



laetus in praesens

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4 September 2012 | Draft

Transforming and Interweaving the Ways of Being Stoned Imagination, Promise, Rocks, Memorials, Petrification

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Introduction

"Stone" is used metaphorically and otherwise in a quite disparate range of contexts. These nevertheless offer an elusive implication of connectivity which merits exploration, as attempted here -- especially given the associated sense of concreteness.

This offers an alternative understanding of the frameworks of belief systems, their articulation, and the problematic relationships between them -- exemplified by the communication processes in any gathering in which multiple themes are evoked and challenged from a variety of perspectives -- and to relatively little avail. This preoccupation follows from a previous discussion (*Interweaving Thematic Threads and Learning Pathways*, 2010).

An early justification for this experimental presentation was the instigation by [Johan Galtung](#) of a project on *Forms of Presentation: a forgotten aspect of social science epistemology* (1978) within the project on *Goals, Processes and Indicators of Development* (GPID) of the United Nations University -- offering possibilities previously discussed (*Forms of Presentation and the Future of Comprehension*, 1984).

The question here is 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.

This experiment explores analogies between the mnemonic pentagrams fundamental to the [Hygieia](#) understanding of health of Pythagoreans and to its current understanding through the [Wu Xing](#) system of Chinese culture. The focus here is however on their relevance to the dynamics of "cognitive health", especially with respect to a global knowledge-based society -- whose conflicts are variously driven by societies attaching central significance to the pentagonal star. This follows an earlier exploration of symbolic framings (*Middle East Peace Potential through Dynamics in Spherical Geometry: engendering connectivity from incommensurable 5-fold and 6-fold conceptual frameworks*, 2012).

Understood in terms of a cyclic dynamic, the "cognitive health" of a global system is then explored with respect to its environmental implications, exemplified in reality by the world-encircling [ocean conveyor](#) -- of which the serpentine symbols favoured globally by health systems offer a provocative metaphor.

In a period of global crisis, with a widely remarked lack of new thinking, it might be asked how bad things need to get before new questions are asked and neglected opportunities are explored. Within such a context the importance desperately attached to the need for

"confidence building" in relation to the financial system seems ironic in the light of the past. Appeals to the "conscience" of the international community in response to flagrant abuse of human rights appear equally curious in a world in which faith in anything is systematically abused (cf. *Abuse of Faith in Governance*, 2009).

Use of "stoned" as a provocative mnemonic device is then arguably appropriate through the distraction it offers, whether through use of drugs by individuals, or collective dependence on oil as a drug. The exorbitant expenditure on the occasion of global summits is also suggestive of the "stoned" conditions under which it is deemed appropriate for decision-makers to envision the future (*U.N. General Assembly 2012: leaders spend millions as their citizens starve*, *Huffington Post*, 5 September 2009; *Financial Costs of G8 and G20 Summits*). For the multitudes depending for a viable future on its promises and proposals, the international community is readily to be perceived as having a "heart of stone".

Fivefold clustering of ways of being stoned

These clusters are presented as separate Annexes:

- [Enstoning through imagination, dreams, drugs and imbibing](#) (Annex 1)
- [Enstoning of promise, potential, possibility and pattern](#) (Annex 2)
- [Enstoning with rocks and rockets](#) (Annex 3)
- [Enstoning in memorials and monuments](#) (Annex 4)
- [Enstoning through petrification and entombment](#) (Annex 5)

Towards a cognitive variant of the viable systems model?

As noted, "stone" has been used in the above presentation as a device to imply -- reinforced by metaphorical usage (noted in the [Annexes](#)) -- a degree of relationship between degrees of formalism and their possibly problematic embodiment in material form. Many of the questions raised have of course been very extensively explored by a variety of disciplines offering a variety of explanations and hypotheses. These are instances of the "potential" and "possibility" cluster (in [Annex 2](#))

The unresolved "conflict" between the programmes articulated on the basis of these templates -- exemplified by the "rocks" cluster ([Annex 3](#)) -- is succinctly summarized by [Nicholas Rescher](#) (*The Strife of Systems: an essay on the grounds and implications of philosophical diversity*, 1985) who concludes:

For centuries, most philosophers who have reflected on the matter have been intimidated by the strife of systems. But the time has come to put this behind us -- not the strife, that is, which is ineliminable, but the felt need to somehow end it rather than simply accept it and take it in stride.

Development over past decades of the "softer" systemic approaches, from an operations research perspective, has been usefully summarized by Rebecca Heyer (*Understanding Soft Operations Research: the methods, their application and its future in the defence setting*, Australian Government Department of Defence, 2004).

The approaches presented are perhaps now to be unfairly caricatured as the "Best of the West", given the evidently constrained capacity to respond to the global crisis of governance and the "messy" nature of the present global problematique as noted by Heyer. The situation is exemplified by the much-remarked capacity of the contending parties in the current US presidential election to throw virtual "rocks" at each other. There is remarkably little capacity to analyze such dynamics in fruitful systemic terms -- an incapacity equally characteristic of engagement with external opponents of the USA (cf. *Us and Them: Relating to Challenging Others: patterns in the shadow dance between "good" and "evil"* 2009). Whether internal or external, both are features of the "rocks" cluster ([Annex 3](#)). The "rocks" may take the form of "rockets" -- whether physical or virtual (as in the angry criticisms indicated by the phrase "to give someone a rocket").

One approach to more fruitful analysis is the [viable systems model](#) (VSM). This is a model of the organizational structure of any viable or autonomous system. A viable system is any system organized in such a way as to meet the demands of surviving in the changing environment and through any [adaptive cycle](#). The model was developed by operations research theorist and cybernetician [Stafford Beer](#) (*Brain of the Firm*, 1972; *Platform for Change*, 1995). The relevance to the cognitive ordering of processes of "being stoned" could be considered evident in his later work (*Beyond Dispute: the invention of team syntegrity*, 1994).

The VSM itself offers a five-fold set of "rules for the viable system":

- [Regulatory aphorisms](#)
- [Principles of organization](#)
- [Recursive system theorem](#)
- [Axioms](#)
- [The law of cohesion for multiple recursions of the viable system](#)

The cognitive implications of most relevance to the above argument have been clarified by Maurice I. Yolles (*From Viable Systems to Surfing the Organisation*, *Journal of Applied Systems*, 2000), in a discussion of *Behavioural and Cognitive Domains of Viable Systems*. This notably focuses on the [worldview](#) (or *Weltanschauung*) of an individual or group as being more or less visible to its viewholders, but not to others who are not viewholders. He helpfully relates the VSM to the wider debate arising from the insights of such as [T. S. Kuhn](#) (*The Structure of Scientific Revolutions*, 1962) and [J. Habermas](#) (*The Theory of Communicative Action*, 1987).

The systemic pattern of relationships, potentially basic to what might be termed "cognitive health", has been more recently explored by Yolles (*Knowledge Cybernetics: a metaphor for post-normal science*, 2010) and by J. Martin Hays (*Mapping wisdom as a complex*

adaptive system, *Management and Marketing*, 2010) with respect to the cognitive, cybernetic and organizational implications of the sets of causal loops they variously distinguish and represent diagrammatically.

These concerns are consistent with the preoccupation with higher orders of cybernetics, especially those focused through *Cybernetics and Human Knowing: a journal of second order cybernetics, autopoiesis and cyber-semiotics*. Some organizational implications have been the subject of a separate discussion (*Consciously Self-reflexive Global Initiatives: Renaissance zones, complex adaptive systems, and third order organizations*, 2007).

Comprehending cognitive metabolism

The difficulty with "models" -- as explanatory mappings -- is that they are effectively embedded as sub-patterns within a larger and more experiential cognitive "pattern", of which the five clusters (above) are indicative. Typically, despite their sophistication (and because of it), they are alienating to many in their complexity and abstraction. The explanatory cluster of "potential" (Annex 2) typically takes little account of the other clusters, the problematic dynamics within them (often unstated), or their function as behavioural attractors (cf. *Human Values as Strange Attractors*, 1993; *Global Strategic Implications of the "Unsaid": from myth-making towards a "wisdom society"*, 2003; *Epistemological Challenge of Cognitive Body Odour: exploring the underside of dialogue*, 2006).

The recognition (above) of widespread use of "stone", whether as a metaphor or otherwise (often painfully), is indicative of a "grounded" dimension which is lacking in the "potential" cluster.

One approach to a more accessible pattern used the pattern language of Christopher Alexander (*A Pattern Language*, 1977) as a template to engender a *5-fold Pattern Language* (1984). Such use of the patterns of one cluster as templates for insight into subtler (and more inclusive) cognitive patterns can be explored further through metaphor.

Given that a global system suffering from multiple crises can be considered as one in a condition of fundamental "ill-health", it is then potentially fruitful to explore that global system in the light of systems vital to human health (cf. *Patterns Essential to Individual and Global Health?* 2010; *Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2009).

Especially interesting in this respect is reference to "cognitive metabolism" (cf. Gui Bonsiepe, *Design as a Tool for Cognitive Metabolism*, 2000; Ioan Rosca, *Managing the Global Knowledge Metabolism of an Evolving Community*).

The question is then whether there is a (collective) cognitive analogue to the *metabolic pathways* so vital to the viability of the human body as a living system. As discussed separately (*Engaging with Globality through Cognitive Circlets*, 2009), these pathways are successions of chemical reactions occurring within a cell, often regulated by a cycle where one of the products in the cycle starts the reaction again, such as the *Krebs Cycle*. Erich Jantsch (*The Self-Organizing Universe: scientific and human implications of the emerging paradigm of evolution*, 1980), in his wide-ranging synthesis of self-organizing systems and their implications for policy-making and human development, draws attention to metabolic transformation cycles such as the *carbon cycle*. The *map of metabolic pathways* could prove to be a very provocative challenge to organizational sociologists of the future (Doutor Pedro Silva, *A general overview of the major metabolic pathways*, 2002).

More generally, *WikiPathways: pathways for the people* has been established to facilitate the contribution and maintenance of biological pathway information in an open, collaborative platform. From a *general systems* perspective, the set of interconnected metabolic cycles and pathways may well exemplify the kinds of transformation pathways which need to be identified for organizations. The set of cycles is a challenge to comprehend as a whole -- ironically even those operating within the human cell. Mnemonic assistance to students is however currently provided by a set of songs (Harold Baum, *The Biochemists' Songbook*, 1995). The design argument here raises the question of whether the cycles can be understood as circlets, interlocking to constitute a larger system. There is clearly the possibility of then configuring the set of circlets as a form of "crown" -- which could be "worn" in a virtual environment enabling interaction with information on each. This would enhance the current *pathway browsing facility* in list form.

The current global quest for "sustainability" can be framed in mythical terms as a means of eliciting wider and more encompassing engagement with it (cf. *Relevance of Mythopoeic Insights to Global Challenges*, 2009). As discussed previously, the interlocking of the cognitive cycles might then be understood as effectively forming a "chalice" of suitably elusive nature (*In-forming the Chalice as an Integrative Cognitive Dynamic: sustaining the Holy Grail of global governance*, 2011).

This would suggest exploration of the "cognitive metabolism" sustaining confidence in life and self-confidence -- as antidotes to widespread emergence of despair (*Implication of Personal Despair in Planetary Despair*, 2010). The integrative cyclic interlocking effectively constitutes the dynamic framework for a healthy "vehicle" for identity, as variously discussed (*Emergence of Cyclical Psycho-social Identity: sustainability as "psychically" defined*, 2007; *Eliciting a 12-fold Pattern of Generic Operational Insights*, 2011).

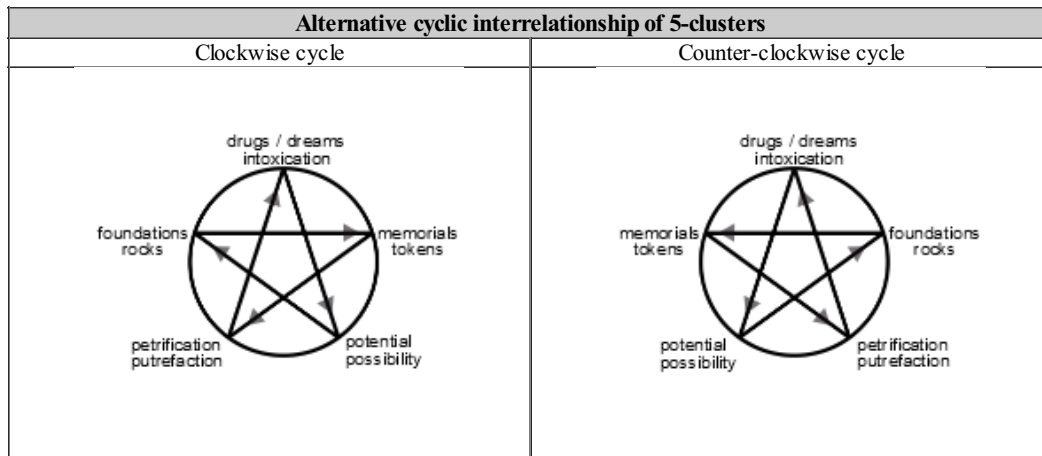
Cycles of enstony forming mnemonic pentagrams: Hygiea and Wu Xing

Global cognitive health? The question raised by the five clusters (above) of seemingly disparate forms (as described above) is whether they can be fruitfully related in some way -- especially in the quest for what might be understood as "cognitive hygiene" or "conceptual hygiene", capable of encompassing and sustaining global governance. Any such possibility could be formulated in terms of a quest for mnemonic clues, as discussed previously (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007).

Expressed differently, does the problematic nature of the relationship within and between the five clusters constitute a global public health problem worthy of the preoccupation of global institutions concerned with "health" -- such as the World Health Organization? Does the conflict engendered within and between clusters constitute a challenge to global "health" given the suffering and death it can engender?

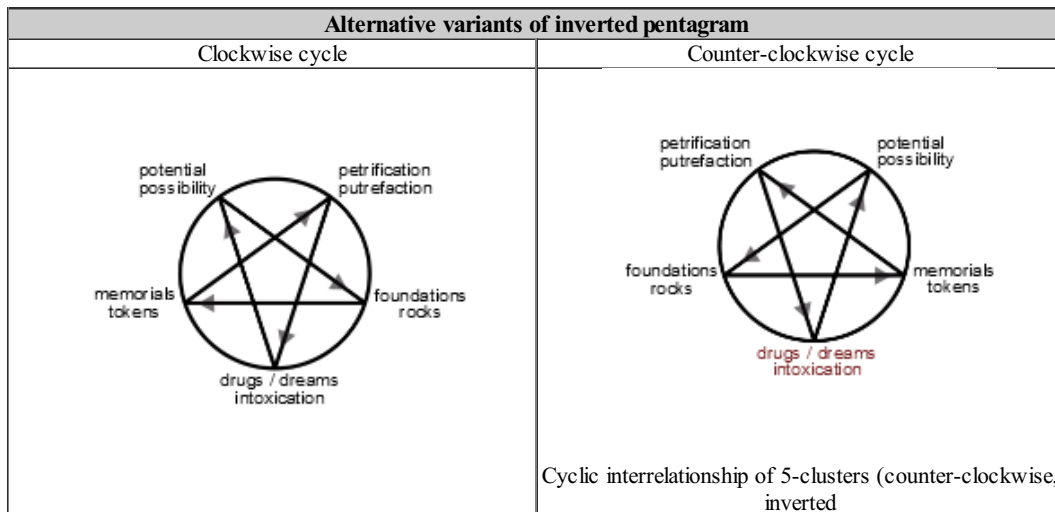
To what extent are "health" systems currently adapted or indifferent to issues of global cognitive health framed in this way? Beyond "hygiene", does the integrative challenge imply the need for a form of "healing"?

Health represented by a pentagram: Given the understanding of "health" traditionally associated with some form of 5-fold pattern (as with the pentagram discussed below), the question is how this might enable the relationship between the forms of "being stoned" to be fruitfully represented. Particularly interesting is the potential implication that any such "health" needs to be based on some form of cyclic dynamic rather than a static condition.

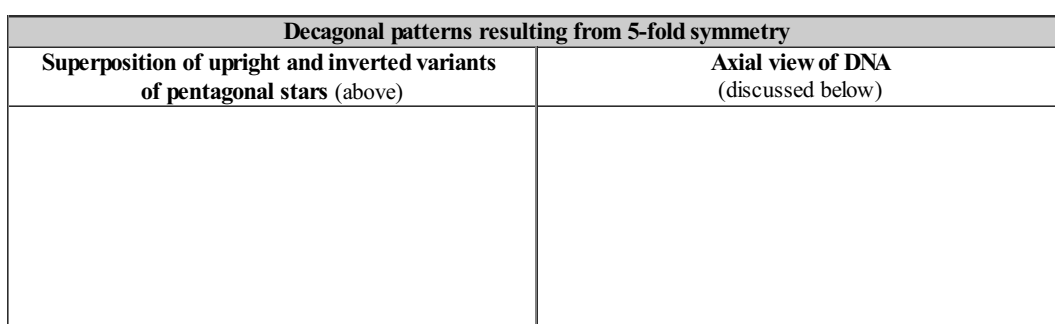


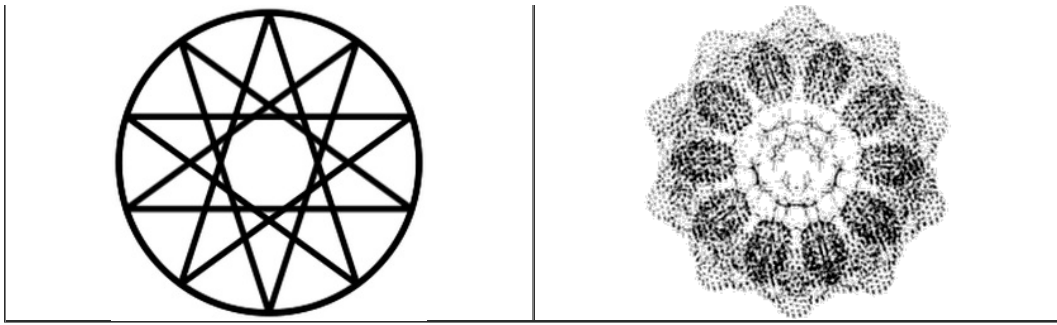
It is appropriate to note the considerable significance that tends to be attached to whether circulation is clockwise or counter-clockwise, as evident in widespread commentary regarding the swastika (cf. *Swastika as Dynamic Pattern Underlying Psychosocial Power Processes*, 2012). These concerns are also evident in commentary regarding any presentation of the pentagram, most notably in inverted forms (as in the variants below). A striking example is the **outcome of the ten year legal battle**, instigated by **Wiccan** families, to add the circled pentagram (referred to as a **pentacle** in the court case) to the list of 38 approved religious symbols to be placed on the tombstones of fallen US military at the **US Arlington National Cemetery** (cf. *Administration Yields on Wiccan Symbol*, *The Washington Post*, 24 April 2007)

The complete set of four forms of competing perspectives then gives rise to dynamics typical of the "rocks" cluster (**Annex 3**). Together they can be seen as another argument for integrating the cognitive "**netherworld**", as recognized in Roman and Greek cultures (cf. *Designing Global Self-governance for the Future: patterns of dynamic integration of the netherworld*, 2010)



The combination of the above patterns as follows is potentially of significance to a more fundamental understanding of health.





Health as a verb: As implied by the cyclic emphasis, whether physical or otherwise, it would indeed seem appropriate that "health" should be understood through a verb -- rather than through a noun or static quality as previously argued with respect to other values (*Freedom, Democracy, Justice: Isolated Nouns or Interwoven Verbs? Illusory quest for qualities and principles dynamically disguised*, 2011; *Happiness as a verb -- en-joying as a dynamic?* 2011).

The argument for recognition of a fundamental dynamic must necessarily recognize the work of psychologist **Clare Graves** (*Human Nature Prepares for a Momentous Leap, The Futurist*, April 1974). This formed the basis of a much publicized human development programme -- **spiral dynamics** -- articulated by **Don Beck** and **Christopher Cowan** (*Spiral Dynamics: mastering values, leadership, and change*, 1996). This has had a significant influence on the **Integral Movement** through the work of **Ken Wilber** (*A Theory of Everything: an integral vision for business, politics, science and spirituality*, 2000). These insights have been further developed by **Steve McIntosh** (*Integral Consciousness and the Future of Evolution*, 2007). A summary of their relationship is provided by **Alex Burns** (*About Spiral Dynamics*, 2004). Failure to explore such a dynamic may enable a dangerous trap (cf. *Psychosocial vortices as self-referential traps*, 2010).

The argument is consistent with that relating to the collective health of a society -- as implied by the quest for sustainability. "Sustainability" could indeed be understood as "collective health" engendered by collective "cognitive health". The phrase *mens sana in corpore sano* could be usefully reframed and inverted as a "healthy global environment within a healthy global knowledge-based society".

Insights from traditional health pentagrams: The relationship between the five clusters (above) can for example be explored further in the light of two classical patterns based on use of the pentagram in Western and Eastern cultures:

- **Hygiea:** The **Pythagoreans** developed an understanding of health which they associated with the form of the **pentagram** and the Greek goddess Hygieia (also Hygieia or Hygeia) -- the personification of health, cleanliness and sanitation, and the origin of the term "hygiene" [more]. The name of the goddess is alleged to have been used as their primary greeting (perhaps, speculatively, to be considered an origin for "hug"). The snake encircled **Bowl of Hygiea** has long been used as one of the symbols of pharmacy. Within the Roman Empire, Hygieia was called Valetudo and subsequently identified with the ancient Italian goddess of social welfare, **Salus**. *Hygiea Internationalis* is now the official journal of the International Network for the History of Public Health.

Much additional commentary is provided under a pseudonym by **Apollonius Sophistes** (*The Pythagorean Pentacle*, 1999) who notes that although usually translated as "health," Hygieia has more the sense of soundness or wholeness, and that it comes from the same Indo-European root as "quick" [i.e. living], "viva," "vital," and "bios" [life]. He concludes that the Pythagoreans labeled the Pentagram with the letters (U-G-I-EI-A), sometimes clockwise, sometimes counterclockwise, and either placed on the points starting at the top, or in the angles starting at the top right. This helps to stress the understanding that the **orientation of the pentagram calls for understanding in dynamic terms** as he notes separately (**John Opsopaus** *The Rotation of the Elements*, 1995). He offers the following correspondences:

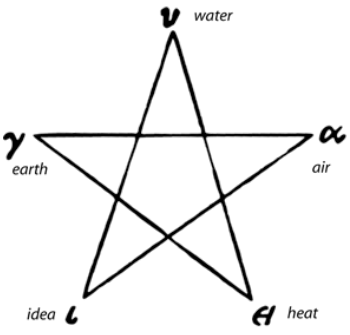
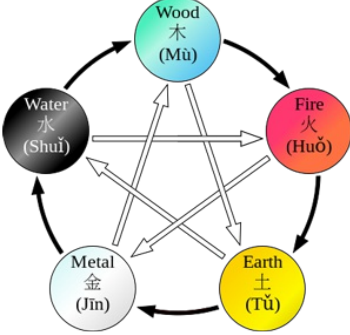
Pythagorean <i>Hygieia</i>			
υ	(U)	<i>Hudor</i>	Water
γ	(G)	<i>Gaia</i>	Earth
ι	(I)	<i>Idea</i>	Form/Idea
ει	(EI)	<i>Heile</i>	Heat
α	(A)	<i>Aer</i>	Air

Hygieia was held to have had four sisters, also variously associated with health: **Panacea** (universal remedy), **Iaso** (recuperation from illness), **Aceso** (the healing process), and **Aglaea** (beauty, splendor, glory, magnificence, and adornment).

- **Wu Xing:** This ancient Chinese mnemonic pattern in the form of a pentagram of five phases, or five elements, is widely known in East Asia. It is traditionally associated with **Chinese medicine**, **acupuncture**, **feng shui**, and **Taoism**.

The pattern is recognized as highlighting a cyclic relationship between the five constituent elements: fire, earth, metal, water and wood. It is the vectors of the "overcoming" or "controlling" cycle which are typically represented as a pentagram. Generative and destructive cycles are shown as clockwise and counter-clockwise circular motion:

- controlling cycle: wood breaks earth, earth absorbs water, water douses fire, fire melts metal, metal splits wood.
- generative cycle: wood feeds fire, fire makes earth, earth bears metal, metal collects water, water nourishes wood.
- destructive cycle: wood absorbs water, water rusts metal, metal breaks earth, earth smothers fire, fire burns wood.

Hygieia Pentagram of Pythagoreans	Chinese 5-phase Wu Xing cycle
	
<p>Reproduced from Hygieia entry in <i>Wikipedia</i> (G. J. Allman <i>Greek Geometry From Thales to Euclid</i>, 1889, p.26) with labels added</p>	<p>Adapted from Wu Xing entry in <i>Wikipedia</i> Interaction arrows: black=generating white= overcoming</p>

In pointing to the mnemonic potential of these patterns, the purpose is primarily to indicate a suggestive possibility for exploration rather than to highlight a definitive relationship. Juxtaposing fundamental patterns of insight of Eastern and Western cultures might be understood as offering a requisite degree of "polyocular" depth perception (*Enhancing the Quality of Knowing through Integration of East-West metaphors*, 2000). This is a theme developed by Magoroh Maruyama (*Polyocular Vision or Subunderstanding, Organization Studies*, 2004).

However, it is appropriate to note with respect to any reliance on a "vision" metaphor that, consistent with the above-mentioned understanding of Hygieia as "soundness", a degree relationship between the two frameworks has been noted through their relevance to tuning systems. According to the Wikipedia entry on Wu Xing, in most modern music, various seven note or five note scales (e.g., the major scale) are defined by selecting seven or five frequencies from the set of twelve semi-tones in the **equal tempered** tuning. The Chinese "lu" tuning is closest to the ancient Greek tuning of Pythagoras.

One of very few accounts explicitly relating the two traditions is that of [Laura Sedgwick](#) (*Wu Xing, Hygieia's Bowl*, 2010). As mentioned above, the orientations of the two pentagrams needs to be reconciled dynamically.

Cybernetics of cognitive health: Of special relevance to this integration within the context of this argument, further to the work cited above relating to the viable systems model, are the various papers of Maurice Yolles and Zude Ye, whether separately or in collaboration (*Cybernetics of Tao, Kybernetes*, 2010; *From Knowledge Cybernetics to Feng Shui, Proceedings of the 50th Annual Meeting of the IssS*, 2006; *Knowledge Cybernetics: a metaphor for post-normal science*, 2010; *Understanding Corruption and Sociopathology, Journal of Organizational Change*, 2009; *Toward a Formal Theory of Socioculture: a yin-yang information-based theory of social change, Kybernetes*, 2008).

The latter is consistent with the valuable summary of A. C. Graham (*Yin-Yang and the Nature of Correlative Thinking*, 1986) discussed in relation to "correspondences" (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007; *System Dynamics, Hypercycles and Psychosocial Self-organization: exploration of Chinese correlative understanding*, 2010).

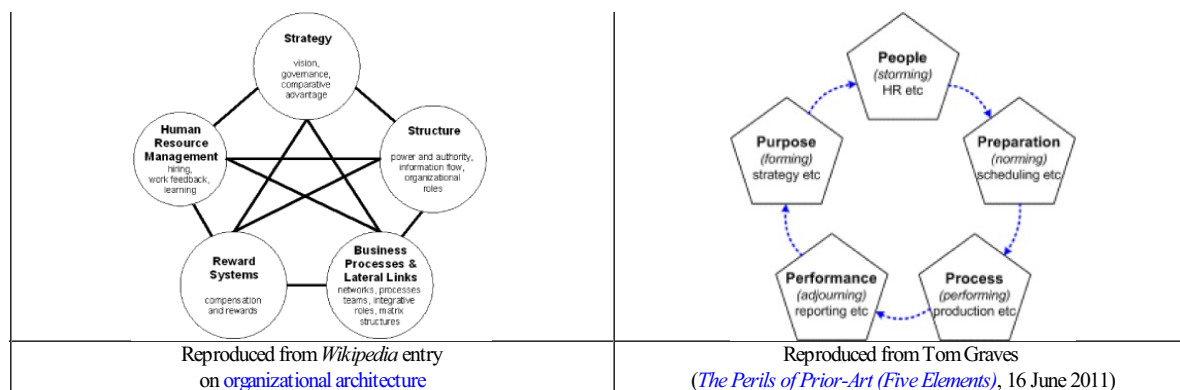
Seemingly distinct applications to organization design initiatives are evident from:

- Jay Galbraith in his development from the 1960s of his **Star Model**™ framework for analyzing organizations (*Designing Organizations*, 1995). [see also A. Kates and J. R. Galbraith (*Designing Your Organization: using the Star Model to solve five critical design challenges*, 2007)]
- the development by Tom Graves of a **Five Elements model** (*Needles of Stone*, 1986)

The complementary and problematic relationships between the Galbraith and Graves models are the subject of a comment by Tom Graves (*The Perils of Prior-Art (Five Elements)*, *Tetradian*, 16 June 2011) to the effect that:

In reality, it's not as bad as it seems. I've been using the core Five Elements concepts - adapted from a merge of [Bruce] Tuckman's *Group Dynamics* and the traditional Chinese Five Elements or *wu xing* - since well before 1978, when I included a chapter on classic Five Element theory and practice in my second book, *Needles of Stone*. And although Galbraith's diagram shows various linkages between the nodes of his model, it doesn't seem to indicate any actual *dynamics* or preferred flow - which the Five Elements model definitely does, in keeping with both Tuckman and *wu xing*. Not so much 'prior art', then, as useful counterpoints to each other: both models talking about the same kind of space, but in usefully-different ways, having arrived there via somewhat-different routes.

Star Model™ of Jay Galbraith (<i>Designing Organizations</i> , 1995)	Five Elements model of Tom Graves (<i>Needles of Stone</i> , 1986)



Galbraith's model seemingly takes no account of the fivefold Wu Xing pattern. Also ignoring that pattern, a seemingly independent approach is that of [Henry Mintzberg](#) (*Structure in Fives: designing effective organizations*, 1983) based on an earlier work (*The Structuring of Organizations*, 1979) and usefully reviewed by Thomas Schmidt (*A review of Structure in Fives: designing effective organizations*, 2006). A sixth feature was later added by Mintzberg. As Schmidt notes:

Throughout the book, Mintzberg notes how the number five is repeated in most of the key aspects. He defines five organizational parts, five coordinating mechanisms and five types of decentralization. Each of these topics contains a set of factors which influences the emerging structure. But as Mintzberg notes before starting to define the 5 key structures: *There is no dependent or independent variable in a system, everything depends on something else.*

Potentially healthy developmental integrity through 5-fold symmetry

A remarkable summary of the role of 5-fold symmetry of relevance to this argument is provided in a compilation edited by [István Hargittai](#) (*Fivefold Symmetry*, 1992). This notes that such symmetry is common in flowers, fruits, molecules, logos, and buildings, but it was a seemingly forbidden form of symmetry in the world of crystals until the recent discovery by [Dan Shechtman](#) of so-called [quasicrystals](#), resulting in a minirevolution in crystallography (cf. Donald L. Caspar and Eric Fontana, *Five-fold symmetry in crystalline quasicrystal lattices*, *PNAS*, 1996). There has since been increasing awareness of fivefold symmetry in all domains of human interest from mathematics, the sciences, design, and anthropology to history, literature, and the arts. Shechtman was awarded the Nobel Prize for this discovery in 2011.

In the compilation, Josef Brandmüller (*Fivefold Symmetry in Mathematics, Physics, Chemistry, Biology, and Beyond*, pp. 11-31) notes that in the living world, fivefoldness appears to play a much bigger role than in the inanimate. Plants with a fivefold petal arrangement occur relatively frequently.

Also in that compilation, [Jay Kappraff](#) (*The Relationship between Mathematics and Mysticism of the Golden Mean through History*, pp. 33-66) notes another example of fivefold symmetry in the world of living things in the form of the star decagon. This has been found to represent the cross-sectional profile of the DNA molecule. Each vertex of the star represents one of the ten bases of DNA situated along one repeating segment of the double helix. Kappraff includes one image also reproduced in his later work (*Connections: the geometric bridge between art and science*, 2001). A more accessible version of this axial view is provided by Reginald Brooks (*GoDNA: The Geometry of DNA*, 2001).

The symbolic relevance of the pentagon was notably summarized in that compilation by [Lima de Freitas](#) (*Notes on Some Pentagonal "Mysteries" in Egyptian and Christian Iconography*, pp. 307-332):

To Pythagoreans five was, indeed, the number of Man. The pentagon, when represented in the star-shaped version, was the symbol of the Anthropos, the archetype of human perfection, partaking of both the "perfection of flesh" and the immortal essence of his divine origin. To put it another way, both the laws of necessity, which all things obey, and the freedom of unpredictable creation (or, paraphrasing the title of a scientific paper, "the unpredictable behavior of deterministic non-linear dynamical systems).

These two aspects could be perceived symbolically in the double shape of the regular pentagon, seen as a five-sided figure and as the "pythagorean star"; the former expressing the embodiment of the "idea" or "model" of Man, the latter manifesting the interior light of the divine or "diamond body", and expressing "health", or the harmonious balance of tendencies opposed in "nature" but complementary in their vital and everlasting interplay, along with the capacity for growth without end, both outwardly and inwardly. (It should be added, in this respect, that such symbolic reasons explain why the star-shaped pentagon can be found in heraldry and in the banners of several countries, such as the Soviet Union and the United States.)

Relevant to the last point, the five-pointed star figured in the majority of the flags of the Permanent Members of the UN Security Council at its formation. It continues to feature in the [flags of many countries](#). It is appropriate to note its use in the flags of Islamic cultures at the focus of current conflicts, namely Pakistan, Iraq (until 2004), a number of [Arab Spring countries](#), and the [Free Syrian Army](#). Given the unhealthy "rock" cluster conflicts ([Annex 3](#)) seemingly characteristic of cultures tending to frame their fundamental principles through the pentagonal star in some way, the commentary from the compilation relating to the Islamic perspective is of some relevance (Gilbert M. Fleurent, *Pentagon and Decagon Designs in Islamic Art*, pp. 263-282).

The tragic irony of the situation is that in each case the pentagonal star implies an aspiration to an understanding of a form of collective "health" -- however it is sought to impose this on others (for their own good), as exemplified by the strategic commitment of the Pentagon's armed forces. The challenge of reframing such understandings has been discussed separately with respect to the dynamics between 5-fold and 6-fold stars (*Middle East Peace Potential through Dynamics in Spherical Geometry: engendering connectivity from incommensurable 5-fold and 6-fold conceptual frameworks*, 2012).

Cognitive health as a sustainable cycle of self-reflexivity

The previous sections have contrasted conventional systemic approaches to viable global governance (usefully recognized as ensuring the "health" of the global system) with traditional systemic insights into individual health. The question is whether conventional approaches to "world health" can be fruitfully reframed to offer more fruitful insights into "health" understood globally, whether with respect to the individual or to a society in crisis. How is enabling "sustainability" then to be distinguished from enabling "health"?



Vision? Much is made of "vision" in the current imagination and elaboration of global strategy -- to the exclusion of framings informed by other senses (*Metaphor and the Language of Futures*, 1992; *Cyclopean Vision vs Poly-sensual Engagement*, 2006). This preference is potentially to be associated with the "drugs" cluster ([Annex 1](#)) -- as partially implied by visions quests. The vision metaphor has recently been extended and reinforced by the use of "optics", as noted by Anand Giridharadas (*Theater Critic or Political Reporter? The New York Times*, 24 August 2012):

From time to time, a word seeps into the language and makes its own small contribution to defining the age. In American political discourse today, "optics" is one such word... But in America today, if you catch "optics" in the media, it very likely has to do with politics. A reporter or party operative or pundit will be analyzing the election in what has become the preferred style for such analysis - the chronicle of semblances....

The best political reporters... treat optics as a veneer to be deconstructed. But there is also a common habit today of covering optics for their own sake. For some reporters, narrating the optics of a thing can substitute for covering the thing itself. This is confusing, because the whole point of journalism is to go beyond optics -- to probe how things really are beneath the trickery of how they seem.... So what are reporters -- their reporting commodified and starved of access -- to do? Many have filled the void by focusing attention on optics, strategy and process -- and doing so from a strategist's eye-view.

Symbols of health: Using an "optics" perspective, it is appropriate to note that the [Bowl of Hygiea](#) is the most widely recognized international symbol for the profession of pharmacy today -- some dating its use back to the 1st century A.D.. Hygiea, the daughter of [Aesclepius](#) (Aesculapius) and the goddess of health, is usually depicted with a serpent around her arm and a bowl in her hand because she tended to the temples containing the snakes of the time. The bowl is held to contain a medicinal potion with the serpent of wisdom (or guardianship) partaking of it -- the same serpent of wisdom, which appears on the [Rod of Aesclepius](#), namely the symbol of medicine central to the emblem of the World Health Organization.

The serpent and the bowl have since been separated from Hygiea herself -- now implicit, present in name alone -- to form the internationally recognized symbol of pharmacy (cf. Ettie Rosenberg, [Bowl of Hygiea](#)). The bowl represents a medicinal potion, and the snake represents healing -- wrapped in one manner or another around it. Healing through medicine is precisely why pharmacy adopted the symbol, notably by the American Pharmaceutical Association in 1964.

Bowl of Hygiea one of the symbols of pharmacy.	Rod of Asclepius central to the emblem of the World Health Organization
	
Reproduced from Wikipedia entry	Reproduced from Wikipedia entry

The [emblem of the World Health Organization](#) consists of the United Nations symbol (incorporating a laurel wreath "clasping" a sphere) surmounted by the [Rod of Asclepius](#), a Greek deity associated with healing and medicine. The staff with the snake has long been a symbol of medicine and the medical profession. This is frequently confused with the staff of the god [Hermes](#), the [caduceus](#), most notably within the US military (cf. [Caduceus as a symbol of medicine](#)) [see also [The Caduceus vs the Staff of Asclepius](#)]. As the body responsible for global public health, WHO imposes considerable [restrictions on any use of its emblem](#) (which has therefore not been reproduced here). The staff is visually reminiscent of the stem of the Bowl of Hygiea. The [Wikipedia entry](#) offers [extensive commentary](#) on various interpretations of the symbolism of the "rod" -- readily to be understood as a [staff of office](#).

The recognized [confusion between the rod of Asclepius and the caduceus of Hermes](#) is suggestive of a need to recognize a degree of association -- in cognitive terms -- between a reframed understanding of "health" and a reframed understanding of governance appropriate to "sustainability" in a knowledge-based society. There is a degree of irony to the parallel between the quest for eternal youth

(if not immortality) associated with "health" and that for the "eternal" duration of civilizations and empires, especially when framed in terms of "growth" and "wealth".

Mnemonic possibilities towards cognitive health

For the purpose of this argument, the question is whether the image of the snake and the bowl can be used as an evocative (even provocative) mnemonic device to carry further significance in relation to sustaining a healthy cognitive system, its integrity, and any processes of corrective healing. The following possibilities could be considered:

Cyclic characteristics: It is readily acknowledged that physical health is dependent on a set of interacting [circulatory systems](#) (blood, lymph, air, nerve impulses, etc). The question is whether cognitive health merits similar recognition.

- **Cyclic nature of health from cognitive perspective:** This has been discussed further in relation to the traditional Taoist understanding of the "[circulation of the light](#)" (cf. *Circulation of the Light: essential metaphor of global sustainability?* 2010). It is appropriate to note the importance attached to the pentagram in the western neo-pagan tradition -- especially given the attentive engagement with the natural environment in that tradition, offering a degree of bridging to the *feng shui* insights of Taoism relating to the environment.
- **Forms of enstoning as phases in a cyclic enwholing process:** Namely the possibility of mapping onto the implications of various form of "being stoned". Use of the "bowl" might itself imply a 5-stage process:
 - imbibing an intoxicating potion (from the bowl) -- variously consistent with the subjectivity of dreams of strategic possibilities and visions ([Annex 1](#))
 - preparation of a healing potion (within the bowl) -- as with the elaboration of remedial measures ([Annex 2](#))
 - production of healing tablets -- as with articulation of measures as (tabular) prescriptions (potentially competing with one another, as acclaimed and vigorously contested panaceas). From a cognitive perspective, such "tablets" could be understood more generally to include insightful tables and graphical configurations, whether with a scientific or religious focus ([Annex 3](#))
 - compilation of a pharmacopoeia (of pills that may be taken) -- as with collection of strategic measures and practices "that work", provided it can be remembered when they are variously appropriate and how to implement them ([Annex 4](#))
 - administration of potions and pain-killers to effect change variously experienced (by the patient) -- as with implementation of objective strategic measures, typically destructive in part ([Annex 5](#))

In the cycle, the last then engenders the first -- objectivity "re-cognized" and reframed experientially.

- **Recognizing the systemic cycle implied by the snake:** As represented in the two images above, there is little sense of the dynamic in which the snake is engaged. In both cases the image is essentially asystemic, whether or not systemic connectivity is variously implied. Further possibilities include:
 - the circular stirring motion associated with appropriately mixing ingredients through that motion (in the bowl)
 - the completion of the cycle by the snake to form an [Ouroboros](#), implying a higher order of sustainability and cognitive integrity
 - the implication that the snake enables and embodies circulation, as explored with respect to the above-mentioned "circulation of the light"
 - the potential of any "connection" between head and tail of the snake, as an indication of self-reflexivity (as discussed below)
- **Engaging with a "cosmic serpent":** In a period of global environmental concern in which one preoccupation is possible disruption to the world-encircling thermohaline circulation -- the [ocean conveyor](#) -- its serpentine pattern is fruitfully echoed by the serpent in both images. This mythological theme, otherwise recognized as the Rainbow Serpent, has been extensively explored by [Jeremy Narby](#) (*The Cosmic Serpent: DNA and the origins of knowledge*, 1995) in the light of insights from the [Ashaninca](#), through their ingestion of [entheogens](#), specifically [ayahuasca](#) (by which they are ritually "stoned"). As Narby argues, the serpent offers mnemonic clues to the form and dynamic of DNA. The pentagram of Hygiea might even be considered indicative of an axial view of its structure (as mentioned above in terms of a decagon).

Hygiea's alleged preoccupation with "caring for snakes" -- understood in relation to the global health of the environment -- is indicative of the wisdom of a healthy concern for the ocean conveyor, as previously discussed (*Potential Misuse of the Conveyor Metaphor: recognition of the circular dynamic essential to its appropriate operation*, 2007). A widely recognized consequence of the lack of care for this conveyor is the expanding gyre of marine litter in the central North Pacific Ocean, known as the [Great Pacific Garbage Patch](#) (or Pacific Trash Vortex). Systemic analogues within individual and collective psychology can be readily imagined. Provocatively it may be imagined that the circulation of a multiplicity of factoids and opinions via the web might come to be seen in this light.

Given the currently evident global financial crisis and that of the eurozone, it is appropriate to recognize that the serpent metaphor, in the form of the "[snake in the tunnel](#)", was the first attempt at European monetary cooperation in the 1970s. It aimed at limiting fluctuations between different European currencies. Controlling serpentine fluctuations is currently a design preoccupation in the control of circulating nuclear plasma in fusion reactors -- seen as a key resource for future energy needs. Both suggest analogues of relevance to cognitive health (*Primary Global Reserve Currency: the Con? Cognitive implications of a prefix for sustainable*

confidelity, 2011; *Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006)

The above possibilities contrast curiously with the emphasis on health as a **state** rather than a **process**. For the World Health Organization: *Health is a state of complete of physical, mental and social wellbeing and not merely the absence of disease or infirmity*. The contrasting view has been notably articulated by Pierre Morin (*Health as a Process: believing in change as healing and that healing is change*, *Creative Healing Blog*, 2012): *Health is not a state, but a process which is guided by a norm or standard which when threatened stimulates our awareness and motivates us to change*.

Morin's further comment, with respect to health as a dream, is consistent with the first form of "being stoned" ([Annex 1](#)): *Health is a vision or dream and as such it creates a directional and motivational pull for us to overcome our health challenges and injuries. Without this vision there is no reason for change and improvement*.

In the *Handbook of Health Behavior Research* (1997), edited by [David S. Gochman](#), the lack of agreement on whether health is a state or a process is specifically mentioned, noting:

A few atypical approaches raise the question of whether it makes more sense to think of health as a process. Within the context of Kierkegaardian psychology, health is viewed as the ability to deal with paradox or contradiction... such as tendencies to expand or constrict thoughts, feelings, and sensations, and to attach or separate. (p. 11).

The *Handbook of Research on Adult Learning and Development* (2008), edited by [M. Cecil Smith](#), comments:

A unifying theory on health as a process variable still warrants further development. Aldwin, Spiro, and Park (2006) suggests conceptualizing health as a life-long process. They advocate that life-span psychology principles be applied to the study of health... the recognition of the dynamic interaction of gains and losses... As a process variable, health needs to be understood as a dynamic and fluctuating state variable rather than as a static trait variable. (p. 25).

Expressed in this way however, the cyclic nature of the experiential processes associated with health is obscured. It is further obscured when the process is understood in terms of treatment, care or health promotion (cf. S. Cowley, *Health-as-process: a health visiting perspective*, *J. Adv Nurs*, 1995; Frank H. Millard, *Public Health as a Process Control System: a simple application of systems theory*, 2007). Appropriate to this argument, interest in "process health" is a preoccupation with respect to evaluation of industrial processes on which there is a body of literature.

The mystery of health might therefore be better explored as one of "living a process" or "living through process" as implied by a variety of references (cf. *Sustainable Living: a process approach*, *Adventists for the Environment*). Healthy identity could then be fruitfully understood as living through interlocking processes, as discussed separately (*Emergence of Cyclical Psycho-social Identity: sustainability as "psycically" defined*, 2007).

Pattern characteristics: In the light of the above argument regarding health as a dynamic, it is then useful to consider detectable patterns in terms of understanding of [standing waves](#).

- **Engendering the "bowl" from the "pentagram":** The relationship would seem to have been lost between the original articulation of "hygiene/health" through the pentagram (by the Pythagoreans) and the later "bowl/snake" imagery. However it is possible to recognize:
 - the pentagram as framing a two-dimensional projection of the bowl at its centre -- somewhat reminiscent of the traditional lotus flower with petals (see discussion below of memetic osmosis)
 - the lines of the pentagram as implying the systemic connectivity from which the form of the bowl emerges as a three (or higher) dimensional dynamic
 - the systemic nature of the lines of the pentagram as implied by the behavioral characteristics of the snake, most notably various circulatory processes vital to sustainability

A relevant clue is offered by the arguments of [Pherecydes](#) as a mentor of Pythagoras, regarding the *Pentemychos* ("five-nooks," or "five hidden cavities") -- considered by commentators to be the most probable origin of use of the pentagram as a representation of health, especially inner health (as particularly associated with [eudaimonia](#), now a feature of extensive research into human well-being and [happiness](#)). The star pentagon image might be said to neatly distinguish and frame such "cavities".

- **Recognizing emergence of a "chalice" from the "bowl":** It is curious that a more fundamental symbol for long-term "health" within Western culture is the [Chalice](#) -- the focus of many mythological tales and quests for a panacea and eternal youth -- as with "health" itself, as conventionally understood. The question is how a pattern of systemic processes might engender and frame a "chalice/bowl", as previously mentioned (*In-forming the Chalice as an Integrative Cognitive Dynamic: sustaining the Holy Grail of global governance*, 2011).

This possibility could take account of discontinuities and phase changes in a self-reflexive cognitive process, as previously explored (*Interrelating Cognitive Catastrophes in a Grail-chalice Proto-model: implications of WH-questions for self-reflexivity and dialogue*, 2006). What is the operative nature of the questions enabling cognitive healing and health -- as implied by the Zen *koan*? What reframing might enable recognition of questions of a quality responsive to the dilemma posed by [James Hillman](#) and [Michael Ventura](#) (*We've Had a Hundred Years of Psychotherapy - And the World's Getting Worse*, 1993)?

A further possibility is the recognition of the emergent pattern as essentially based on a 5-fold [resonance](#) -- as a [resonance hybrid](#) --

analogous to that extensively explored in the structure of organic molecules, most notably the 6-fold benzene molecule, so fundamental to life (cf. *Patterns of Alternation: cycles of dissonance and resonance*).

*** Stella 3D image

Human characteristics: Health is readily framed as a technical problem calling for management of isolated symptoms. Those suffering may call for a more holistic understanding.

- **Necessity of health "with a human face":** The "excision" of the depiction of Hygieia from the symbolic representations of "health" and "hygiene" (above) -- which she originally embodied -- suggests the merit of an argument equivalent to that made so dramatically by UNICEF against the IMF focus on "structural adjustment" (UNICEF, *Development with a Human Face*, 1997). Does the absence of a "human face" imply preference for an equally problematic logic by conventional medicine, as would be argued by proponents of alternative and complementary medicine? However the merit of having done so is to imply that health as represented by Hygieia in many ways transcends that "visible" to conventional medicine. That transcendent health is then framed as systemically and cognitively contextual -- perhaps to be understood as a meta-pattern of (cognitive) connectivity, as argued by Gregory Bateson (*Mind and Nature: a necessary unity*, 1979) in making the point that:

The pattern which connects is a meta-pattern. It is a pattern of patterns. It is that meta-pattern which defines the vast generalization that, indeed, it is patterns which connect.

The "excision" argument could be considered as complemented by the unfortunate restrictions on use of the official symbol of global public health -- classified as the intellectual property of WHO (to be replicated at one's legal peril). Are both cases indicative of the extent to which communication of the essence of health has effectively become implicit or a secret? (cf. *Global Strategic Implications of the "Unsaid": from myth-making towards a "wisdom society"*, 2003). Are both images indications of non-self-reflexivity -- or of a form of self-reflexivity as yet to become evident?

- **Requisite complementarity for collective health:** It is curious, but consistent with the "rocks" cluster of [Annex 3](#), that the principle of complementarity valued by physics is so systematically deprecated with respect to global strategic considerations and national politics. There are few traces of efforts to hold this complementarity without condemning the other as misguided and dangerously irresponsible (cf. *Remedies to Global Crisis: "Allopathic" or "Homeopathic"? Metaphorical complementarity of "conventional" and "alternative" models*, 2009; *All Blacks of Davos vs All Greens of Porto Alegre: reframing global strategic discord through polyphony?* 2007). It is not difficult to infer that this cognitive incapacity may have major implications for individual health (*Implication of Personal Despair in Planetary Despair*, 2010; *Cognitive Implications of Lifestyle Diseases of Rich and Poor*, 2010).
- **Multiple implications of "remedy" and "medicine":** These are variously explored in the problematic debate between conventional and complementary medicine. Of particular interest are:
 - measurable outer health vs. subjective inner health and well-being (including happiness)
 - the ambiguity in prescription of remedies which are effectively poisons, especially when taken in excess
 - the dangerously addictive nature of some remedies -- of which "the snake" may be a metaphor
 - imposition of remedies against the desire of the patient

Inner health: The systematic identification of the more evident diseases and disorders suggests the possibility that these could be used as a means of deriving insight into the nature of disorders of "inner health" -- understood as being "intangible" but systemically analogous (cf. *Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2010; *Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008).

With respect to the cognitive emphasis here -- the considerable investment from a Chinese perspective on "inner alchemy" merits attention (Wang Mu, *Foundations of Internal Alchemy: the Taoist practice of Neidan*, 2011; Livia Kohn and Robin R. Wang, *Internal Alchemy: self, society and the quest for immortality*, 2009). For Ye Zude and Maurice Yolles (*The Cybernetics of Taoist System Thinking*):

However, beyond TCM [Traditional Chinese Medicine] there is a hidden system of thought that arises from Taoist thinking, and that is sometimes referred to as Taoist Internal Alchemy. The Chinese notion of alchemy originated from a search for immortality using drugs, herbs, and chemicals, and was called *waidan* or external alchemy. Besides this the *neidan* or internal alchemy also developed, concerned with life-force and the attainment of immortality of the personality. The two together (*waidan* and *neidan*) constitute the relationship between the mind and body, which is the interest of this paper.

Within the context of medicine, *waidan* approaches have been explored by laboratory techniques and processes of evidencing, resulting in current medical practices and knowledge. It is also, consistent with the structural notions of systems as explained by Gu, et al. (2007). Beyond the systemic view however, there is also a cybernetic dimension that explores its inherent principles of communications and control. *Yin-yang*, 5-elements, *jiag-qi-shen*, and *bagua* are all illustrations of cybernetic processes expressed in different terms.

Much has been done to clarify the cognitive implications of classical "European" alchemy in relation to those of modern physics in various studies by [Steven M. Rosen](#) (*Pauli's Dream: Jung, Modern Physics and Alchemy*, 2011; *Topologies of the Flesh: a*

multidimensional exploration of the lifeworld, 2006). In the latter he notes:

Ancient and medieval alchemy were for the most part prerational. They involved a certain absence of distance between *psyche* and *physis* or subject and object, an inability to distinguish the two sharply.... Just this fundamental confusion was reflected in pre-Renaissance alchemy's notorious difficulty with sealing the "Spirit Mercurius" into the bottle. In my essay [*Pouring Old Wine into a New Bottle*, 1995], I demonstrated the promise of the modern topological approach to the problem. I suggested that there is a greater likelihood of hermetic closure in the new alchemy because it benefits from advances in science, mathematics, psychology, and philosophy -- that is, from a heightening of reflective consciousness. What the modern alchemist can grasp that the ancient alchemist could not is the *onto-topodimensional* nature of the uroboric vessel, entailing as it does the self-permeation of three-dimensional Kleinian Being. The new incarnation of the alchemical bottle, being constructed of "perfected glass"... i.e. constructed in terms of the conceptually mature, highly differentiated idea of *mathematico-ontological* dimension -- can contain the "mercurial genie" in a way that the old bottle could not. (pp. 187-188)

Such language justifies very careful reflection on the cognitive implications of current research on the design of toroidal **nuclear fusion** reactors, as discussed separately (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006; *Complexification of Globalization and Toroidal Transformation: topological implications of invagination and gastrulation in embryogenesis*, 2010; *Implication of Toroidal Transformation of the Crown of Thorns: design challenge to enable integrative comprehension of global dynamics*, 2011).

Self-reflexivity through mirroring and complementarity: The various postures of the snake in the Bowl of Hygiea, in the Rod of Aesclepius, and in the Caduceus, merit reflection in relation to cognitive "health" in its most general sense -- individual and collective, encompassing sustainable governance. With respect to the Bowl, the snake is focused on looking "into it". With respect to the Rod, it may well be represented as looking "elsewhere". With respect to the Caduceus, the snake is "intertwined with a pair" (possibly the embodiment of the rod), with each looking at the other.

These postures variously suggest or avoid:

- viewing the contents of the bowl as a form of remedial nourishment
- viewing any remedial potion in the bowl as a mirroring surface, as with one of the modalities of the traditional "seer". This is especially reminiscent of the **mirror test** of self-awareness, as separately discussed (*Self-reflective Embodiment of Transdisciplinary Integration (SETI) the universal criterion of species maturity?* 2008). It is also suggestive of the role of "health" as the ultimate cognitive mirror.
- viewing "through" the bowl, down the axis around which the snake is entwined (possibly with its pair), suggestive of microscopic insight into the axial decagonal DNA pattern (noted above). This would relate to the above-mentioned arguments of Jeremy Narby (*The Cosmic Serpent: DNA and the origins of knowledge*, 1995), as separately discussed (*DNA Supercoiling as a Pattern for Understanding Psycho-social Twistedness*, 2004). It is also reminiscent of the **spinal chakra** framework which is the preoccupation of **kundalini** yoga.
- viewing the "other", readily perceived as dangerously "wrong" -- problematic in the potentially poisonous alternative it represents (*Us and Them: Relating to Challenging Others: patterns in the shadow dance between "good" and "evil"*, 2009).

All these postures variously imply the effort to "make a connection" with some form of complementary otherness necessary to "health". The long-standing misleading use of the caduceus as the insignia of the **Medical Corps (MC) of the U.S. Army** (as noted above), was corrected in the case of the **United States Air Force Medical Service** in using the Rod of Aesclepius in its own insignia -- subsequent to its formal separation from the Army.

Of particular relevance to the "stoning" theme of this argument is the extent to which both military services have central responsibility for the use of drugs to enhance the capacity of personnel under stress in dealing with "others" (cf. *Stimulant Use in Extended Flight Operations*, *Airpower Journal*, Spring 1997; *Soldiers at war in fog of psychotropic drugs*, *The Seattle Times*, 9 April 2012).

Failure to establish a healthy connection with oneself, emblematic of the wider strategic issue, may also be usefully explored in relation to the incidence of suicide in combat arenas (cf. *Army faces highest monthly total of suicides*, *Army Times*, 16 August 2012). Ironically aerospace requirements have resulted in remarkable technical facility in development of connectivity (in-flight refuelling, shuttle docking, tactical communications, etc).

Encompassing the twisting representation of snake dynamics implies the existence of a higher order of cognitive challenge -- usefully framed with respect to self-reflexivity in terms of "twistedness" and its paradoxes (*Twistedness in Psycho-social Systems: challenge to logic, morality, leadership and personal development*, 2004; *Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness*, 2004). This possibility has notably been explored by **Douglas Hofstadter** (*I Am a Strange Loop*, 2007) as discussed separately (*Sustaining a Community of Strange Loops*, 2010).

It could be argued that art has occasionally endeavoured to embody this paradoxical understanding of individual identity, as with the **Cubism** of Picasso, Braque and Gris. Consistent with this argument, some sculpture -- such as that of **Henry Moore** -- could be seen as an approximation to a **Klein-bottle** embodiment of individual identity in stone. The cognitive challenge of such paradox with respect to collective identity has been discussed separately (*Strategic Complexity 8 Attracting Consensus: Klein is beautiful 8 Sustaining identity in time*, 2011) -- notably with respect to the extensive treatment by **Steven M. Rosen** (*Topologies of the Flesh: a multidimensional exploration of the lifeworld*. 2006).

The constrained ability of an individual to encompass the cognitive dynamics of the paradox might well encourage the framing of dialogue with oneself as comparable to talking to a stone -- as explored by Nobel Laureate **Wisława Szymborska** (*Conversation With*

A Stone, 1997). The "conversation" is interpreted by Mary Ann Furno, who introduces her [review](#) (*Sarmatian Review*, January 2006) with the following citation:

Throughout the Middle Ages... the stone remained the main symbol of folly -- hard, impenetrable, stolid... It was above all a metaphor which demonstrated well-nigh mythologically the intrinsically foolish nature of human beings. (Anton C. Zijderveld, *Reality in a Looking Glass: rationality through an analysis of transitional folly*, 1982).

As Furno then notes:

In *Conversation With A Stone*, Wislawa Szymborska gives "her" stone a voice; further, she allows a dialogue with an unidentified speaker who remains quite insistent throughout that this stone should allow entrance to its "insides" so as to "have a look around." Quite a bit of folly takes place here as the ensuing exchange develops. But then, Szymborska is a poet, and she considers it her business to rekindle Memory with its original Understanding that reality is not what it appears to be.

In the light of such terms and the arguments of Rosen, is the engagement with globality fruitfully to be understood as *Intercourse with Globality through Enacting a Klein bottle* (2009)? Rosen refers to the inscription -- known as the *Enigma of Bologna* -- on a much-studied tombstone, which concludes:

The Enigma of Bologna

*This is a tomb that has no body in it.
This is a body that has no tomb round it.
But body and tomb are the same.*

Translation of concluding stanza from Latin, in commentary by [Carl Jung](#)
(*Mysterium Coniunctionis: an inquiry into the separation and synthesis of psychic opposites in alchemy*, 1963)

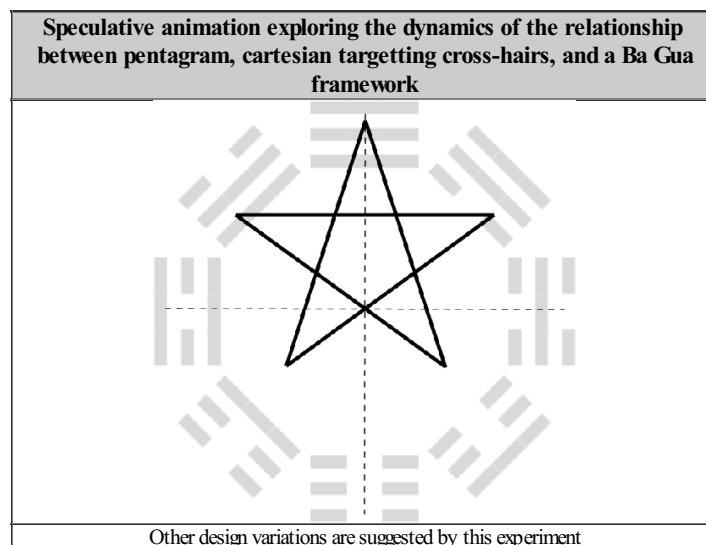
The paradox is helpful in suggesting the nature of the relationship between the "petrification cluster" ([Annex 5](#)) and the "imagination cluster" ([Annex 1](#)) by which the fivefold cycle is renewed.

Health and sustainability misleadingly framed as target acquisition

Military terminology is much used in framing strategic discourse, most notably in framing goals as "targets", as with the [UN Millennium Development Goals](#). The appropriateness of this framing can be variously challenged (*Enhancing Sustainable Development Strategies through Avoidance of Military Metaphors*, 1998; *Ensuring Strategic Resilience through Haiku Patterns: reframing the scope of the "martial arts" in response to strategic threats*, 2006).

In particular this strategic framing precludes exploration of how to engage dynamically with what is otherwise framed either statically or as something that has to be captured or acquired -- most notably "health" and "sustainability". Such thinking might be ironically contrasted with the dynamics of male-female courtship and the longer-term appropriateness of "targetting" and "capture" (cf. *Beyond Harassment of Reality and Grasping Future Possibilities: learnings from sexual harassment as a metaphor*, 1996).

Such a framing could be usefully recognized as a modality outmoded by the subtleties of current requirements. Its inadequacy could be highlighted by an animation such as the following. This presents the cross-hairs characteristic of conventional targetting. It illustrates the associated dynamics of a pentagram framework endeavouring unsuccessfully to center on it. The orientations and the dynamic are framed by a traditional Chinese [Ba Gua](#) ([Earlier Heaven](#)) arrangement.



The animation offers a sense in which the 5-fold pentagram -- whether of the Pentagon, Islam or China -- remains "off-centre" in circling an elusive ultimate goal. To the extent that the pentagram is variously "off-balance" within the Ba Gua framework, this is suggestive of particular forms of "cognitive illness" (as discussed below).

The nature of that goal, implied by the "origin" of the traditional 4-fold coordinate system, is usefully reframed as implicit -- as the focus of the 8-fold pattern encoding its own dynamic. As an experiment, the animation deliberately endeavours to interrelate symbols characteristic of contrasting cultures, as with a previous exercise (*Dynamic Exploration of Value Configurations: interrelating traditional cultural symbols through animation*, 2008).

The necessary circling -- by which an approximation to the goal is achieved -- can be variously discussed (cf. *Paradoxes of Engaging with the Ultimate in any Guise: Living Life Penultimately*, 2012). The elusive cognitive nature of that central focus also merits extensive discussion (cf. *Unthought as Cognitive Foundation of Global Civilization*, 2012; *Exploring the Hidden Mysteries of Oxfam's Doughnut: recognizing the systemic negligence of an Earth Summit*, 2012).

Frames of reference and conceptual revolution

As noted at several points in this argument, the purpose here is to clarify how "cognitive hygiene" might be associated with "healthy argument" using the various insights indicated, whether traditional or contemporary. Such health could prove fundamental to both individual and collective development and fulfillment, with the latter currently framed by the quest for "sustainability".

Dynamics of relativity over time: As argued above, there would seem to be a special need for greater understanding of:

- **reflexivity**, in the light of competing models (noted in discussion of the clusters of ways of "being stoned") and highlighted by the various fivefold models, whether traditional or contemporary. This necessarily extends to this argument as a "model" of a kind. How is reflexivity to be integrated into any presentation given its implicit claim to "space" in competition with other models? Is "being stoned" one of the indicators of inadequate reflexivity? The related concern is how the "objectivity" of any model is internalized or embodied to engender and sustain meaning "subjectively" to enable fulfilling development.
- **dynamics**, in the light of both the problematic and fruitful interactions between frames of reference as variously proposed. This is only too evident in situations where conceptual innovation by different parties results in court cases regarding intellectual property. There are many such examples in the history of science, most recently with respect to dynamics in response to detection of the fivefoldness of quasicrystals. This pattern is evident in other socio-political contexts using contrasting frames of reference -- each typically framing the other as "misguided", or even dangerously "wrong".

Both factors could be seen as a test of the insightful applicability of the 5-fold Hygieia and Wu Xing patterns, and of current 5-fold initiatives (as mentioned). How do emergent frames of reference engage dynamically with the "otherness" of their predecessors (and their current adherents) and objectors -- especially when they variously lay claims to being comprehensive and of greater appropriateness?

The term "frames of reference" is reminiscent of the manner in which their relative movement is addressed within the Special Theory of Relativity, suggesting the merit of further reflection on the implications for intellectual property (*Einstein's Implicit Theory of Relativity - of Cognitive Property? Unexamined influence of patenting procedures*, 2007). Use of "dynamics" suggests the merit of integrating (disparate) understandings of the patterns of traditional 5-element dynamics with those of "scientific revolution" and "paradigm shift" -- especially in the light of the associated controversy.

Scientific revolution: A recent review of the influence of Thomas Kuhn (*The Structure of Scientific Revolutions*, 1962) by John Naughton (*Thomas Kuhn: the man who changed the way the world looked at science*, *The Observer*, 19 August 2012) noted his introduction of the most used -- and abused -- term in contemporary discussions of organizational change and intellectual progress, namely "paradigm shift". As Naughton indicates:

Before Kuhn, our view of science was dominated by philosophical ideas about how it ought to develop ("the scientific method"), together with a heroic narrative of scientific progress as "the addition of new truths to the stock of old truths, or the increasing approximation of theories to the truth, and in the odd case, the correction of past errors", as the *Stanford Encyclopaedia of Philosophy* puts it. Before Kuhn, in other words, we had what amounted to the [Whig interpretation](#) of scientific history, in which past researchers, theorists and experimenters had engaged in a long march, if not towards "truth", then at least towards greater and greater understanding of the natural world.

By contrast, Naughton notes that:

Kuhn's version of how science develops differed dramatically from the Whig version. Where the standard account saw steady, cumulative "progress", he saw discontinuities - a set of alternating "normal" and "revolutionary" phases in which communities of specialists in particular fields are plunged into periods of turmoil, uncertainty and angst....

By the standards of present-day physics, Aristotle looks like an idiot. And yet we know he wasn't. Kuhn's blinding insight came from the sudden realisation that if one is to understand Aristotelian science, one must know about the intellectual tradition within which Aristotle worked.... Or, to put it in more general terms, to understand scientific development one must understand the intellectual frameworks within which scientists work. That insight is the engine that drives Kuhn's great book....

Kuhn's central claim is that a careful study of the history of science reveals that development in any scientific field happens via a series of phases.

The irony is that the "Whig method" has tended to be that through which the continuing Popper-Kuhn-Lakatos debate on the advancement of knowledge tends to occur -- with little evident capacity to internalize that debate self-reflexively.

Such matters would appear to be of ever increasing importance in a global knowledge-based society in which claims to comprehensive truth are variously made and often violently reinforced -- whether physically or through forms of [structural violence](#), [cultural violence](#), or [symbolic violence](#). This is most ironic in the case of approaches to conflict resolution -- where an alternative approach may be declared to be "wrong" without any provision for a reconciliation process.

Norton Ginsburg (*The Mission of a Scholarly Society*, *The Professional Geographer* 24, 1, 1972, pp. 1-6):

There must be room for all views, not because ultimately -- or even penultimately -- these views necessarily are all correct or of equal value, but because it is only through continued discussion and comparison of them that better approximations of the truth can be arrived at.

Whilst there may be a tendency, now and in the future, to consider that "Aristotle looks like an idiot", there is the sobering probability that with the evolution of knowledge many of the Nobel Laureates of science today will be similarly viewed by the future -- as the Schechtman case has so recently illustrated. The question is how to articulate a modality in which a variety of stages and modes of knowing may fruitfully co-exist.

"**Framing the challenge**"? In the light of the argument above, elaborating any "frame" necessarily calls for it to be challenged in some way, as with any understanding of "global", especially in its most integrative sense. Some factors that merit recognition include:

- **imagination**: How might such a frame and context be imagined (perhaps "dreamed of" in the spirit of [Annex 1](#)) by individuals and collectives at any time? One approach is to use emerging understanding of the dynamics of the "physical" universe as a metaphor indicative of the requisite complexity and quality of thinking required to comprehend the dynamics of the universe of knowledge of a global society. A case for such an approach has been presented separately (*Towards an Astrophysics of the Knowledge Universe: from astronautics to noonautics?* 2006). The justification for such an approach can also be articulated in terms of technomimicry, namely the benefitting from sophisticated articulation of concepts in one field as a means of clarifying insights in another (*Engendering a Psychopter through Biomimicry and Technomimicry: insights from the process of helicopter development*, 2011; *Metaphorical Insights from the Patterns of Academic Disciplines: learning from the Standard Model of physics?*, 2012)

- **time constraint**: The point has been widely made that everyone is now faced with severe constraints in the capacity to process information, whatever the degree of specialization -- and the ignorance that that thereby implies for acquisition of knowledge in other domains. Information processing capacity is overloaded despite every variety of computer assistance and representation. People are obliged to develop new "busyness models" to complement the requirements for new "business models". There is nevertheless a sense in which society is approaching a memetic singularity, as separately discussed (*Emerging Memetic Singularity in the Global Knowledge Society*, 2009). How is dissemination of knowledge and learning then to be understood -- given the zones of ignorance that are engendered by inadequacies in that process?

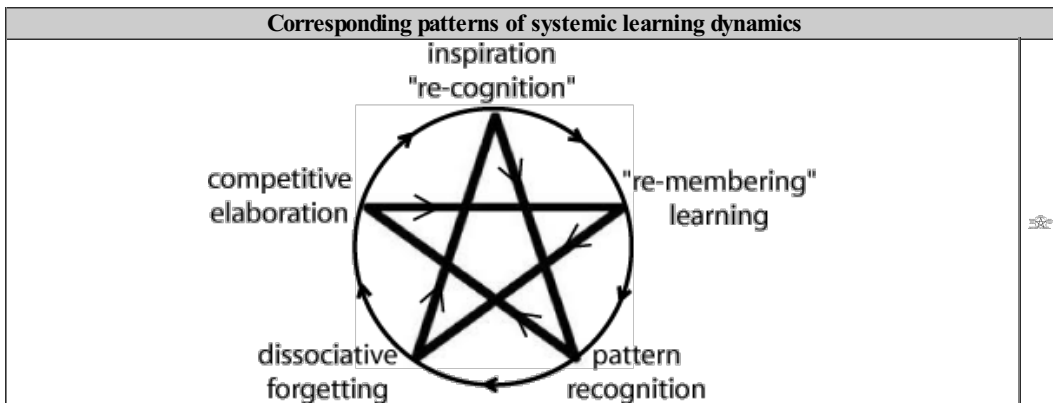
- **limited attention**: Linked to the previous point, and following from it, is recognition of attention as an increasingly challenged resource -- especially collective attention. The point has been clearly made by Warren Thorngate (*The economy of attention and the development of psychology*, *Canadian Psychology / Psychologie canadienne*, 31, 1990, 3, pp. 262-271)

Suggests that the production and consumption of information, including the information called psychology, require investments of attention. Yet attention is a limited resource, so, as more information is produced, more products must compete for the limited attention of consumers. Ideally, the competition should lead to better information and should lead consumers to pay attention only to the best. However, as more information is produced, there is more digression from these progressive ideals due to the nature of attention and the principles of attentional economics governing information exchange. If these trends continue, they may cause the disintegration of psychology as a discipline. Means of reducing information production through changes in academic reward systems are outlined.

- **ignorance and partial comprehension**: More creative engagement with ignorance of any kind would seem to be called for, especially (as noted with respect to [Annex 3](#)) when parties variously claim others to be misguided and "wrong" and act forcefully to remedy this (*Towards the Dynamic Art of Partial Comprehension*, 2012). The situation is further complicated by the consequences of the competitive promotion of insights, methods and proposals -- with the denial of the truths upheld by others -- engendering a replication of the physical pattern of conflict (*Missiles, Missives, Missions and Memetic Warfare: navigation of strategic interfaces in multidimensional knowledge space*, 2001)
- **integrative insight**: It follows from the previous point that the possibilities of requisite synthesis call for new understanding and of the dynamics of the understanding process (*Global Brane Comprehension Enabling a Higher Dimensional Big Tent? Strategic implication in encompassing nothing and coming to naught*, 2011). Seemingly it is not just a matter of the organization of knowledge but also of the dynamics of those developing such organization -- or opposing it. Especially intriguing is the place accorded to deprecated integrative insights of the past -- of the connecting pattern they offer -- as rediscovered with enthusiasm by those to whom more recent patterns are inadequate or alienating.
- **memory constraints**: As implied above, there are clear constraints on the capacity of individual and collective memory, whatever the tools employed to bypass them (cf. *Societal Learning and the Erosion of Collective Memory*, 1980). Explanations and proposals may be inherently unmemorable. In a knowledge society with aspirations to wisdom, it may well be challenging to recall much of what was said in the most inspiring presentation -- especially for those of advancing years.

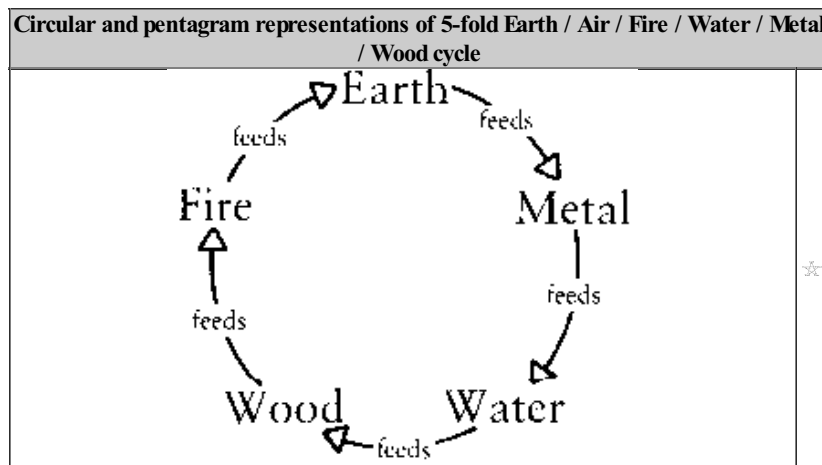
- **quest for "the key":** As argued in [Annex 4](#), every effort may be made to discover the ultimate memory device -- combining simplicity and comprehensiveness. This may be sought and presented as some form of Philosopher's Stone -- the ultimate Theory of Everything. Can such a key be imagined as succinctly compressed -- perhaps as a "silver bullet" and panacea of all ills? With religions each offering their belief system as "the key" -- now followed by science -- what are the inherent inadequacies which their track records make evident? Again however, memory may not be adequate to collective learning obliging society to repeat the (violent) errors of the past. Is there a sense in which "the key" has the function of a "mirror" -- at least to some degree?
- **confidence / credibility:** As the current financial crisis indicates, in addition to the many other issues of governance, the question is then the nature of the dynamics whereby "confidence" is inspired, built, and withdrawn. How, and for what period, is "isness" and "fixity" imputed -- namely "enstoned"? Where any global confidence is lacking, how do people and groups isolate the frame within which they can confidently construct an adequate cognitive shack -- irrespective of its failure to conform to norms dependent on (knowledge) resources which cannot be readily made available

Such issues are a challenge to any understanding of "method", whether of science, religion or the arts. Each domain offers numerous examples of the problem of assertion and its evocation of vigorous protest and denial. No "method" internalizes these dilemmas except to condemn views to the contrary as having no place in a comprehensive scheme of things. The inadequacy of method is its tendency to reproduce itself as a product rather than embodying a process of cyclical renewal. If a method cannot understand how any "cure" it offers is part of the illness, then how can it embody the nature of the solution required?



Understood as a pattern of phases of cognitive formalization, the Wu Xing is a reasonable representation of the process of conscious knowing -- of a "scientific method", or any alternative to it (theological, aesthetic, etc.) -- integrating an appropriate degree of "speculation". This could even imply a form of "con-science" alien to science in its current form (cf. [Towards Conscientific Research and Development](#), 2002).

Provocatively, but consistent with the perspective of some religions, it can be argued that such a more general and self-reflexive "method of knowing" would be understood as including those inherent in the phases of sexual intercourse -- of which the scientific and other "methods" might then offer useful metaphors. Given the current contribution of such intercourse to global crisis, the severe limitations of the "scientific method" are readily evident, as separately argued ([Scientific Gerrymandering of Boundaries of Overpopulation Debate](#), 2012).



Magnum Opus: cyclic transformation of Qi / Chi ?

Framed in the light of the above criteria -- and recognizing that it is but a temporary frame -- the question is how best to use the above mnemonic leads within the cognitive context of a global knowledge-based society.

Viable system theory: Given the need for a degree of credibility and communicability, rather than use those relating to 5-element Hygiea, there is a stronger case for taking advantage of the remarkable efforts of Maurice Yolles and colleagues to develop the implications of the 5-phase Wu Xing insights through contemporary systems terminology (Zude Ye and Maurice Yolles, [From](#)

We began this paper by discussing the problem that the Oriental philosophical paradigms are quite distinct from those in Science. In particular they use different metaphors to underpin their knowledge processes. The consequence of this is that the paradigms are incommensurable. The approach that we have adopted is intended to overcome the problem of this incommensurability, thereby enabling some degree of metaphor transparency to occur as far as science is concerned. To do this we have used the social cybernetic viable systems theory and in particular Social Viable Systems theory.

Self-reflexivity in the face of competing articulations: As repeatedly indicated, the interest here is in the self-reflexive cognitive implications. One somewhat comprehensible approach is to associate the widely-commented 5-phase Wu Xing process of "transformation of Qi" with transformations of attention -- metaphorically and mnemonically associated here with the ways of "being stoned". The multiplicity of models and their various degrees of articulation and embodiment can then be appropriately understood cognitively as "ten thousand" competing attractors for attention.

It is in this sense that one lead is provided by the study of Judith Farquhar and Qicheng Zhang (*Ten Thousand Things: nurturing life in contemporary Beijing*, 2012) which focuses on the underlying sense in which *Qi unceasingly moves and changes*. Their focus is more conventional in its articulation with respect to the physical body -- notably as this relates to physical health:

Qi transformation means the movements and changes of qi and every substance as well. Qi is the most basic substance to sustain life while qi transformation is the original source of life's activity. Constant, harmonious movements of qi are responsible for all the physiological activities. Meanwhile, qi transformation provides the fundamental substances needed for the body and expels the wastes of metabolism. Ascending, descending, exiting and entering are the basic forms of qi movements. These four forms are indispensable to each other and cooperate to ensure the order and stability of the body. Therefore qi transformation is present in a living organism anywhere, anytime. It maintains not only the unity of body and environment, but also the harmony of metabolism in the body to ensure normal life activities....

If Qi transformation is out of order, it will affect the digestion, absorption of food, the metabolism and transformation of essence, blood and body fluid, the excretion of sweat, urine and feces and so on. To put it briefly, Qi transformation is actually the process in which the substances in the body are metabolized and inter-transformed. Although the above five actions of Qi differ from one another, they are indispensable to maintaining human life. Their harmonious cooperation and mutual support ensure that the physiological activities are completed smoothly.

Exploiting their subtitle, however, the quest here is rather for: *nurturing life in contemporary global knowledge-based society*. Again Yolles and colleagues have done much to clarify possibilities in terms of societal issues, policies and organization. The difficulty, as with many "models", is that the implications of their very multiplicity are not addressed self-reflexively, as noted separately with respect to integrative futures research and its comprehension (*Self-reflexive Challenges of Integrative Futures*, 2008; *Enacting Transformative Integral Thinking through Playful Elegance*, 2010).

From misplaced concreteness to cyclicity: The point may be made otherwise by quotes from two complementary perspectives:

- as indicated in the Taoist quote of **Chuang Tzu** (*The Pivot*), as expressed in Thomas Merton's interpretation:

Tao is obscured when men understand only one of a pair of opposites, or concentrate only on a partial aspect of being. Then clear expression also becomes muddled by mere word-play, affirming this one aspect and denying all the rest.... The possible becomes impossible; the impossible becomes possible. Right turns into wrong and wrong into right -- the flow of life alters circumstances and thus things themselves are altered in their turn. But disputants continue to affirm and to deny the same things they have always affirmed and denied, ignoring the new aspects of reality presented by the change in conditions. The wise man therefore... sees that on both sides of every argument there is both right and wrong. He also sees that in the end they are reducible to the same thing, once they are related to the pivot of Tao. When the wise man grasps this pivot, he is the center of the circle, and there he stands while "Yes" and "No" pursue each other around the circumference. (*The Way of Chuang Tzu*, 1970)

- in his concern with misuse of the verb "to be" -- most notably in relation to what "is" true, **Alfred Korzybski** (*Science and Sanity: an introduction to non-Aristotelian systems and general semantics*, 1994) suggests:

There are two ways to slide easily through life: to believe everything or to doubt everything; both ways save us from thinking.

He is further renowned for his dictum: *The map is not the territory*. As might be imagined, there are however unexplored possibilities with respect to the contrary (cf. *The Territory Construed as the Map: in search of radical design innovations in the representation of human activities and their relationships*, 1979).

Any "model" then offers the risk of being trapped in a particular framing of "what is" -- to the exclusion of other framings or engagement with the framing process (*Framing the Global Future by Ignoring Alternatives: unfreezing categories as a vital necessity*, 2009; *Considering All the Strategic Options: whilst ignoring alternatives and disclaiming cognitive protectionism*, 2009). In terms of the "transformation of Qi", this might readily be defined as illness (Shou-Yu Liang and Wen-Ching Wu, *The Roots of Illness*, 2001; Ed Reinhard, *The Five Causes of Illnesses*, 2011). In these terms:

- fixity ensures "mortality" through vulnerability to revolution and death (as a consequence of "being stoned")

- cyclicity ensures "immortality" through regeneration -- as implied by the quest for "eternal youth"

Using the terminology of the western tradition of alchemy (cf. (John Opsopaus, *The Rotation of the Elements*, 1995), the much-deprecated conventional understanding of the **Magnum Opus** -- the transformation of lead into gold -- can then be reframed as the transformation of fixity into cyclicity. In these terms, metaphorically, "gold" is the dynamic through which fixity ("lead") is re-engendered and is thereby malleable as a phase in a process. **Rather than being understood as the Great Work, the Magnum Opus is then more fruitfully understood as the "Great Work Cycle"** -- thereby embodying a dynamic as fundamental to the very nature of its traditional goal of **henosis**. The above-mentioned ocean conveyor indeed offers an excellent metaphor in global environmental terms.

Cognitive implications: The issue is how to elucidate and engage with the cognitive analogue and its misunderstanding, as mentioned above (*Potential Misuse of the Conveyor Metaphor: recognition of the circular dynamic essential to its appropriate operation*, 2007).

As implied by the criterion of self-reflexivity, this suggests a degree of cognitive paradox (*Psychosocial Energy from Polarization within a Cyclic Pattern of Enantiodromia*, 2007; *Psychosocial Work Cycle: beyond the plane of Möbius*, 2007). This cyclic modality would appear to be fundamental to the strategic issues posed by the **adaptive cycle** (*Adaptive Hypercycle of Sustainable Psychosocial Self-organization: designing a mapping of a Chinese metaphorical pattern language*, 2010). The case for recognizing an adaptive cycle has been made by the **Resilience Alliance** and by **Thomas Homer-Dixon** (*The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization*, 2006).

Enstoning as degrees of material formalization

This argument highlights the merit of considering the degrees of cognitive "materialization" associated with the different stages of "enstoning" -- from imagination (**Annex 1**), through potential patterns and promises (**Annex 2**), the disrupting implications of "rocks" (**Annex 3**), the enshrinement of learning in memorials (**Annex 4**), to finally being associated with various forms of "petrification" (**Annex 5**).

Metaphorically the "stonework" holds forms of truth in different degrees of fixity -- thereby variously enshrining belief for a time. Embodying imagined possibilities in this way is then a process of substantiation and a focus for confidence -- especially collective confidence. The psychosocial consequences of urbanization -- with its proliferation of skyscrapers and slums -- then offers a challenging metaphor regarding the erection, occupation and management of "edifices of truth" according to different "building norms and regulations".

Difficulties arise when greater fluidity ("liquidity") is required to enable healthy processes between these forms -- perhaps usefully to be named as "cognitive liquidity". It then becomes more apparent that the forms of "enstoning" are more fruitfully understood as embedded in a pattern of cyclic processes of transformation and renewal. Characteristically any recognition of this pattern is necessarily called into question by the paradoxical nature of the cognitive process required to sustain a healthy attention dynamic. This meta-dynamic can be readily associated with the potentially threatening characteristics widely symbolized by the serpent -- hence ambiguously associated with wisdom and healing.

If the integrity of personal identity (or that of a collectivity) could best be experienced through some form of "meta-pattern" (as mentioned above), can its constituting cycles be best articulated through metaphor -- by which meaning is cyclically imputed and withdrawn, as suggested by the Wu Xing? The argument of **Kenneth Boulding** provocatively suggests this to be the case:

Our consciousness of the unity of self in the middle of a vast complexity of images or material structures is at least a suitable metaphor for the unity of group, organization, department, discipline or science. If personification is a metaphor, let us not despise metaphors -- we might be one ourselves. (*Ecodynamics; a new theory of social evolution*, 1978)

Curiously the current global financial crisis can be understood in terms of problematic "enstoning" -- fixity where fluidity is required -- most especially in cognitive contexts in which categories are effectively "frozen" (*Framing the Global Future by Ignoring Alternatives: unfreezing categories as a vital necessity*, 2009).

This condition is mirrored in the arenas of academic and strategic articulation, reinforced by the priorities and modalities of belief systems of every kind. Whether inspired by the subtlest categories of physics, or those of **traditional knowledge systems**, the paradoxical challenge would seem to be associated with imaginative "re-cognition" of how (collective) attention is focused to sustain confidence and credibility (*Primary Global Reserve Currency: the Con? Cognitive implications of a prefix for sustainable confidelity*, 2011). Being necessarily elusive, this would seem to be best comprehended and enabled through embodiment in cyclic processes -- rather than through overly rigid categories, however well these may serve as stepping stones. Ironically the "design" challenges are effectively prefigured by those with which the current hopes of **nuclear fusion** are associated (*Dematerialization and Virtualization: comparison of nuclear fusion and cognitive fusion*, 2006; *Massive Elicitation of Psychosocial Energy: requisite technology for collective enlightenment*, 2011)

In addition to the insights offered by the liquidity challenges of the financial system, or of achieving "energy security", it would seem that other global crises offer related systemic learnings (cf. *Systemic Crises as Keys to Systemic Remedies: a metaphorical Rosetta Stone for future strategy?* 2008).

The argument cited the remarkable environmental insights suggested by the world-encircling great ocean conveyor as a metaphor -- symbolized by the traditional understanding of health as one of "caring for snakes", namely for cyclic processes of every kind (*Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2010). Similarly

the dramatic employment crisis would seem to suggest the need for other forms of imaginative "re-cognition" -- perhaps reframed cognitively in terms of a "Great Work Cycle" (cf. *12 Mindsets Ensuring Disappearance of Employment Opportunities: towards a systemic reframing of the job culture*, 2012). Any "mindset" may be usefully understood as "set in stone" -- a consequence of the "enstoning" called into question by this argument.

It is within this context that the individual may be obliged to seek recourse to unconventional cognitive modalities, as variously argued separately (*Living with Incomprehension and Uncertainty*, 2012; *Paradoxes of Engaging with the Ultimate in any Guise*, 2012; *Way Round Cognitive Ground Zero and Pointlessness*, 2012; *Living as an Imaginal Bridge between Worlds*, 2011)

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