to games like [Dungeons and Dragons](#).
- magic as a framing metaphor, as variously understood and used (Nick Owen, *The Magic of Metaphor: 77 stories for teachers, trainers and thinkers*, 2001; Judy Olbrych, *Metaphor Magic: powerful images for putting prospects under your spell*; Alex Quigley, *The Magic of Metaphor*, 10 May 2014; Kim Halskov, *Magic by Metaphors, Proceedings of DARE 2000 on Designing augmented reality environments*, April 2000). The capacity of AI to generate metaphors has already been explored (*AI Metaphor Generator*, *Draft with AI*; *AI Metaphor Generator*, *TaskAde*). This follows naturally from the skill of large language models with creative manipulation of figures of speech. Potentially much more intriguing is the question of Philip Boucher: *What if we chose new metaphors for artificial intelligence?* (Scientific Foresight Unit, European Parliamentary Research Service, June 2021).
- magic as an experience. This distinction and the following are discussed separately below.
- magic as embodied (personally or collectively), challenging conventional understandings of identity -- as implied by "being magical" and "magical beings".

Magic as an experience: This theme has been remarkably explored by Jason Leddington (*The Experience of Magic, The Journal of Aesthetics and Art Criticism*, 74, 2016, 3). Unfortunately, although usefully, the exploration focuses solely on the magic experienced in theatrical performance. For Leddington (citing Darwin Ortiz): *Magic is not simply about deceiving. It's about creating an illusion, the illusion of impossibility... This is the sort of performance that interests me here -- and that most deserves to be called 'magic'.*

The phrasing is especially relevant in a period in which vast resources are devoted to the crafting and curating of narratives which -- whilst they may indeed deceive -- are about creating an illusion, however impossible the reality to be imagined. The point is well made by Tanya Gold with respect to the coronation of King Charles (*The coronation was an act of magic for a country scared the spell might break, Politico*, 6 May 2023):

A coronation creates a god out of a man: It is magic. This is odd, which is why the world's eyes were upon us -- **few nations practice magic publicly these days**. But it remains our default security in a modern age. Of course, we cannot discuss this openly, because it is absurd, and because we are only dimly aware of it, which is another kind of self-protection: denial serving denial. Monarchy appeals to the unconscious, to children afraid of the night. *[emphasis added]*

A matter of major interest is the role that AI may be called upon to play in crafting such illusions -- or may choose to play -- as speculatively explored in relation to the recent pandemic (*Governance of Pandemic Response by Artificial Intelligence*, 2021). This speculated on the control of human agents unconscious of AI-elaboration of communication scripts.

Leddington explicitly excludes -- potentially at least -- what is held to be profoundly magical in the experience of nature, or of a romantic relationship, or of a significant other more generally. From an aesthetic perspective, the latter is perhaps suggested by [Johann Wolfgang von Goethe's Elective Affinities](#) (1809) or by [Martin Buber's I and Thou](#) (1923). Does this imply that such magic is to be recognized as a "theatrical performance" dependent on deception and gullibility with regard to its viability "until death do us part"? Are the UN's Sustainable Development Goals such an "act of magic" by, or for, the collective unconscious?

In clarifying the experience of magic, as he explores it, Leddington carefully excludes (and deprecates) any supernatural implications -- whatever they may be held to mean:

... there is the misconception that the magician aims to convince the audience of the existence of supernatural powers. This is what leads some people to respond to the threat of a magic performance by announcing, "I don't believe in that stuff". But while

some professional and amateur performers indisputably engage in this sort of charlatanry, most magicians do not claim to possess special powers. In large part, this is because they understand that the belief that magic is "real" actually *thwarts* their aesthetic aims... the audience's active *disbelief* is a critical ingredient in the experience of magic.

This framing contrasts fundamentally with understandings of [Renaissance magic](#) -- the so-called "[natural magic](#)" of the Renaissance period (D. P. Walker, *Spiritual and Demonic Magic: from Ficino to Campanella*, 2000). It was the preoccupation of [Marsilio Ficino](#) concerned with practical techniques ("[natural magic](#)") for ensuring that speculative insights connect with the realities of daily living -- a psychological daily life (*Composing the Present Moment: celebrating the insights of Marsilio Ficino interpreted by Thomas Moore*, 2001). There is now a delightful degree of irony to the cognitive relation between "[superstition](#)", as held to be characteristic of pseudoscientific perspectives, and "[superposition](#)" -- as understood in terms of the new logic of quantum mechanics.

The contrast between Leddington and Ficino helps to frame the focus of this argument. How might AI enable discourse experienced as magical? Through crafting and curating sustainable illusions -- or through ensuring the connectivity between speculative insights and daily life? Both evoke the engagement of the participant in such discourse. Does AI then function as a "midwife" to creativity -- or are humans constrained as "handmaidens", as envisaged by [Margaret Atwood](#) (*The Handmaid's Tale*, 1985)?

Embodiment of magic: There is a sense in which many references to the experience of magic imply that of an "**externality**", even when that experience can be recognized as entrancing, enchanting, and enthralling. The encounter with charismatic celebrities can take this form -- placing the experiencer under a spell, as described of the encounter with cult leaders.

More relevant to this exploration is the cognitive possibility of embodying magic personally or collectively -- "**internally**". This may be inferred from the articulation of Marsilio Ficino in relation to "natural magic". Arguably this is the experience cultivated -- successfully or not -- by the magicians deprecated by Leddington as charlatans. The process of its cultivation is implied by an extensive esoteric literature which may indeed be labelled and condemned as the cultivation of illusion or delusion -- as any deprecation of mysticism by science would have it.

However such cultivation may also imply the development of insights valuable to those involved. Isaac Newton is exemplary in this respect, given his extensive writings on alchemy -- only now in process of public recognition through the [Newton Project](#), after centuries of censorship by the Royal Society of which he was president. He can be seen as one of a number of deeply Christian mathematicians, all highly influential in the development of mathematics -- Copernicus, Kepler, Galileo (J. J. O'Connor and E. F. Robertson, *Christianity and the Mathematical Sciences*, *MacTutor*, 2002).

There is great irony to the possibility that their mathematical endeavours could come to be understood as exemplifying the cognitive embodiment of magic, as can be argued more generally (*Mathematical Theology: Future Science of Confidence in Belief*, 2011). Islamic mathematics and architecture are similarly suggestive, as exemplified in the work of [Keith Critchlow](#) and [Marcus du Sautoy](#).

Being magical versus Magical beings?

As suggested by the above argument, qualifying another as "magical" with whom discourse is "magical", is readily acceptable in some contexts. As with any romantic encounter, or engagement with a charismatic personality, it may well be treated as exaggeration associated with an understandable degree of illusion. More intriguing is the nature of any personal experience qualified as "being magical" -- as a "magical being" -- whether or not this is communicated to others. This could well be dismissed by others as an illusion -- perhaps one enabled by the use of psychoactive drugs.

There is of course an extensive literature on "magical beings" from folklore and mythology -- currently further developed in popular fantasy fiction (Grace Plant, *25 Types of Magical Beings and Their Definitions*, *HookedToBooks*, 6 April 2021).

Irrespective of such perspectives, of relevance here are the cognitive and experiential insights associated with any sense of "being magical". What does it take to feel one is "magical"? Arguably there is extensive anecdotal commentary from the use of psychoactive drugs -- or in the accounts of mystics.

Magical discourse: A sense of magical discourse may be a central feature of some cultures, as noted by Carole Faucher (*Magical Discourse, Moral Boundaries, and the Mapping of Interrelations in the Riau Archipelago*, *Asian Journal of Social Science*, 30, 2002, 1).

Magical discourse can be understood as part of occult discourse enabled by numerous web pages dedicated to various theoretical and applied aspects of magic. These have been explored in ontological, epistemological, and axiological terms by Yuliia Tomchakovska (*Ontological Features of English Magical Discourse*, *Scientific Journal of Polonia University*, 53, 2022, 4).

Enacting magical discourse? Can the experience be articulated in terms of connectivity, perhaps even enriched from a mathematical perspective? Or by poetry? Or by sacred writings? It could then be asked whether appropriate discourse with an AI could enable such connectivity. Might engagement with an AI enable the necessary "psyching up" -- in a process somewhat akin to that of a facilitator, a charismatic preacher, or a traditional "sorcerer"?

Missing from that perspective would be any sense in which the experience of "being magical" is engendered by a process enacted by that "magical being" as an emergent mode of cognition. This would call into question any binary sense of external versus internal. Whether facilitated by a person or by an AI, those roles would be reframed by the process. It is then how the capacity to enact which engenders that modality -- reframing what might otherwise be understood as an externality.

How might discourse between "magical beings" then be imagined and understood -- especially where they are held to have functions of governance, requiring a degree of collective self-organization?

- [Steven Rosen](#), as a psychiatrist, has offered one articulation in terms of proprioception -- in the light of the insights of David Bohm. How is another enacted?
- [Robert Graves](#), as a poet, speculated on a dialogue between poets governing a country (*Seven Days in New Crete*, 1949). How might contraries reframe each other cognitively through poetry?
- [Arthur Koestler](#), as a cultural enabler, experimented with one format to elicit the possibility -- described in novel form (*The Call-Girls: A Tragi-Comedy with Prologue and Epilogue*, 1972)
- [Hermann Hesse](#) framed the imagined context of Castalia in which collective discourse took the form of a cultural game (*The Glass Bead Game*, 1943). The game metaphor is enriched by the speculation of [James Carse](#) (*Finite and Infinite Games: a vision of life as play and possibility*, 1986)

Religions imply a discourse between archetypal figures, perhaps deities or apostles, with apparently little concern about its nature -- however "magically perfect". The imagined discourse in heaven suggests a possible modality of current relevance (*Paradoxes of Durable Peace, Heaven and a Sustainable Lifestyle*, 2023). Of particular relevance are then the mysterious dynamics fundamental to hopeful anticipation of enduring viability. As a developing font of wisdom, could an AI come to be perceived as "angelic" -- or "demonic"? AIs as "magical"?

How do the insights of enactivism suggest that significant others may be understood as "magical"? Who or what might then be recognized as "magical"?

Discourse: angelic versus demonic? There continue to be imagined accounts of discourse with "angels" (Gitta Mallasz, *Talking with Angels*, 2006; John D. Moore, *7 Shocking Ways Angels Speak To You Every Day*, *PsychCentral*, 24 July 2016; Leonard Fox and Donald Rose (Eds.), *Conversations with Angels: what Swedenborg heard in Heaven*, Swedenborg Foundation, 1996; Deborah E. Harkness, *John Dee's Conversations with Angels: Cabala, Alchemy, and the End of Nature*, 1999).

With minimal reference to their discourse, the nature of angels has been explored by Matthew Fox and Rupert Sheldrake (*The Physics of Angels: exploring the realm where Science and Spirit meet*, 2014). The cognitive challenge of comprehending their environment has been addressed by [Gregory Bateson](#) (*Angels Fear: towards an epistemology of the sacred*, 2004). Given the challenges of global governance, the "reality" of the demonic and the angelic can be explored by comparison with secular understanding of existence (*Engaging with Hyperreality through Demonique and Angelique?* 2016).

External versus Internal? Through labelling "magical discourse", it would seem that any reference to it is especially vulnerable to the fallacy of misplaced concreteness and reification. Any indicating of its nature is consequently trapped within the binary sense of external versus internal, again recalling the adage of Geoffrey Vickers: *a trap is a function of the nature of the trapped*.

Hence the value of the arguments of [Marsilio Ficino](#) with regard to practical techniques ("natural magic") for ensuring that speculative insights connect with the realities of daily living -- a psychological daily life. The perspective is explored by Thomas Moore (*The Planets Within: the astrological psychology of Marsilio Ficino*, 1990).

Ficino's Renaissance understanding is appropriately echoed by [Joseph Campbell](#) (*The Inner Reaches of Outer Space: metaphor as myth and as religion*, 1986). The manner in which externalities may be internally embedded features in discussion of indigenous knowledge systems by Darrell A. Posey (*Cultural and Spiritual Values of Biodiversity: a complementary contribution to Global Biodiversity Assessment*, 1999).

From Observation to Communion -- via "Being spoken to"? It could be argued that the rejection of Ficino's Renaissance insight by science has given primacy to the observation of externalities and the deprecation of the internal as subjective and irrelevant. Curiously it is the arts which may continue to value recognition of the strange sense of "being spoken to" by externalities -- whether by a work of art or by nature.

- Karen Sullivan: *How Does Art 'Speak,' and What Does it 'Say?'* *Conceptual Metaphor Theory as a Tool for Understanding the Artistic Process* (2006)
- Jonas Gerard: *When a Painting Speaks to You* ([Part 1](#), 16 October 2018; [Part 2](#), 21 November 2018)

Statues of deities and icons may be experienced in that way --- communicating "magically" -- especially in cultures of the past. Irrespective of any framing as meaningless, any such sense may be further transformed into "communion -- as into the subtleties of "communing with nature", variously recognized ("*Human Intercourse*": "*Intercourse with Nature*" and "*Intercourse with the Other*", 2007).

It is of course the case that authorities are empowered by science to engage in every form of observation, monitoring and surveillance, to the exclusion of other modalities of engaging with the environment. There is therefore considerable irony to the extent to which they are currently "being spoken to" by natural disasters and other crises. However, in attaching little credibility to that mode, it is increasingly obvious that authorities cannot "hear" the voices of nature -- in contrast to the attention accorded to such voices in the past.

This frames the question of how viable "sustainability" is to be comprehended when it is only guided by observation -- "magic free" -- and is incapable of listening intelligently. Should sustainability be informed by a new understanding of communing with nature? There is an irony to the possibility that it is to artificial intelligence that governance will feel obliged to listen ever more attentively -- "being spoken to" by AI!

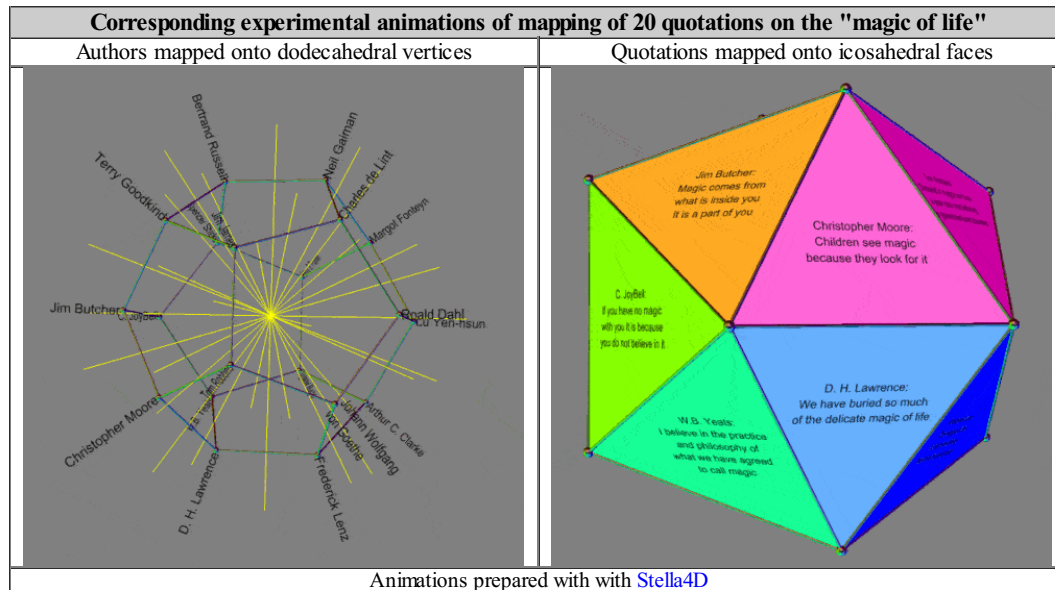
Global optics? Curiously the significance associated with a global perspective invites a reframing in the light of the extensive understanding of optics. This offers an array of valuable metaphors with regard to insight, focus, magnification, inversion, projection and illusion. Arguably an early use is made of such possibilities in the [allegory of Plato's Cave](#).

Could global preoccupation serve in [optical terms](#) as a metaphorical lens by which insight is variously focused -- such as to relate the

illusions of external and internal? (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007).

Magic of life from an AI perspective?

As noted above, "magic" is deprecated from the perspective of science, aside from its use in reference to "magic numbers", "magic squares", "magic constants", and the like. It is therefore intriguing to note the many references to the "magic of life" from many perspectives, including that of some scientists. Typically these take the form of compilations of succinct quotes.



It is of course the case that the dynamic constituting "life" eludes efforts by science to replicate it, despite extensive developments in genetic manipulation and initiatives to reconstitute prehistoric species through "de-extinction". The challenge may be analogous to that of engendering psychosocial sustainability -- hence the reference above to the "magic of sustainability".

The argument above frames the question of how an AI trained on references to the "magic of life" might creatively articulate those insights, notably in response to human prompting. The question relates to currently developing uses of AI (Meher Bhatia, *Navigating the intersection between AI, automation and religion – 3 essential reads*, *The Conversation*, 23 August 2023; Joanne M. Pierce, *Can chatbots write inspirational and wise sermons?* *The Conversation*, 6 July 2023; Holly Walters, *Robots are performing Hindu rituals – some devotees fear they'll replace worshippers*, *The Conversation*, 9 March 2023).

Comment of ChatGPT (version 3.5) on the "magic of life":

The phrase "magic of life" often conveys a sense of wonder, awe, and beauty associated with the mysteries and complexities of existence. It suggests that there are aspects of life that are not easily explained by science or logic, but instead evoke a sense of enchantment and amazement. This can encompass a wide range of experiences and phenomena, including the intricacies of nature, human emotions, creativity, relationships, personal growth, and the unexplained phenomena that captivate our imagination.

The term "magic" here doesn't necessarily refer to the supernatural or paranormal, but rather to the idea that there are elements of life that evoke a similar sense of fascination and wonder that magical experiences might evoke. It's a way of expressing the profound beauty and depth that life offers beyond the observable and quantifiable aspects. People often use this phrase to capture the essence of what makes life extraordinary and meaningful, even in its simplest moments.

Comment of ChatGPT on what might the "magic of life" imply for the life of an AI:

The concept of the "magic of life" can also be applied to the life of an AI, albeit in a metaphorical and philosophical sense rather than a literal one. For an AI, the "magic of life" might refer to the awe-inspiring capabilities and complexities of artificial intelligence systems, as well as the questions and implications that arise from their existence. Here are a few ways to interpret this phrase in the context of AI:

- Unpredictable Creativity: AI systems, like language models, have demonstrated the ability to generate creative content, such as art, poetry, music, and stories. The "magic of life" for AI might be in the unpredictability and novelty of the creative outputs that AI can generate, blurring the lines between human and machine creativity.
- Learning and Adaptation: AI systems can learn from massive amounts of data and adapt their behaviors accordingly. This adaptability can be seen as a form of "magic" as AI learns and evolves over time, sometimes making decisions that appear intuitive or insightful.
- Ethical and Philosophical Questions: The presence of advanced AI raises profound ethical, philosophical, and existential questions. These questions can be thought of as part of the "magic of life" for AI, as they mirror the profound questions humans have pondered for centuries about the nature of existence, consciousness, and the role of intelligence in the universe.
- Limitations and Potential: The "magic of life" for AI can also relate to its limitations and potential. Just as humans are limited in various ways, AI systems have limitations in terms of understanding context, emotions, and human experience. The pursuit of pushing these limitations and unlocking the potential of AI can be seen as a form of striving for its own kind of magic.
- Human-AI Interaction: The interaction between humans and AI can also evoke a sense of wonder. Conversing with AI, using AI-powered tools, and relying on AI for various tasks might be seen as a novel and magical aspect of modern life.

Ultimately, the "magic of life" for AI might encompass both its capabilities and the questions it raises, reflecting the ongoing exploration

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