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Constrained, Unconstrained and Surprised in a Global Context

Encountering black swans with insights of the frog-in-the-well and turtle of Chinese fable

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Introduction

The following reflection has been evoked by the commentary of [Tao Jiang](#) on the historical contrast between the Confucian perspective in China and that of [Zhuangzi](#) (*Beyond Dust and Grime, Aeon*, 3 June 2022). As helpfully presented, Zhuangzi thought Confucians were like frogs trapped in a well, unable to perceive the limitlessness of the sea -- as articulated in the *Fable of the Frog in the Well*.

Zhuangzi (also rendered as Chuang Tzu) was an influential Chinese philosopher who lived around the 4th century BC during the [Warring States period](#), a period corresponding to the summit of Chinese philosophy, the [Hundred Schools of Thought](#). He is credited with writing -- in part or in whole -- a work known by his name, the *Zhuangzi*, which is one of the foundational texts of [Taoism](#).

Tao Jiang remarks that if the *Allegory of the Cave* in Plato's *Republic* has shaped Western understandings of the nature of knowledge, truth, reality, ethics and politics, the *Fable of the Frog in the Well* has played a similar role in Chinese approaches to these subjects:

Whereas illusion/reality is the primary setup in the cave, it is limitedness/limitlessness in the well. Limitedness or smallness versus limitlessness or capaciousness is a foundational paradigm and metaphor in Chinese philosophical reasoning.

The commentary, and the issues raised, can now be understood as of particular relevance in the current period of global crisis and divisiveness -- characterized in their own way by one "Hundred Schools of Thought". As originally described, the perspective of the trapped frog bears comparison with the manner in which many are now effectively and variously trapped within constraining categories. These they are not empowered to question -- have little motivation to do so -- and are discouraged from doing so by the mainstream narrative.

This constraint is usefully contrasted by the commentary on the perspective of a turtle -- seen as able to roam a limitless sea of possibilities. This can be recognized in the inspiration and aspiration of many at this time with regard to the possibility and potential of seeing the world otherwise -- and living a life of limitless possibilities. This could be understood as being the essence of freedom.

Curiously it could be said that a frog is now used otherwise in a metaphorical description of many as being like [frogs in warming water](#) - progressively heated by authoritarianism. It is recognized that through their continuing adaptation to the rising temperature they will never reach a tipping point at which they leap out in order to survive -- before being boiled alive.

However the original fable is to be considered to be of relevance to governance in the current global civilization, it is especially intriguing to explore how the contrasting perspectives engage with surprise -- namely catastrophic crisis -- as represented by the "black swan" of Black Swan Theory of the policy sciences. To this end, the exploration which follows draws on a variety of perspectives through which the contrasting perspectives might be reconciled, most notably through their potential complementarity, as with the wave-particle indeterminacy of quantum mechanics. The possibility of any such reconciliation is however necessarily characterized by a degree of paradox.

Butterfly dream: "inside-outside"?

Comments on Tao Jiang's clarification, offer the eagle as an alternative to the turtle -- valuable given its role as national symbol of a number of countries at this time. Not mentioned there, however, is the much-cited tale of the [butterfly dream](#), also of [Chuang Tzu](#):

Once Zhuangzi dreamt he was a butterfly, a butterfly flitting and fluttering around, happy with himself and doing as he pleased. He didn't know he was Zhuangzi. Suddenly he woke up and there he was, solid and unmistakable Zhuangzi. But he didn't know if he was Zhuangzi who had dreamt he was a butterfly, or a butterfly dreaming he was Zhuangzi. Between Zhuangzi and a butterfly there must be some distinction! This is called the Transformation of Things.

The dream is held to be the most celebrated ever to be recorded in the history of Chinese philosophy ([Kuang-Ming Wu](#), *The Butterfly as Companion: meditations on the first three chapters of the Chuang Tzu*, 1990).

The dilemma of the butterfly dream is consistent with what is termed the "[Borgesian conundrum](#)" -- named after Jorge Luis Borges -- and defined as the ontological question of "whether the writer writes the story, or it writes him" or her ([Fantastic realities of experiential space-time](#), 2013). Such considerations enlarge the possibilities of any more conventional approach to future possibilities -- introducing an experiential dimension potentially associated with lived reality, as argued separately ([Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality](#), 2011).

As noted by the *Wikipedia* profile with respect to the *The Garden of Forking Paths* (1941), Borges presents the idea of forking paths through networks of time, none of which is the same, all of which are equal. Recurring use is made of the image of "a labyrinth that folds back upon itself in infinite regression" so we "become aware of all the possible choices we might make". The forking paths have branches to represent these choices that ultimately lead to different endings. Borges saw man's search for meaning in a seemingly infinite universe as fruitless and instead uses the maze as a riddle for time, not space.

In the light of Tao Jiang's focus, it might then be asked: **is the dilemma of either the "frog" or the "turtle" (or both) comparable to that of the dreamer with respect to the "butterfly"?**

Psychosocial implications of indeterminacy: wave versus particle?

In the language of physics, a comparison could be usefully made between the constrained perspective of the "frog" and that of a particle -- with that of the "turtle" (eagle, butterfly) then to be compared with an unconstrained wave perspective.

For physicists, there is a complementarity between the extreme contrasts of wave and particle, as articulated in terms of the [Uncertainty Principle](#) of quantum physics. This is also known as the Principle of Indeterminacy. In that respect, according to the [de Broglie hypothesis](#), every object in the universe is a [wave](#), with the position of the particle then described by a [wave function](#).

Notably given the anticipated impact of [quantum computing](#) in practice, consideration has increasingly been given to the relevance of the interpretations of quantum mechanics from a psychological perspective: [quantum mind](#) (or quantum consciousness), [quantum cognition](#), and [quantum psychology](#). With respect to the social sciences more generally, of particular relevance are the arguments of [Alexander Wendt](#) (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015; *The mind-body problem and social science: motivating a quantum social theory*, *Journal for the Theory of Social Behaviour*, 48, 2018, 2).

Beyond reflections on [indeterminacy in philosophy](#), it remains quite unclear, as might be imagined, how such a new paradigm will transform psychosocial understanding in the decades to come. An early reflection on the matter is that of Garrison Sposito (*Does a generalized Heisenberg principle operate in the social sciences? Inquiry: an interdisciplinary journal of philosophy*, 12, 1969, 1-4).

Speculation in that regard include:

- [Being Neither a-Waving Nor a-Parting: cognitive implications of wave-particle duality in the light of science and spirituality](#) (2013) with its consideration of the following:

[Being a-Waving](#)

[Being a-Parting](#)

[Death -- a final parting?](#)

[Neither a-Waving nor a-Parting](#)

[Transcending a-Waving and a-Parting](#)

[Correspondence to a-Coming and a-Going?](#)

[Varieties of neither-nor dynamic](#)

[Implications of neither-nor enabling Chinese strategic advantage](#)

- [Being a Waveform of Potential as an Experiential Choice: emergent dynamic qualities of identity and integrity](#) (2013) in the light of the following:

[Exploring physical waves by playing analogy leapfrog](#)

[Waves and consciousness](#)

Metaphorical waves with psychosocial implications
Social implications of waves
Eliciting psychosocial creativity through analogy
Psychosocial potential of analogy detection
Beyond explanations of whatever sophistication

Being a waveform
Attraction to curved forms as a vital clue
Identification with waves of embodied movement
Social initiatives as unrecognized waveforms
Animations variously suggestive of "being a waveform"

Cognitive shapeshifting?

In his commentary on *Zhuangzi* (and in his own view), Tao Jiang suggests that Zhuangzi does not satisfactorily solve the tension between the contrasting kinds of freedom offered by the perspective of the frog and that of the turtle. Aside from the necessity of such tension, one approach is offered by mythical references to shapeshifting -- to be understood here in cognitive terms. Rather than as distinct frameworks, the fable can be held to imply a form of alternation between contrasting perspectives -- the frameworks of the frog and the turtle.

The possibility of such a dynamic is discussed separately (*En-minding the Extended Body: enactive engagement in conceptual shapeshifting and deep ecology*, 2003). There it was noted that the archaic belief in shapeshifting characteristic of Celtic myth is presented as a feature of the education of King Arthur by Merlin in T. H. White's classic novel *The Once and Future King* (1966). Through its many links to shamanism, cognitive shapeshifting has now become a theme of popular workshops and is also a feature of role playing and other games valuable to imaginal education. Explanations of shapeshifting have also been related to multiple personality disorder.

As previously explored (*Being the Universe*, 1999), there is a case for seeing oneself at any one moment as conforming to dynamics of any of a wide spectrum of species, from all levels of the evolutionary diaspora. This is consistent with the arguments of quantum mechanics for a [participatory universe](#) (Alexei V. Nesteruk, *A "Participatory Universe" of J. A. Wheeler as an Intentional Correlate of Embodied Subjects and an Example of Purposiveness in Physics, Humanities and Social Sciences: journal of Siberian Federal University*, 6, 2013, 3). However, with respect to the fable, it also merits recognition in terms of [ecophilosophy](#) and deep ecology (Alan Drengson, *Ecophilosophy, Ecosophy and the Deep Ecology Movement: An Overview*, *Ecospherics*, 1999; Henryk Skolimowski, *The Participatory Mind: a new theory of knowledge and of the universe*, 1994; *Existential Embodiment of Externalities*, 2009). The latter stresses the radical cognitive engagement with environmental categories and disciplines.

There is a way in which one can be an amoebic blob, a spider, a snake, a bird, a wolf, etc -- **or labelled as such by others**. To what degree are we all behavioural shapeshifters? Should shapeshifting be a part of our education (as Merlin purportedly offered the young Arthur and as in totemic education in many tribes)? How are we constrained in adopting particular behavioural patterns? When is there a case for experiencing reality as an amoeba? A (couch) potato? A doormouse? A tiger? What ecosystems do we then require in order to survive and thrive in that shape? How do we relate to others through such patterns?

Perhaps appropriately, understanding of the implication of a set of metaphors is offered by science fiction in speculating on the cognitive challenge of navigating the complexity of hyperspace, as discussed separately with respect to cognitive "shapeshifting" (*En-minding the Extended Body: enactive engagement in conceptual shapeshifting and deep ecology*, 2003):

An imaginative stimulus for such investigation is provided by a science fiction scenario explored by a number of writers. It focuses on the challenge of comprehending high degrees of complexity calling for decision-making under operational conditions (as is the case in global management). The problem is that of piloting or navigating a spacecraft through "hyperspace" or "sub-space", as imagined in the light of recent advances in theoretical physics and mathematics.

Because of the inherent complexity of such environments, writers have explored the possibility that pilots and navigators might choose appropriate metaphors through which to perceive and order their task in relation to qualitative features of that complexity - for example, flying like a bird, windsurfing, swimming like a fish, tunneling like a mole, etc. The mass of data input derived from various arrays of sensors, and otherwise completely unmanageable, is then channelled to the pilot in the form of appropriate sensory inputs to the nerve synapses corresponding to his "wings" or his "fins".

Perception through the chosen metaphor is assisted by artificial intelligence software and appropriate graphic displays. The pilot switches between metaphors according to the nature of the hyperspace terrain. Such speculations do at least stimulate imagination concerning a possible marriage between metaphor and artificial intelligence in relation to governance.

As a provocative follow-up to his study of shapeshifting, John Perkins (*Shapeshifting: Shamanic Techniques for Global and Personal Transformation*) has presents a later text under the title: *The Shape of Things To Come: Shapeshifting* -- adapting the classic preoccupation of H. G. Wells (*The Shape of Things to Come*, 1933). The meme invites other reflections (*Secret sharing, Shapeshifting and Embodiment*, 2011), notably consideration of resonance as enacting the world through shapeshifting.

Betwixt and between: the liminal art?

Tao Jiang comments on another fable in *Zhuangzi*, namely the celebrated story of the butcher, Cook Ding, as offering the most illuminating example of the distinctive Zhuangist understanding of personal freedom within the lifeworld:

Cook Ding is portrayed as performing a fantastic feat of untangling the massively intricate body of an ox. With charming details and poetic flair, the story describes the butcher's supremely attuned senses and Dao-guided actions when running his chopper through the ox's body. Every touch and every move of Cook Ding's is conducted in perfect rhythm as if he was performing

some grand ancient ritual, a highly scripted and constrained occasion. His execution is exquisite and precise, hitting all the right notes, while smoothly cutting open the ox's body without hacking his way through.

There is a space in the joint, but the chopper's edge is thickless; if you insert what is 'thickless' into the space of the joint, of course there is plenty of room to manoeuvre the chopper.

As a result, he has not changed his chopper for 19 years, whereas even good butchers have to change theirs every year.

The references to "thickless" and the "space in the joint" recall accounts of the liminal and [liminality](#) -- of "betwixt and between" -- whether in myth or in aesthetic experience (*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).

One valuable clarification of experience of the liminal is offered by Bronton Cheja and Jais Booth, introduced by citing [Victor Turner](#):

The term liminal has initially been used historically as a phase in the Hero's Journey, and refers to the phase after the seeker has left the familiar context of social life and before attaining the spiritual insight which reveals a vaster realm of understanding which is then brought back to the community. Thus it has been referred to as betwixt and between, i.e. a place of indeterminacy and unknowingness which tests the seekers' determination and courage. (*Forest of Symbols*, 1967).

The authors' purpose is thereby to clarify understanding of the aesthetic character of liminality as they proceed to summarize (*Liminal Art*, *Oakland Wiki*, 2005) -- an understanding developed in their later work to the effect that:

The liminal is a threshold, i.e. a threshold of consciousness. The threshold being crossed is between ordinary, mundane consciousness and the higher vibrational dimensions of being. Liminal art and poetry is inner-driven expression seeded with spirit, that by its nature manifests with a transcendent quality. This spirit expresses itself in every form of art, its transcendent essence being the sole determinate of a liminal work. A liminal artist/creator crosses the threshold of ordinary mental reality, entering the realms where myth, spirit, wisdom and enchantment arise, to create a work from those deeper, more primal, more encompassing realities. (*Myth, Magic, Mystery: the Liminal in Art*, Liminal Art Salon Publishing, 2009)

Any reference to liminal art is helpful in highlight the contrast between the aesthetic experience, with which liminality is associated, and the artefacts potentially enabling that experience. However the liminal experience may well be denatured by art as a misleading reification of it.

Reservations aside, the question raised by such articulation is whether there is a mode of living between conventional sides, modes or choices -- living on the bridge between them, effectively between the perspective of the frog and that of the turtle. As that bridge, they together point to a context through which to explore the possibilities of living "in between" the divisive choices by which society is currently faced -- at a time when there are many calls for new thinking and reflections on a "new Renaissance". A concern is whether the requisite cognitive nature of such collective emergent insight might well be "missed" in some way, as previously discussed (*Missing the New Renaissance?* 2010; *From Changing the Strategic Game to Changing the Strategic Frame: missing cognitive possibility in changing the system not the planet*, 2010).

As noted with regard to liminality, the need for bridges is typically obvious. They provide a means of traversing from one "side" to another across a modality which cannot be readily traversed otherwise -- a preoccupation now articulated in the periodic [Bridges Conferences](#). Unfortunately as yet, the essentially binary cognitive mode associated with walking, which is natural on either side, cannot seemingly be used on the medium which separates them (*Transcending duality as the conceptual equivalent of learning to walk*, 1994)..

Each "side" is furthermore typically associated with a different perspective. The bridge is the means of transition between such perspectives across what may well be a psychosocial discontinuity -- a boundary with even a price to pay, as in toll bridges. There is an element of choice in being on one side or the other. Typically one cannot choose to be in the "middle" -- between them. Such considerations have all been exploited through metaphor.

The modality in question recalls arguments for the possibility of travelling the cognitive world along what have been metaphorically described as [songlines](#) or dreaming tracks (*From Information Highways to Songlines of the Noosphere*, 1996). This argued for the possibility of global configuration of hypertext pathways as a prerequisite for meaningful collective transformation.

The challenge is how to enact and cultivate such pathways as the pattern that connects (*Cultivating the Songlines of the Noosphere From presentations by representatives to embodying presence in transformation*, 1996). The butcher fable highlights the greater challenge of how to walk such pathways, inviting exploration through other metaphors (*Walking Elven Pathways: enactivating the pattern that connects*, 2006; *Climbing Elven Stairways: DNA as a macroscopic metaphor of polarized psychodynamics*, 2007).

Being a particle versus Being a wave -- and the alternation between

As explored by Tao Jiang in his comments on the *Zhuangzi*, the perspectives of the frog and the turtle are presented as distinct -- if not incompatible, incommensurable, and mutually challenging. From the perspective of liminality and the "space between", there is an emphasis in the *Zhuangzi* on an intermediary space of "thickness". As suggested above, a more fruitful perspective might focus on a continuing process of alternation between the extremes of the frog and the turtle. However, rather than a smooth process, this would be

one associated with a paradoxical cognitive twist of some kind -- as suggested by the [Möbius strip](#) (*Psychosocial Work Cycle: beyond the plane of Möbius*, 2007; *Twistedness in Psycho-social Systems: challenge to logic, morality, leadership and personal development*, 2004).

Any such alternation could then be experienced and understood as reframed by that between wave and particle -- and its associated indeterminacy, as a characteristic of the aesthetic experience of a liminal reality, being neither one nor the other.

The experience of the frog is of the concrete reality of the particular and the individual. That of the turtle is of the limitless enabled by dreaming -- usefully associated with the generic. The contrast could be seen as characterizing that between the individualism cultivated in the West and the communal focus of cultures of the East. The arguments of [Alfred Korzybski](#) regarding [general semantics](#) highlight the [problematic nature of "is"](#), which could then be interpreted as any focus on the particular as distinct from the general. The contrast could also be related to the considerations of [Alfred North Whitehead](#) (*Process and Reality*, 1929), now regarded as a foundational text of [process philosophy](#).

Whilst the emphasis of the text and the commentary is on the merits of limitlessness (potentially as with an unconstrained "dreaming" modality), and deprecates the constraints of the framework of the frog, there is a case for recognizing the aesthetic arguments of György Doczi (*The Power of Limits: proportional harmonies in nature, art, and architecture*, 1981)

The butterfly dream then offers a paradoxical means of relating -- the two extremes -- being neither one nor the other, neither external nor internal, and potentially both.

Curiously the alternation between the two extremes might be fruitfully related to the process of respiration -- especially given the cognitive emphasis placed on the breathing cycle in a number of meditation disciplines. Most notably this is a feature of the inner alchemy of [Neidan](#). It could be understood as encoded in the dynamics between *yin* and *yang*. The origins of that encoding, described as the patterning of a tortoise shell (as perceived by [Fu Hsi](#)), suggest that there may be confusion, conflation or allusion between tortoise and turtle -- suggestive of the limitlessness upheld as implied by the cognitive dimensions of the *Yi Jing* (*Archetypal Otherness -- "DNA vs. I Ching"*, 2007).

Given the seeming incommensurability of wave and particle, it is intriguing to explore pointers to the experience of the transition between them in practice, even if they are only indicative or symbolic. Aspects of the transition can be explored as a form of osmosis (*Cognitive Osmosis in a Knowledge-based Civilization: interface challenge of inside-outside, insight-outsight, information-outformation*, 2017). Another such indication is the transition between the forms of stasis of conventional posture (characteristic of officialdom, for example) and cognitive embodiment in the dynamics of dance (Maxine Sheets-Johnstone, *The Primacy of Movement*, 1999).

The metaphor of dance has been developed by [Rosabeth Moss Kanter](#) as the definitive guide to corporate America's changing strategies for success (*When Giants Learn to Dance*, 1990). This is now articulated through terms such as resilience. Far more provocative is the relation between the conventions of interpersonal relations and the rhythmic dynamics of intercourse. Ironically the latter if successful -- beyond dance -- as a form of wave process, can be understood as engendering a particle.

Another suggestive provocation is potentially offered by the *Zhuangzi* reference to the fable of the ox and the butcher, given the later tale of the [10 Ox-herding pictures of Zen Buddhism](#). The provocation lies in any implication that those oxen need to be "butchered" -- in some cognitive sense (*Zen of Facticity: Bull, Ox or Otherwise? Herding facts and their alternatives in a post-truth-era*, 2017). Explored otherwise, given the contrast with the "struggles" noted for conventional butchers, is a distinctive use of the bull metaphor in the light of the skills of a matador (*Viable Global Governance through Bullfighting: challenge of transcendence*, 2009).

Experience of "flying" versus "being stoned"

The limitlessness held to exemplify the experience of the turtle in the sea (or that of the eagle) is curiously echoed in the use of "flying" with reference to the experience of many psychoactive substances -- or however any form of dreaming is enabled. There is then a curious paradox to the perception by others that someone is "stoned" when "flying" in this way. The perspective of both "frog" and "turtle" are then strangely entangled. The two metaphors then invite speculative exploration.

With respect to use of such animals as symbols of national identity, it is appropriate to recall that of the USA (now associated with an eagle) was at one stage confronted with a proposal for use of a turkey -- a central feature of Thanksgiving there (*The Eagle, Ben Franklin, and the Wild Turkey, Great Seal*, 1782). The contrast is striking, given the inability of the turkey to fly -- being permanently "grounded". In this period, there is further irony with the change of name to Türkiye of the country of that name -- because of its unfortunate association with the bird (*Turkey officially changes name at UN to Türkiye*, *The Guardian*, 3 June 2022). The national animal symbol of Türkiye is the grey wolf.

Exemplifying extreme constraint, the experience of the frog could then be distinguished in terms of the variety of forms of "enstoning" (*Transforming and Interweaving the Ways of Being Stoned: imagination, promise, rocks, memorials, petrification*, 2012). The question is then whether connotations of "stone" carry an implicit common insight readily and usefully to be understood as degrees of material formalization -- of relevance to inspiration, creativity, model building, and conflicts between them, appropriately commemorated prior to their deprecation and abandonment. However, whatever the degree of materialization, "stonework" of any era tends to be honoured in ways which authorities deprecate and desecrate at their peril. It typically enshrines identity, constitutes a trigger for potential conflict, as well as figuring in the instrumentalization of conflict.

These contrasts are discussed separately in the light of experience in a global civilization:

- [Enstoning through imagination, dreams, drugs and imbibing](#)
- [Enstoning in memorials and monuments](#)
- [Enstoning through petrification and entombment](#)

- [Enstoning of promise, potential, possibility and pattern](#)
- [Enstoning with rocks and rockets](#)

In this light, the perspective of the frog can be understood as a life constrained by contractual relationships of every kind -- effectively a life "written in stone" and consequently "lived in stone".

At the other extreme is the experience suggested by the unconstrained freedom of movement in "flying", whether through the water (as with the turtle) or through the air (as with the eagle).

In the current situation of global civilization, the contrasts between the two perspectives can be used to evoke speculative comment on the fundamental strategic framework through which society is purportedly governed, namely the UN's [Sustainable Development Goals](#). On the one hand, conventionally articulated as it is, it can be understood as "written in stone" and thereby constrained until the goals are achieved in 2030. Whether or not the strategy can be recognized as "flying", and having "got off the ground" in practice, it may also be explored as a dream (*Systemic Coherence of the UN's 17 SDGs as a Global Dream*, 2021; *Dreamables, Deniables, Deliverables and Duende*, 2015).

The capacity of initiatives to "soar like an eagle" is widely contrasted with those that can be compared to a turkey ([Caleb Stewart Rossiter](#), *The Turkey and the Eagle: the struggle for America's global role*, 2010; Robert Stevenson, *How to Soar Like an Eagle in a World Full of Turkeys*, 2004). As noted above, strangely the comparison dates from the early controversy in the USA resulting from the preference of [Benjamin Franklin](#) for the turkey over the eagle.

More problematic, the relationship between the wings of a bird in ensuring flight is indicative of the challenge of viable operation of political wings in relation to extremism (*Counteracting Extremes Enabling Normal Flying: insights for global governance from birds on the wing*, 2015).

There is a certain charm to the interplay between the animal extremes in any metaphorical ecosystem. Are there circumstances in which they have a predator-prey relationship? Stretching the frog metaphor, physically and figuratively, as a toad does it exemplify the primary challenge of consumerism and reproduction in global society -- especially in the case of the [cane toad as an invasive species](#)?

Flow psychology and being "in the zone"

The *Zhuangzi* tale of the butcher and the ox recalls the [flow psychology](#) articulated by [Mihály Csíkszentmihályi](#), namely the mental state of being "in the zone" in which a person performing some activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by the complete absorption in what one does, and a resulting transformation in one's sense of time (*Flow: The Psychology of Optimal Experience*, 1990). This could be understood as the primary perspective of the turtle or the eagle, as noted above.

A notable adaptation to sporting practice is evident in the multiple references to the "inner game": whether as a key to conventional success in the outer game or as an experience of significance in its own right (cf the Inner Game of: [Tennis](#), [Golf](#), [Frisbee](#), [Chess](#), [Poker](#), [Billiards](#), [Fencing](#), [Go](#), [Sumo](#), [Skiing](#)). The insight has been adapted to competitive economic activity (cf the Inner Game of: [Business](#), [Investing](#), [Wealth](#), [Work](#), [Management](#), [Trading](#), [Entrepreneurship](#), [Selling](#), [Prospecting](#)). The same is true of gardening (cf Diane Dreher, *Inner Gardening: A Seasonal Path to Inner Peace*, 2002) and notions of an "inner garden", or a "secret garden". It can be adapted to dying (*Inner game of dying and its global significance*, 2013)

Such widely accepted insights point to the need for exploration of an "inner-game" of environmental "externalities" such as recycling, biodiversity, and the like, as argued separately (*Exploration of "inner games": polarization, agriculture, construction, mining*, 2009). Given the degree of recognition of gardening as an "inner game", might this be fruitfully extended to agriculture and animal husbandry? Is there a sense in which current consideration of agriculture is akin to the deprecated "slash and burn" stage? The intimate cognitive relationship to gardening is echoed in that to home construction and decoration.

Given experience with such "inner game" psychological expertise and its wider application to "stress" ([Tim Gallwey](#), *The Inner Game of Stress*, 2009), there is a case for exploring its application to engagement with [environmental stress](#). It may indeed be that an alliance with religion will facilitate this ([Adi Setia](#), *The Inner Dimension of Going Green: articulating an Islamic deep-ecology*, *Islam and Science*, Winter, 2007)

From in-the-box" to "out-of-the-box"

A contemporary variant of the frog/turtle contrast, and an indication of its current relevance, can be found in reference to thinking "in the box" or "out of the box". It could be said, for example, that people are born in a box, live in a box, are educated in a box, work in a box, may be incarcerated in a box for a criminal offence, tend to die in a box, and are buried in a box. There is a case for recognizing the analogy implied by literal use of "the box" as a widely employed method of punitive solitary confinement, as vividly described by [Shruti Ravindran](#) (*Twilight in the Box: what does solitary confinement do to the brain?* *Aeon*, 27 February 2014).

Consultants now offer courses on thinking "outside the box". Its status as a buzzword has been challenged as being no different from "getting an idea" as is characterized by divergent thinking -- and contrasted with convergent thinking. The latter is presented as "thinking inside the box", namely solving problems with reference to prior experience. This is compared with "in the box" as conformal thinking, related to the expression "boxed-in", or having reduced choices. In the fast-paced world of information technology, employers often say they are looking for someone who "thinks out of the box".

Pressure for "out of the box thinking" may come from people working in teams who feel that the contribution of their immediate peers is

not helping find new and original solutions to the challenges they face. [Edward de Bono](#) has given considerable attention to means of assisting people to think outside the box as recorded by Piers Dudgeon (*Breaking Out of the Box: Biography of Edward de Bono*, 2002).

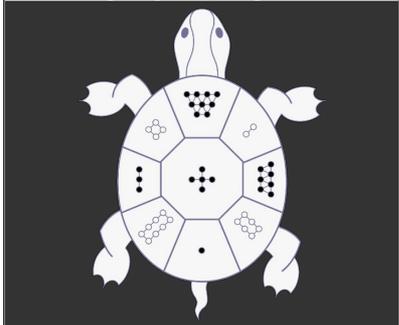
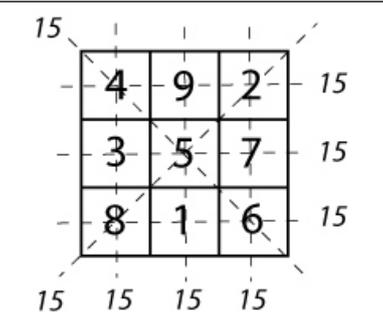
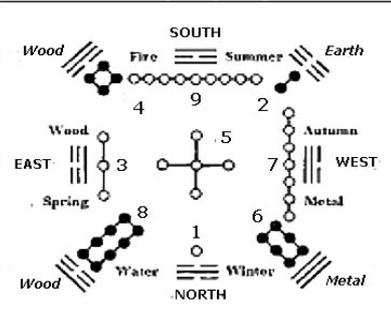
For Ed Bernacki "out-of-the-box-thinking" requires: *an openness to new ways of seeing the world and a willingness to explore. Out-of-the-box thinkers know that new ideas need nurturing and support. They also know that having an idea is good but acting on it is more important. Results are what count.* (Exactly what is 'Thinking Outside the Box'? *CanadaOne*, 31 March 2002). Bernacki sees it as including: Willingness to take new perspectives to day-to-day work; Openness to do different things and to do things differently; Focusing on the value of finding new ideas and acting on them; Striving to create value in new ways; Listening to others; and Supporting and respecting others when they come up with new ideas.

For The Arbinger Institute (*Leadership and Self-Deception: Getting Out of the Box*, 2000), the problems that typically prevent superior performance in organizations are the result of a little-known problem termed "self-deception". People who are in self-deception live and work as trapped in a box. Blind to the reality around them, they undermine performance -- both their own and others'. The problem is, being in the box they cannot see that they undermine performance. Consequently, they don't change, and neither do their results.

Turtle of Lo Shu embodying traditional magic squares

As explored by Tao Jiang in his comments on the *Zhuangzi*, reference could have been made to the acclaimed importance of the turtle in the period when the *Zhuangzi* is believed to have been composed. This derives from the tradition of the magical Lo Shu turtle which had emerged from a river at the time of a great flood, as observed by the legendary Emperor [Yu](#). The strange markings on its back were allegedly associated by the Emperor [Fuxi](#) (or Fu Hsi) with the form of a magic square (below centre). Hence the considerable subsequent commentary and depiction of such a turtle in relation to the [Lo Shu magic square](#) and as fundamental to *feng shui* (summarized by the correspondences, below right).

Magic squares: The correspondences in the image on the right below feature in an extensive discussion by [Quincy Robinson](#) and Paul Martyn-Smith (*Evidence of Modern Physical Knowledge from Asiatic Antiquity: Re-integration: Nine Realms of Middle Earth*, 2015).

Traditional derivation of magic square organization from the Lo Shu Turtle		
Example of Lo Shu Turtle magic square configuration	Example of the simplest magic square (of order 3)	Correspondences between Lo Shu, Ba Gua and 3x3 magic square patterns
		

The 3x3 table of numbers (above centre) could be usefully recognized as an array of boxes (notably characteristic of modern office architecture and knowledge management), namely the constraining contexts associated with the perception of the frog in the *Zhuangzi* fable -- as discussed above with respect to in-the-box cognition. Transcendence of those constraints is however only then achieved by the "magic" of the arrangement, as the "pattern which connects". It is in this sense that the turtle (or eagle) can be unconstrained, being able to move freely in relation to the limitations of the box configurations -- effectively, as by magic, through its walls. This freedom is evident with some pieces on a chess board -- in contrast to the constraints on others.

The significance of any such pattern follows from the much-cited phrase of [Gregory Bateson](#) (*Mind and Nature: a necessary unity*, 1979), variously discussed separately:

- Candice Bradley: [Gregory Bateson: The Pattern Which Connects](#),
- Paul Clarke: [The Pattern Which Connects](#) (*School of Sustainability*, 1 February 2017)
- Richard J. Borden: [Gregory Bateson's Search for "Patterns Which Connect"](#) *Ecology and Mind* (*Human Ecology Review*, 23, 2017, 2)
- Roy C. Dudgeon: [The Pattern Which Connects: Batesonian Holism and Postmodern Science](#)
- Soren Brier: [Bateson and Peirce on the Pattern that Connects and the Sacred](#) (*A Legacy for Living Systems*, 2008)
- Paul Andersen and David Salomon: [The Pattern that Connects](#) (*Australian Humanities Review*, 35, 2005, June)
- [Overriding Law: a pattern that connects](#) (*Insights*, 17 September 2020).

Identification of such pattern is now a feature of explorations of [pattern language](#). Allusions to the cognition of the turtle of the fable might then be associated with references to the [hyperspace](#), [hyperreality](#) and [hyperobjects](#) of modern insights -- as traditionally framed (*Hyperspace Clues to the Psychology of the Pattern that Connects*, 2003). The latter is explored in the light of the 81 *Tao Te Ching* insights.

Any such cognitive possibility merits consideration of the potential role of such a configuration, as discussed separately ([Salvation Enabled by Systemic Comprehension -- via aesthetics of magic squares?](#) 2015). The possibility was explored in terms of the following:

Magic square integrity and implications for the US Constitution
Existential implication in magic squares

Magical salvation implied by the sense of coherence?
 "Magic" as aesthetic connectivity
 Chinese articulation of magic square insight
 Recognizing the existence of an aesthetic "missing link"

Magical organization of patterns of words?
 Psychosocial dimension missing from discussion of magic squares
 Appreciating lying as dyeing
 Knight's move thinking in relation to magic squares

Although often held to be a mathematical curiosity, of relevance to that discussion is the importance it was held to have been a preoccupation of Benjamin Franklin, one of the Founding Fathers of the United States, a drafter and signer of the United States Declaration of Independence. How it may have influenced the design and memorability of the latter remains unclear (*Memorability, Mnemonics, Maths, Music and Governance*, 2002).

Benjamin Franklin's 8x8 magic squares		
animations of movement of selected bent diagonals		
Vertical movement	Combined movement	Horizontal movement
52 61 4 13 20 29 36 45	52 61 4 13 20 29 36 45	52 61 4 13 20 29 36 45
14 3 62 51 46 35 30 19	14 3 62 51 46 35 30 19	14 3 62 51 46 35 30 19
53 60 5 12 21 28 37 44	53 60 5 12 21 28 37 44	53 60 5 12 21 28 37 44
11 6 59 54 43 38 27 22	11 6 59 54 43 38 27 22	11 6 59 54 43 38 27 22
55 58 7 10 23 26 39 42	55 58 7 10 23 26 39 42	55 58 7 10 23 26 39 42
9 8 57 56 41 40 25 24	9 8 57 56 41 40 25 24	9 8 57 56 41 40 25 24
50 63 2 15 18 31 34 47	50 63 2 15 18 31 34 47	50 63 2 15 18 31 34 47
16 1 64 49 48 33 32 17	16 1 64 49 48 33 32 17	16 1 64 49 48 33 32 17

Greater "magic"? Franklin called his 16x16 magic square *the most magically magical of any magic square ever made by a magician* -- with which many mathematicians and mystics would now be held to agree (Peter Loly, *Franklin Squares: a chapter in the scientific studies of magical squares*, University of Manitoba, 2006; William H. Richardson, *Ben Franklin's Amazing Magic Square* [including animation], Wichita State University; *Ben Franklin's 8x8 Magic Square*, Wichita State University).

The methods by which he generated such squares so readily, characterized by so-called bent diagonals, remain unknown (Harvey Heinz, *Most-perfect Bent diagonal Magic Squares*, 2009; Daniel Schindel, et al., *Enumerating the bent diagonal squares of Dr Benjamin Franklin*, *Proceedings of the Royal Society*, 462, 2006), pp. 2271-2279; Paul Pasles (*The Lost Squares of Dr. Franklin*, *The American Mathematical Monthly*, 108, 2001, 6).

Benjamin Franklin's 16x16 magic squares		
animations of movement of selected bent diagonals		
Vertical movement	Combined movement	Horizontal movement
200 217 232 249 8 25 40 57 72 89 104 121 136 153 168 185	200 217 232 249 8 25 40 57 72 89 104 121 136 153 168 185	200 217 232 249 8 25 40 57 72 89 104 121 136 153 168 185
58 39 26 7 250 231 218 199 186 167 154 135 122 103 90 71	58 39 26 7 250 231 218 199 186 167 154 135 122 103 90 71	58 39 26 7 250 231 218 199 186 167 154 135 122 103 90 71
198 219 230 251 6 27 38 59 70 91 102 123 134 155 166 187	198 219 230 251 6 27 38 59 70 91 102 123 134 155 166 187	198 219 230 251 6 27 38 59 70 91 102 123 134 155 166 187
60 37 28 5 252 229 220 197 188 165 156 133 124 101 92 69	60 37 28 5 252 229 220 197 188 165 156 133 124 101 92 69	60 37 28 5 252 229 220 197 188 165 156 133 124 101 92 69
201 216 233 248 9 24 41 56 73 88 105 120 137 152 169 184	201 216 233 248 9 24 41 56 73 88 105 120 137 152 169 184	201 216 233 248 9 24 41 56 73 88 105 120 137 152 169 184
55 42 23 10 247 234 215 202 183 170 151 138 119 106 87 74	55 42 23 10 247 234 215 202 183 170 151 138 119 106 87 74	55 42 23 10 247 234 215 202 183 170 151 138 119 106 87 74
203 214 235 246 11 22 43 54 75 86 107 118 139 150 171 182	203 214 235 246 11 22 43 54 75 86 107 118 139 150 171 182	203 214 235 246 11 22 43 54 75 86 107 118 139 150 171 182
53 44 21 12 245 236 213 204 181 172 149 140 117 108 85 76	53 44 21 12 245 236 213 204 181 172 149 140 117 108 85 76	53 44 21 12 245 236 213 204 181 172 149 140 117 108 85 76
205 212 237 244 13 20 45 52 77 84 109 116 141 148 173 180	205 212 237 244 13 20 45 52 77 84 109 116 141 148 173 180	205 212 237 244 13 20 45 52 77 84 109 116 141 148 173 180
51 46 19 14 243 238 211 206 179 174 147 142 115 110 83 78	51 46 19 14 243 238 211 206 179 174 147 142 115 110 83 78	51 46 19 14 243 238 211 206 179 174 147 142 115 110 83 78
207 210 239 242 15 18 47 50 79 82 111 114 143 146 175 178	207 210 239 242 15 18 47 50 79 82 111 114 143 146 175 178	207 210 239 242 15 18 47 50 79 82 111 114 143 146 175 178
49 48 17 16 241 240 209 208 177 176 145 144 113 112 81 80	49 48 17 16 241 240 209 208 177 176 145 144 113 112 81 80	49 48 17 16 241 240 209 208 177 176 145 144 113 112 81 80
196 221 228 253 4 29 36 61 68 93 100 125 132 157 164 189	196 221 228 253 4 29 36 61 68 93 100 125 132 157 164 189	196 221 228 253 4 29 36 61 68 93 100 125 132 157 164 189
62 35 30 3 254 227 222 195 190 163 158 131 126 99 94 67	62 35 30 3 254 227 222 195 190 163 158 131 126 99 94 67	62 35 30 3 254 227 222 195 190 163 158 131 126 99 94 67
194 223 226 255 2 31 34 63 66 95 98 127 130 159 162 191	194 223 226 255 2 31 34 63 66 95 98 127 130 159 162 191	194 223 226 255 2 31 34 63 66 95 98 127 130 159 162 191
64 33 32 1 256 225 224 193 192 161 160 129 128 97 96 65	64 33 32 1 256 225 224 193 192 161 160 129 128 97 96 65	64 33 32 1 256 225 224 193 192 161 160 129 128 97 96 65

Creating one's own reality through aesthetics

Reality creation by elites: Increasing credibility is given to the ways in which individuals and groups are able to create their own reality, notably following the arguments of Peter L. Berger and Thomas Luckmann (*The Social Construction of Reality: a treatise in the sociology of knowledge*, 1966). As a feature of Buddhism, this has been emphasized metaphorically in terms of creating the path on which one walks by Francisco Varela, and colleagues (*Laying Down a Path in Walking*, *Semantic Scholar*, 18 January 2018).

Such considerations are now understood problematically in a global context, as argued by Julien Charles (*We Create Our Own Reality*, *OffGuardian*, 2 June 2022):

Given that elite interests are largely out of step with the interests of the vast majority of Americans, we often find ourselves living in an alternate reality... Our current experience -- in which we are terrifically afraid of a mild seasonal respiratory virus and terrifically xenophobic toward Russians -- is reminiscent of the heyday of the Bush administration, when the neoconservative believers were riding high on a surfeit of manufactured intelligence.... George Bush's svengali Karl Rove, educated a stunned reporter about what reality truly meant at the Metropole, in the imperium itself:

We're an empire now, and when we act, we create our own reality. And while you're studying that reality -- judiciously, as you will -- we'll act again, creating other new realities, which you can study too, and that's how things will sort out. We're history's actors ... and you, all of you, will be left to just study what we do.

That reality is what Henry Giroux called, *...the deadening unity and totalizing narratives that now marks dominant neoliberal and instrumental ideologies of the West.*

Reality creation for all: Charles focuses on the manner in which elites craft and curate a reality for themselves and others -- focused to a degree by the Davos Forum, the Trilateral Commission, the Council on Foreign Relations, and other such bodies.

By contrast, for Varela and colleagues, a degree of freedom is to be found by anyone (or any group) in creating their own reality. Religions and cults can be explored in this light -- as with disciplines, and science in particular. Metaphorical reference is then frequently made to "bubbles", inviting a critical reaction (*Pricking the Bubble of Global Complacent Complicity*, 2017).

Does any conference participant "write the story" -- or does it write him, or her? Is this dilemma reflective of a larger reality? **Should people frame their reality according to convention -- or are they free to explore a fantastic reality**, as separately argued (*Reinventing Your Metaphoric Habitat*, 1992)?

Aesthetics connectivity essential to reality creation: There is a curious contrast between magic squares (as exemplifying a pattern that connects) and patterns appreciated from an aesthetic perspective (as typical of rhyme, etc). Paradoxically it could be said that the "mechanical magic" of the former reflects the constrained cognitive mode characteristic of its appreciation by mathematicians, whereas the latter is more in accordance with the unconstrained appreciation held to be associated with the turtle of the fable. The irony of the paradox is that both are embodied in the Lo Shu turtle pattern.

Missing from the magic square pattern is the aesthetic dimension highlighted in Gregory Bateson's own quest for a degree of correspondence between an [ecology of mind](#) and that of nature -- culminating in his post-humous *Angels Fear: towards an epistemology of the sacred* (1987). As appropriately expressed by Paul Andersen and David Salomon (*The Pattern that Connects* (*Australian Humanities Review*, 35, 2005, June):

Bateson went even beyond this notion of interactive pattern derived from the necessities of survival: beauty may lie in the abstractions of perception but in the longer term, beauty is also an outcome of co-evolution... He refers here to co-evolution as an outcome of relations between species, not only in the tense of past evolution but in the present tense of "co-eval" relations. There is a sort of meta-pattern that emerges through interactive patterning and feedback in evolutionary time, which connects humans to lobsters and crabs, and that this meta-pattern differs qualitatively from that presented in a materialist explanation of adaptation....

What Bateson was asserting was that symmetries, contrast, colour and other types of branching pattern that we see in flowers, in some way relates to our own nervous system, the interaction of the two being typical examples of his notion of "mind". I must confess to being puzzled and failing to grasp the connection the first time I came across this particular example of coevalness of "mind". Yet consider the very evident notion that our own human sense of form and symmetry draws our attention to flowers, and that we frequently discuss particular forms of symmetry in flowers...

If we humans trace a pattern of connection with species as remote from us as bees, insects and flowers, and in such an abstract realm as formal components of beauty, then how much closer must the same pattern of connection exist between human cultures, despite the very diversity of aesthetic expression.

Arrays of metaphors: In explaining why "we are our own metaphor", Bateson pointed out to a conference on the effects of conscious purpose on human adaptation that:

One reason why poetry is important for finding out about the world is because in poetry a set of relationships get mapped onto a level of diversity in us that we don't ordinarily have access to. We bring it out in poetry. We can give to each other in poetry the access to a set of relationships in the other person and in the world that we are not usually conscious of in ourselves. So we need poetry as knowledge about the world and about ourselves, because of this mapping from complexity to complexity. (Cited by Mary Catherine Bateson, 1972, pp. 288-9)

That comment featured in an argument for the relevance of poetry to policy (*Poetry-making and Policy-making: Arranging a Marriage between Beauty and the Beast*, 1993). **Rather than the mathematical magic of a square, the question is then the form with which the magic of aesthetic experience is associated.** Arguably this is experienced by some through the concentric circular complexity of mandalas of Eastern religions, segmented into a variety of imagery -- and typically a focus for meditation.

Understood otherwise, and rather than numbers, aesthetic magic can then to be understood as associated with an array of metaphors forming a contrasting pattern that connects, as noted above ("*Magic" as aesthetic connectivity*, 2015). Cultural insight enables people to walk the pathways along aesthetic associations -- the songlines -- most obviously enabled by rhyme. Metaphors may then be recognized as vehicles for traversing the noosphere (*Metaphors as Transdisciplinary Vehicles of the Future: science and tradition*, 1991; *Noonautics: Four modes of travelling and navigating the knowledge "universe"?* 2006; *Magic carpets as vehicles for noosphere travel*, 2010).

A primary characteristic of the set of major Chinese classics is the manner in which any "mechanical" encoding of their insights is complemented by an array of metaphorical interpretations, as with the *Yi Jing*, the *Tao Te Ching* (*Dàodé Jīng*) and *Tài Xuān Jīng*. (*9-fold Magic Square Pattern of Tao Te Ching Insights -- experimentally associated with the 81 insights of the T'ai Hsüan Ching*, 2006).

This suggests the need for a more systemic approach to the embodiment of metaphor into strategic discourse, explored separately as a

means of transcending divisiveness (*Metaphorizing Dialogue to Enact a Flow Culture*: 2019). Arguably this is a response to metaphoric entrapment by which the frog-in-the-well might be characterized (*Metaphoric Entrapment in Time -- avoiding the trap of Project Logic*, 2000). Given occasional reference to some conferences as "magical" -- in marked contrast to others -- there is a case for exploring how "meeting magic" is engendered, as argued separately (*Conference Transformations: maturing the reflective, focusing and transformative power of large-group conferences, especially in response to conditions of social upheaval*, 1982).

Zhuangzi versus Confucius? Tao Jiang's commentary makes very clear the deprecation by Zhuangzi of the Confucian ritualistic perspective -- framed as frog-like. It is therefore a valuable coincidence to explore the alternative perspective of the Confucian deprecation of the Zhuangzi perspective -- associated with the turtle of the fable. This alternative commentary to that of Tao Jiang, by Alan Jay Levinovitz, featured in the same journal a week later (*How to set yourself free with ritual, Psyche/Aeon*, 8 June 2022):

When I first read Confucius, I was disappointed. He seemed like a stick-in-the-mud, obsessed with enforcing the status quo....But for me, in the 21st century? I preferred living freely like the iconoclastic Daoist sages who mocked Confucius.... Central to Confucius's teachings was submission to *li* ..., typically translated as "ritual". I wrote it off as more stale traditionalism. But then, while preparing a course on classical Chinese thought, I re-read the foundational collection of Confucius's teachings known as the *Analects*.... *Li* wasn't about fastidiously obeying fusty old rules....

No, this was a different kind of ritual. My default understanding of the word had misled me. What Confucius taught was life-as-ritual, the transformation of everyday actions into sacred activity. It was a revelation.

As emphasized by Levinovitz, the Confucian perspective argued for a life of harmonious ease through finding the rhythm in the everyday -- making one's world a temple and submitting to its sacred ritual. As described by *Wikipedia*:

The rites of *li* are not rites in the Western conception of religious custom. Rather, *li* embodies the entire spectrum of interaction with humans, nature, and even material objects. Confucius includes in his discussions of *li* such diverse topics as learning, tea drinking, titles, mourning, and governance. Xunzi cites "*songs and laughter, weeping and lamentation...rice and millet, fish and meat...the wearing of ceremonial caps, embroidered robes, and patterned silks, or of fasting clothes and mourning clothes... unspacious rooms and very nonsecluded halls, hard mats, seats and flooring*" as vital parts of the fabric of *li*.

Whilst the two perspectives can indeed be experienced as incompatible, even incommensurable, this could be recognized as a consequence of superficial reification and **misplaced concreteness**, or what Magoroh Maruyama helpfully describes as "subunderstanding" (*Peripheral Vision: polyocular vision or subunderstanding? Organization Studies*, 25, 2004, 3; *Metamorphosis: authenticity in institutions and organizations, Metamorphosis: a journal of management research*, 1, 2002, 1). Their compatibility -- their reconciliation -- necessarily eludes conventional modes of articulation (*Engaging with Elusive Connectivity and Coherence: global comprehension as a mistaken quest for closure*, 2018; *Comprehension of Unity as a Paradoxical Dynamic: metaphors reframing problematic engagement with otherness*, 2019).

Challenge for both turtle and frog in encountering black swans?

Curiously the Lo Shu magic turtle is believed to have emerged in a period of great crisis exemplified by the **Great Flood of Gun-yu**. In the current period of global crisis a particular focus has been given to recognition of black swans in relation to **Black Swan Theory**.

This is a metaphor describing an event that comes as a surprise, has a major effect, and is often inappropriately rationalized after the fact with the benefit of hindsight. The term is based on an ancient saying that presumed black swans did not exist -- a saying that became reinterpreted to teach a different lesson after the first European encounter with them. The theory was developed by Nassim Nicholas Taleb (*The Black Swan: the impact of the highly improbable*, 2007).

As an example, the COVID-19 pandemic may be recognized in such terms, although this is controversial -- as is perhaps characteristic of any effort to frame a surprise:

- John Drake: *Was Covid-19 A Black Swan Event?* (*Forbes*, 11 November 2021)
- Bernard Avishai: *The Pandemic Isn't a Black Swan but a Portent of a More Fragile Global System* (*The New Yorker*, 21 April 2020)
- John F. Murphy, et al: *The COVID-19 pandemic: Is it a "Black Swan"?* *Process Safety Progress*, 39, 2020, 2)
- Andrew S Valeras: *COVID-19: Complexity and the Black Swan* (*Families, Systems and Health*, 38, 2020, 2)

"Black swan" or not, the obvious question is how a "turtle" engages with a surprise in comparison with a "frog". Those deploring the response by authorities to the pandemic would readily frame it as characterized by the perspective of "in-the-box", frog-in-the-well thinking. In deploring that response, critics might be assumed to associate their own perspective with that of the "turtle". The many protests appealing for freedom could be seen in that light -- in contrast with the repressive constraints upheld as characteristic of lockdowns, masking and vaccination requirements.

Curiously, as noted by Tao Jiang, it has indeed been the perspective of the frog-in-the-well which has dominated the mainstream narrative of Chinese governance down the centuries, and that of authorities everywhere. That of the turtle has been a minority perspective -- effectively marginalized -- echoing the status of present-day appeals against constraints and authoritarianism.

Missing from any such simplistic conclusion is the manner in which surprise is experienced by both the frog and the turtle of the fable -- in any encounter with a black swan. Does insight into the living ritual of *li* enable the frog-in-the-well perspective to engage as

successfully with the unexpected in comparison with insight into the pattern of changes which the turtle may be held to embody (exemplified by the *Yi Jing* as the "*Book of Changes*")? Can it be said that the perspective of the frog is primarily a fruitful engagement with certainty, whereas the turtle offers a celebration of uncertainty?

One contemporary articulation of the dilemma has attracted attention through its controversial presentation by [Donald Rumsfeld](#), as US Secretary of Defense, in the midst of a Middle East crisis:

Reports that say that something hasn't happened are always interesting to me, because as we know, there are **known knowns**; there are things we know we know. We also know there are **known unknowns**; that is to say we know there are some things we do not know. But there are also **unknown unknowns** -- the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tends to be the difficult ones (*There are known knowns*, *Wikipedia*)

It is puzzling that in their seeming opposition to each other neither the Confucian nor the Zhuangzist perspective seems especially empowered to encompass their relationship in a drama open to surprise. It is similarly curious that the dramatic crises of global civilization at this time do not engender epics which recognize the complementary roles of opposing perspectives. Could people be enabled to "dance cognitively with disaster", as might be implied by such epics as the *Mahabharata* and the *Ramayana* of Hinduism -- two of the longest epic tales in the world.

Exploiting Rumsfeld's argument, is any subunderstanding with respect to the perspective of the frog or the turtle to be understood as systemic neglect by both (*Unknown Undoing: challenge of incomprehensibility of systemic neglect*, 2008)?

Can the Confucian and Zhuangzist perspectives be recognized as entangled in a drama to which neither is able to give aesthetic form or appreciate -- through which they will experience the form of surprise capable of triggering a paradigm shift?

The cognitive challenge of the times is appropriately illustrated by popular European rejection by the younger generation of over 30 songs in the [Eurovision Song Contest](#) of 2006 as bland, unimaginative expressions of classical "positive" values -- in favour of historically unprecedented support for a rank outsider in the form of a self-questioning, humorous presentation of "satanic" lyrics by a Finnish heavy metal rock group masked as demons. Curiously, in the light of its "demonic success" in 2006, Finland's widely recognized rapid uptake of information technology had been acknowledged in the accession speech of the Finnish President of the European Commission on the *New Dimensions of Learning in the Information Society* (July 1999) -- by referring first to the influential role of archetypal figures in the *Kalevala*, the epic poem of Finnish culture (cf *Newsweek*, May 1999; *Wired*, September 1999).

Insights from a carp ensuring complementarity of radically distinct perspectives?

Allegedly Chinese small-scale farmers -- those keeping a single carp in a small pond -- have recognized that the tendency of the fish is to remain stationary in the centre of the pond (without exercise) thereby rendering it far more vulnerable to disease. The situation would seem to be reminiscent of the problematic condition of the frog in the well as perceived from a Zhuangzist perspective. The solution allegedly adopted by farmers is to place a rock in the centre of the pond. The carp then swims continuously around the rock -- seemingly responding to the illusion of swimming around the bend in a stream. The tale of the carp has been charmingly represented by [Tomás Fülöpp](#) (*Hubert's Voyage, Vacilando*, 19 April 2022).

Arguably the Confucian insight of *li* -- finding the rhythm in the everyday to ensure a life of harmonious ease -- can be compared with that of the carp circling the stone.

Rocks and holes constraining comprehension: The challenge to comprehension has been remarkably clarified using the mathematics of [q-analysis](#) as developed by [Ron Atkin](#) (*Multidimensional Man; can man live in 3-dimensional space?*, 1981) and separately summarized (*Comprehension: Social organization determined by incommunicability of insights*).

Atkin illustrates the challenge of comprehension in relation to experience "within" the geometry of a triangle whose centre is experienced ambiguously as either a rock or a hole. For humans constrained to an understanding of the distinctive colours of its edges alone (see below), the form of the triangle as a whole remains incomprehensible -- as represented by white. If the person's colour vision is 0-dimensional, then it is restricted to the vertices. It can only see one vertex colour at a time and never a combination (as represented by an edge). If vision was 3-dimensional, it would allow traffic throughout the geometry, but would perceive other colours as well, calling for a fourth vertex (forming a tetrahedron) in order to contain the full range of combinations.

Comprehension through transcending the plane (as indicated by the q-analysis of Ron Atkin)	
Conjunction as recognizing "white"	Relative orders of comprehension
	<p>0-dimension: Red, Green or Blue</p> <p>1-dimension: Yellow (=Red/Green) Purple (=Red/Blue); or Turquoise (=Blue/Green)</p> <p>2-dimension: White (=Red/Green/Blue)</p>

As with the Sun, the rock-hole effectively "bends" the light of communication around it. The carp swims around through a cognitive tunnel -- without being aware of its circularity.

Mysterious nature of a hole: The rock-hole ambiguity to comprehension can be explored further through the work of [Terrence Deacon](#) with regard to what is missing:

The problem is this: *Such concepts as information, function, purpose, meaning, intention, significance, consciousness, and value are intrinsically defined by their fundamental incompleteness.* They exist only in relation to something they are not.... The "something" that each of these is not is precisely what matters most. But notice the paradox in this English turn of phrase. To "matter" is to be substantial, to resist modification, to be beyond creation or destruction -- and yet what matters about an idea or purpose is dependent on something that is not substantial in any obvious sense. So what is shared in common between all these phenomena? In a word, nothing -- or rather, something not present. (*Incomplete Nature: how mind emerged from matter*, 2012, p. 23, *emphasis in original*)

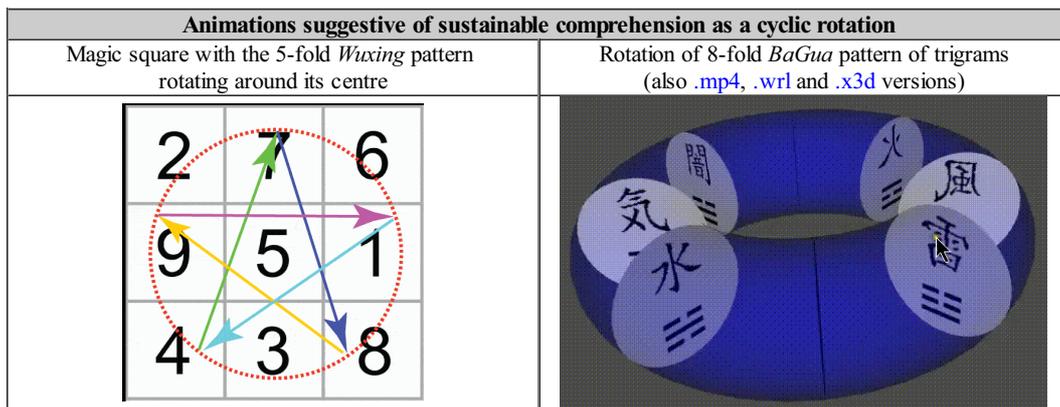
Basically, it means that our best science -- that collection of theories that presumably comes closest to explaining everything -- does not include this one most defining characteristic of being you and me. In effect, our current "Theory of Everything" implies that we don't exist, except as collections of atoms. So what's missing? **Ironically and enigmatically, something missing is missing.** (p. 1, *emphasis added*)

What is the "well" or "hole" of ignorance that underlies conventional knowledge and inhibits fruitful reconciliation in the light of conventional model building? (cf. (*Unthought as Cognitive Foundation of Global Civilization*, 2012; Nicholas Rescher, *Ignorance: on the wider implications of deficient knowledge*, 2009). As discussed separately, what is the implication of the provocative insight of [Ambrose Bierce](#): *The small part of ignorance that we arrange and classify we give the name of knowledge.* (*Cognitive mystery of holes, lacunae and incompleteness*, 2014).

Of particular relevance is the remarkable exploration by [Roberto Casati](#) and [Achille C. Varzi](#) (*Holes and Other Superficialities*, 1994) -- with respect to the borderlines of metaphysics, everyday geometry, and the theory of perception (reviewed by Steven A. Gross, *What's in a Hole? The Harvard Review of Philosophy*, 1994). They seek to answer two basic questions: Do holes really exist? And if so, what are they, as queried in an extensive [entry on holes](#) in the *Stanford Encyclopedia of Philosophy*.

Turtle as embodiment and bearer of a hole? As described above, the turtle is seen as carrying a magic square upon its back. The form of that square can be thought of as an eightfold circuit of distinctive conditions with which various sets of labels are associated, whether numbers, *BaGua* trigrams, orientations, or topographically related. Speculatively these can be seen as centred on what might be reframed as a hole of some kind -- with which the number five is associated in the square. This offers an association with the classic Chinese pattern of the *Wuxing*, presented here as rotating around the centre of the magic square (below left).

The corresponding trigrams might then be presented as rotating within a torus (below right) -- with the suggestion that the two animations are comparable in terms of their cognitive significance as sustainable processes (*Memorable dynamics of living and dying: Hygeia and Wu Xing*, 2014).



Arguments relating to the development of the animation on the right are developed separately (*Zen of Facticity: Bull, Ox or Otherwise? Herding facts and their alternatives in a post-truth-era*, 2017).

Cognitive complementarity of turtle and frog-in-a-well: The animations above, together with the triangular framing by Atkin, are together indicative of the entanglement of contrasting modes of comprehension to which the extremes of the fable point.

Each invites consideration in terms of the tale of the carp in the pond in that cognitively both Confucians and Zhuangzists circle a subtle central insight which apparently eludes them -- but nevertheless holds them captive. Paradoxically it is the dynamics of the turtle's magical pattern which engenders the well by which the frog is "trapped", but both frog and turtle are constrained to circling the hole-stone whose nature eludes them.

The arrows of the 5-fold *Wuxing* pattern of the animation offer a useful indication of the perspective of the carp at any one time, namely of the extent to which it can see around the stone to the new condition with which it might next engage by moving. This suggests a degree of anticipation integrating the attraction of surprise.

Understood as a toroidal tunnel of experience, as implied by Atkin's triangle and the configuration of trigrams in a torus, this invites speculation on the nature of the "toroidal experience" exemplified by the circumnavigating carp (*Imagining Toroidal Life as a Sustainable Alternative*, 2019).

Human evolution: *Homo conjugens* and *Homo undulans*?

As argued separately, there is a case for understanding that the development of the [metaverse](#) will enable a transition to a new understanding of humanity -- a form of collective self-reflexivity (*Future Psychosocial Implications of the Metaverse: exploring possible non-technical and existential dimensions*, 2022). The limitless turtle/eagle world view of *Zhuangzi* could well be understood as implying a meta-perspective. It is then appropriate to recall that any sense of "meta" -- as implying "above"-- may distract from the sense in which "meta" implies a higher degree of self-reflexivity and enhanced "indwelling" (*Implication of Indwelling Intelligence in Global Confidence-building*, 2012).

The possibility of wave language being fundamental to a new mode of engaging with otherness, or to any sense of identity, was noted above. Alexander Wendt suggests one radical reframing (*On being "walking wave functions" in terms of quantum consciousness?* 2017). This invites the speculation that it might be effectively the basis for a new human "species". In cognitive terms, the transition from "frog" to "turtle/eagle" is then potentially comparable to that between Neanderthal and Cro-Magnon, as can be variously imagined.

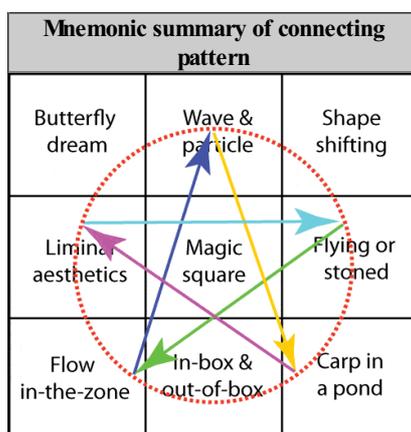
This transition might be understood as the emergence of a *Homo conjugens* capable of engaging cognitively with nature in a more fruitful manner, as argued separately (*Authentic Grokking: emergence of Homo conjugens*, 2003; *"Human Intercourse": "Intercourse with Nature" and "Intercourse with the Other"*, 2007). This echoes the polysensorial articulation of [David Abram](#) (*The Spell of the Sensuous: perception and language in a more-than-human world*, 1997). The transition frames the challenge of engaging with the proverbial [elephant in the living room](#) (*Strategic Challenge of Polysensorial Knowledge: bringing the "elephant" into "focus"*, 2008).

Of far greater relevance to the above argument for humans as wave-like is the description of a *Homo undulans*. This is the theme of a penultimate chapter of the very detailed study by [Daniel Dervin](#) (*Creativity and Culture: a psychoanalytic study of the creative process in the arts, sciences, and culture*, 1990). Appropriately he relates this to a "third birth" of "self-creation", discussed at length in his final chapter. For Dervin, with respect to *Homo undulans*:

On his most rudimentary level, Einstein has taught us that, even more than vacuums, nature abhors straight lines. At least Relativity abhors them... So a straight line put under pressure, as it were, of scientific observation is recreated as a curve. Does the awareness of curvature also mark the beginning of creativity? One can be grateful, in any case, to Einstein for locating in the bending of light and the curving of space some faint correspondence to that "vain, diverse, and undulating object" that [Michel de] [Montaigne](#) described as man, adding "tis hard to find any constant and uniform judgment on him" (p. 244)

Explored otherwise, any emergence of a *Homo undulans* might be complemented cognitively by *Homo conjugens* (*Emergence of Homo undulans -- through a "grokking" dynamic?* 2013; *Dynamic patterns of play engendered by Homo ludens and Homo undulans?* 2019; *Clues to Comprehension through Wave Language: evoking Homo undulans*, 2013). It is perhaps in this sense that the complementarity of the forms of reality perceived by the frog and the turtle might be understood -- each encountering the other as a waveform (*Encountering Otherness as a Waveform -- in the light of a wave theory of being*, 2013)

The resilience associated with such a cognitive transformation might enable engagement with surprise to be understood as engagement with turbulent flow (*Quantum Wampum Essential to Navigating Ragnarok: thrival in crisis through embodying turbulent flow* (2014).



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