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30 July 2013 | Draft

Reimagining Principles Enabling an Existential Ecostery

Engendering out-of-the-box awareness and its transformation

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Introduction

Imagining principles: How is it fruitful to imagine "principles" -- and then to engage with them? There are many elaborations of fundamental principles to which people are encouraged to subscribe as a key to appropriate behaviour and understanding -- notably of world order. It cannot be said that that such constructs now work in the way it has been hoped that they might. Examples include the [Universal Declaration of Human Rights](#), the [Ten Commandments](#) of the Bible, or the elements of a [Global Ethic](#). Human rights are now readily used as a decorative fig leaf to disguise agendas thereby hidden. As noted by [Geoffrey Robertson](#), *America tends to treat international law as binding on everyone except America (and Israel)* ([Edward Snowden's fear of flying is justified](#), *The Guardian*, 24 July 2013).

The concern here is the possibility that there may be subtleties to the articulation of such principles which merit attention. Are there questionable assumptions in the very use of "Declaration" and "Commandment"? What indeed "is" a "Principle" in the cognitive or imaginal space of an individual in a purportedly free society -- an "individual" whose very nature is to some degree reframed by any engagement with a "Principle", presented as an "ordering principle"?

Exploring such questions has the quality of "telling the old, old story" -- even a "never-ending story". An earlier effort took the form of reviewing the quality of principles according to the number of them distinguished in a set -- from one-principle declarations to 20-principle declarations (*Distinguishing Levels of Declarations of Principles*, 1980). This included a concern with highlighting their "integrative" quality (*Integrative Dimensions of Concept Sets: transformations with minimal distortion between implicitness and explicitness of set representation according to constraints on communicability*, 1981).

Principles may also be associated with "pillars", "poles", "axes" and "spheres" (of influence) in discussion of global strategies involving different "sides" -- a strange "geometry" through which integrative comprehension is questionably facilitated to a degree with regard to the subtlety of "values" (*Coherent Value Frameworks: pillar-ization, polarization and polyhedral frames of reference*, 2008; *Metaphorical Geometry in Quest of Globality -- in response to global governance challenges*, 2009). Despite their claimed significance, values themselves remain essentially elusive, as previously explored in the [Human Values Project](#).

Gentle indirection: The concern here is inspired by the possibility -- and need -- to "do things gently", perhaps as suggested by [F. David Peat](#) (*Gentle Action: bringing creative change to a turbulent world*, 2008). This could contrast with the manner in which principles are conventionally declared and imposed by authorities as necessary principles of order. Is there an elegance which is integral to the appropriate design of a pattern of principles -- just as it is valued in the architecture of buildings, especially temples? Is there some form of cognitive aesthetic to the design process, as partially discussed separately (*Enacting Transformative Integral Thinking through Playful Elegance*, 2010)? The approach might be provocatively compared to "trout tickling", or to Sufi tales regarding construction of a door-less cage -- so elegant that a magical bird might be attracted into it.

As an "old, old story", does it call for the self-reflexive subtlety so skillfully embodied in the explorations of [Douglas Hofstadter](#) (*Gödel, Escher, Bach: an Eternal Golden Braid*, 1979; *I Am a Strange Loop*, 2007)? This has more recently been enhanced by further recognition of the cognitive role of analogy ([Douglas Hofstadter and Emmanuel Sander](#), *Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013). Do these have collective implications, as separately discussed (*Sustaining a Community of Strange Loops: comprehension and engagement through aesthetic ring transformation*, 2010)?

Aesthetic indications: The requisite approach might be better understood through the allusions of various poets:

- [John Keats](#): *When a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason* (on the desirability of *Negative Capability*)
- [Omar Khayyam](#): *And if the Wine you drink, the Lip you press / End in the Nothing all Things end in -- Yes / Then fancy while Thou art, Thou art but what / Thou shalt be -- Nothing -- Thou shalt not be less.* (from the *Rubáiyát*)
- [Horace](#): *They go together, the wisdom, the wine, the enjoyment of the day; the wisdom that does not strain to know too much, to know what cannot be known; the wisdom that is content to live in the radical uncertainty of the mortal present* (as presented by [Harry Eyres](#), *Horace and Me*, 2013, p. 28)
- [T S Eliot](#): *We shall not cease from exploration / And the end of all our exploring / Will be to arrive where we started / And know it for the first time.* (*Little Gidding*)

The approach seemingly called for might also be compared to various articulations of the philosophy essential to Eastern martial arts, most notably as in the classic by [Eugen Herrigel](#) (*Zen in the Art of Archery*, 1953). Consistent with this is the articulation by [James P. Carse](#) (*Finite and Infinite Games: a vision of life as play and possibility*, 1986). This is also suggestive of the culture of [Castalia](#), as imaginatively cultivated by [Hermann Hesse](#) (*The Glass Bead Game*, 1946).

Design: Tentatively framed in this way, as a challenge of "designing without designing", the exploration here concerns the possibility of:

- imagining the configuration of a variety of the most fundamental qualities -- expressed dynamically rather than statically -- without overdefining the vehicles through which they might be most fruitfully expressed and experienced
- imagining the distinction and refinement of such a variegated fundamental set, given the conventional constraints and distractions of language
- imagining how identity might be elicited, sustained and challenged within such a configuration
- imagining how the very underdefinition of these qualities might sustain a sense of openness to the attraction and strangeness of possible future learning and its surprises

Such imaginative design is seen as fundamental to eliciting an "existential ecostery" -- as contrasted with a "monastery". An ecostery is a place of confluence in time of ecological values, knowledge and wisdom. The cognitive challenges of such a "place" in "time", which are the preoccupation here, develop use of the term by [The Ecostery Foundation](#) and by [ecostery communities](#). The exploration is speculatively used to adapt "university" to "unistry" in discussion of the cognitive implication for the individual of a potential University of Earth.

In a period of dramatic unemployment worldwide -- even without including the increasing proportion of the aging excluded from the "workforce" -- "what is one to do" when "there is nothing to be done"? Are possibilities to be recognized through invasive global surveillance and its enabling of unconventional local intervention?

Design considerations

Cognitive dynamic: Of greater potential is the manner in which the dynamics of the configuration of qualities may sustain insight and identity of a higher order -- whatever that may then mean. These dynamics might be envisaged, for mnemonic purposes, as reminiscent of:

- the reconfiguration now commonplace in complex [transformer toys](#)
- variously thinking "out-of-the-box", rather than locked into a simple "in-the-box" configuration
- the transformation characteristic of the [vector equilibrium](#) (as demonstrated by [R. Buckminster Fuller](#) and argued in his study of [synergetics](#))
- use of a configuration of magnets to ensure that plasma does not contact its container in nuclear fusion
- recent progress in [acoustic levitation](#) achieved through the non-linear effects of intense sound waves

Traditionally understood as the "circulation of the light", these are all variously suggestive of phases in the movement of attention which some disciplines of meditation consider essential, as separately discussed (*Circulation of the Light: essential metaphor of global sustainability?* 2010).

Transcendent order? The nature of the order emerging from such a dynamic can be variously implied through expressions like "meta-narrative", or [Gregory Bateson's](#) "meta-pattern" of connectivity about which he states:

Break the pattern which connects the items of learning and you necessarily destroy all quality. (*Mind and Nature; a necessary unity*, 1979, p. 8)

It resists overdefinition and assertion -- or rather invites them only in order to deny their adequacy, as suggested from a Taoist perspective by Chuang Tzu:

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*, interpreted by Thomas Merton, 1970)

This raises the question of the value of endeavouring articulation of any permanence, as highlighted by Buddhist understandings of [impermanence](#) ([Joan Stambaugh](#), *Impermanence is Buddha-nature*, 1990). What is implied by ascribing meaning and "inscribing" insight -- writing -- especially with any emphasis on persuasion to a particular worldview? What is achieved in thereby questioning other worldviews? Do such dilemmas call for another kind of contextual dynamic within which they are embedded?

Constraints on communicability: Any such framing immediately makes evident the constraints on communicability -- even in an internet era of global communication. The combination of information overload and other priorities renders highly problematic any "global" communication endeavour (*Future Generation through Global Conversation: in quest of collective well-being through conversation in the present moment*, 1997). This is exemplified by efforts of highly competitive advertising to capture and focus seconds of attention time. To these must be added the variety of cognitive biases and stylistic preferences which are a challenge to the communicability of any message, as separately discussed (*Systems of Categories Distinguishing Cultural Biases*, 1993). Furthermore, there is always greater expertise available elsewhere that cannot be brought to bear in a timely, cost-effective manner -- especially if lengthy learning is required for transfer of "know how".

Especially intriguing is the framing of communication potential through the language of a "business model" -- with the implication of a particular kind of busyness, effectively a "busyness model" constraining the application of considered attention to anything. The situation is exacerbated by conceptual gerrymandering (*Definitional Boundary Games and De-signing the 21st Century*, 1995).

Grasping for closure: In a world in which openness is purportedly much valued, there is nevertheless a curious emphasis on achieving "closure" -- on encompassing whatever is in some way encountered ([Hilary Lawson](#), *Closure: a story of everything*, 2001). This is only too evident in the articulation of "models" in the scientific explanation of phenomena, as a means of framing any form of development or change, or in the elaboration of strategic endeavours -- as with "business models". Aspiration to a [Theory of Everything](#) is an extreme example of preoccupation with closure ([John Barrow](#), *Theories of Everything: the quest for ultimate explanation*, 1992). As argued by [Nicholas Rescher](#), its implications are questionable (*The Price of an Ultimate Theory*, 2000).

Given the variety of extant models -- many abandoned -- a provocative comparison may be made with the many elegant shells to be found on a beach, as old "monuments" to closure (*Enstoning in Memorials and Monuments*, 2012). Are old declarations and sets of principles to be seen in this light -- perhaps as a form of graffiti on the wall of time? In both cases, although previously "inhabited", those who lived within them have "moved on" in some way. So framed, what is the case for the elaboration of a new "model", or a new set of principles?

Is there a strange illusion to grasping for truth in this way? Can it be usefully compared to the traditional strategy for catching a monkey by placing food inside a jar such that, when grasped through the neck of the jar, the clenched fist cannot be withdrawn (*The Monkey's Fist: An Ancient Parable for Modern Times*). With respect to a Theory of Everything, the question might be asked as to what is to be done, and by whom, having "grasped" it? Similarly with respect to the "omega" framed by [Gregory Chaitin](#) (*Metamaths: the quest for omega*, 2007) -- what is to be done having "got it"?

What is the attractor for which grasping seems appropriate? Can the condition be framed even more provocatively in the light of sexuality, as separately suggested (*Beyond Harassment of Reality and Grasping Future Possibilities: learnings from sexual harassment as a metaphor*, 1996)? Grasping is clearly intimately related to a quest for closure. This does however highlight the dimensionality of what it is sought to enclose in relation to that of the grasping faculty. There is the further issue of whether the preoccupation is with grasping what amounts to the superficial "packaging" of the attractor, thereby restricting ability to engage with the contents of the package (of higher dimensionality). The issue is reminiscent of the [Grail quest](#) (*In Quest of Sustainability as Holy Grail of Global Governance*, 2011).

Both examples are indicative of the transformative potential of engaging with higher dimensionality, as suggested by the arguments of [Ron Atkin](#) (*Multidimensional Man; can man live in 3-dimensional space?* 1981), and separately summarized (*Comprehension: Social organization determined by incommunicability of insights*).

Globality as variously implied

This is and is not. Perhaps to be understood as understanding and comprehension -- irrespective of any focus on differentiation. A sense of nothingness and emptiness is also meaningful, although plenum and fulfillment carry another sense, beyond any possibility of useful articulation.

Process and system also carry meaning -- as with meta-narrative, or perhaps meta-meta-narrative. It is very much a case of there being "nothing to be said" -- famously framed by [Ludwig Wittgenstein](#) as: *Whereof one cannot speak, thereof one must pass over in silence*

(*Tractatus Logico-Philosophicus*, 1922).

The seeming lack of content to an all-encompassing perspective highlights the challenges of comprehending the fundamental significance of so-called "globalization". What can be meaningfully said about it that it that cannot be equally significantly negated, as in [apophatic theology](#)?

The dilemma can be further highlighted by recognizing the increasing significance accorded to "nothing", especially by fundamental physics (*Emerging Significance of Nothing*, 2012). Potentially more problematic is recognition that, in a condition of information overload, there is a need to come to terms in new ways with the unknown and incomprehension (*Living with Incomprehension and Uncertainty: re-cognizing the varieties of non-comprehension and misunderstanding*, 2012; *Towards the systematic reframing of incomprehension through metaphor*, 2012; *Towards the dynamic art of partial comprehension*, 2012).

If metaphor is a key to engaging with globality, are there clues to its articulation through the widespread metaphorical use of geometry, as suggested above (*Metaphorical Geometry in Quest of Globality -- in response to global governance challenges*, 2009)? Does this indicate a "way" in relation to a certain pointlessness implied by globality (*Way Round Cognitive Ground Zero and Pointlessness? Embodying the geometry of fundamental cognitive dynamics*, 2012)?

Identity within a qualitative context

A sense of globality provides a context for a sense of identity -- of identity and presence in the moment. This is a mode of participation in globality which can be variously explored (*Geometry, Topology and Dynamics of Identity: cognitive implication in fundamental strategic questions and dilemmas*, 2009; *Identity, Possessive World-making and their Transformation Dynamics*, 2012).

Qualitative influences: Engendering identity, with all its subtlety and possibly requisite underdefinition, implies a configuration of distinct influences in relation to which it emerges and by which it is held or mirrored -- suggesting a degree of self-reflexivity (Hilary Lawson, *Reflexivity: the post-modern predicament*, 1985).

As "influences" these may be experienced as contrasting qualities understood in generic terms, **a conflation of what may be carried by the distinctions variously made (for those so inclined) within sets** of:

- gods (pantheons), angels (orders), muses, and the like
- principles, laws
- psychological and cultural archetypes, myths (Labours of Hercules, Knights of Roundtable, life lessons, etc)
- topologically framed entities and dynamics (transformations, archetypal morphologies, centro-symmetric polyhedra, etc)
- aesthetic styles (*rajas*)
- puzzles, riddles, questions, aphorisms, koans (as with the *Mumonkan*)
- systemic functions
- transformations of light
- circlets of beads (rosaries, mala beads)
- sets of fables (Aesop, Mullah Nasruddin, Jataka)

The possibility has been previously explored to some degree (*Representation, Comprehension and Communication of Sets: the Role of Number*, 1978; *Patterns of N-foldness: comparison of integrated multi-set concept schemes as forms of presentation*, 1984).

Reference to "gods" is appropriate in that the qualities originally associated with them tend now to be recognized as "values" -- especially in a secular society. Reference to "angels" is usefully provocative, aside from any belief accorded to them, given other commentary with that focus (Gregory Bateson and Mary Catherine Bateson, *Angels Fear: towards an epistemology of the sacred*, 2004; Matthew Fox and Rupert Sheldrake, *The Physics of Angels: exploring the realm where science and spirit meet*, 1996; M. D. Faber, *The Psychological Roots of Religious Belief: searching for angels and the parent-god*, 2004).

Comprehending distinctions: Irrespective of terminology, **the fundamental issue is how any array of qualitative distinctions is to be experienced** when "compressed" or "conflated" to sets of a particular size -- in contrast with the need to articulate those qualities within sets of larger size to recognize those distinctions adequately. The issue plays out (as noted below) between sets:

- of **smaller size** (perhaps 7 or less), purportedly lending themselves to comprehension and memorability, but in which the conflation reinforces confusion and conflicting interpretations
- of **larger size** (typically more than 7), frustrating ability to comprehend the set as a whole and requiring successive exploration (or neglect) of parts thereof

Conflation of qualities necessarily requires that the distinctions between them then become **implicit**. By contrast, their articulation through distinct names (for example) renders them **explicit** (to some degree) -- as in the case of the **99 Names of Allah**. Engaging with the **implicit in contrast to the explicit** has been a theme explored by David Bohm (*Wholeness and the Implicate Order*, 1980; *The Undivided Universe*, 1993). Naming is however no guarantee of comprehensibility and may well enable "delusion" (*The Consensus Delusion*, 2011; Richard Dawkins, *The God Delusion*, 2006; Rupert Sheldrake, *The Science Delusion: freeing the spirit of enquiry*, 2012).

Requisite complexity: One useful framing of the integrative challenge to comprehension is offered by [synthaesthesia](#) as it relates to the senses, but with the implication that this suggests (as a metaphor) the possibility of a form of "cognitive synthaesthesia", possibly to be understood in terms of "[cognitive fusion](#)". Any such "framing" obscures the nature of the cognitive challenge. This is perhaps more fruitfully illustrated by the imaginative thinking and subtlety characteristic of fundamental physics -- expressed through articulations comprehensible only to the very few (as with "[brane](#)" in [M-theory](#) and [brane cosmology](#), envisaged by [string theory](#)).

That such subtle complexity should be recognized as essential to explanation of physical reality, raises a fundamental question. **Why is it so readily assumed that comprehension and existential engagement with cognitive reality should (necessarily) be of far greater simplicity -- even susceptible to immediate comprehension** following only a few words of explanation (possibly in Twitter style)? There is a dangerous expectation that an equivalent of a "pill", a "panacea", or a "silver bullet" is to be found. This question has been separately discussed (*Global Brane Comprehension Enabling a Higher Dimensional Big Tent? Strategic implication in encompassing nothing and coming to naught*, 2011). It could however be concluded that **the comprehensibility of simple discourse -- as widely preferred and practiced -- has proven to be "unfit for purpose"** with respect to both the collective challenges of governance and ensuring a qualitatively enhanced lifestyle for all.

It is possible that "the Answer" to the complex strategic challenges of global governance will prove to be inherently incomprehensible to all but the very few. An excellent example is provided by the **Gaussian Copula** -- a formula widely used for risk analysis in the speculative investment which triggered the current financial crisis. As indicated by its discoverer **David X. Li**: *Very few people understand the essence of the model* (Felix Salmon, *Recipe for Disaster: the formula that killed Wall Street*, *Wired*, 17.03, March 2009). Other "simple" formulae may be proposed (*Uncritical Strategic Dependence on Little-known Metrics: the Gaussian Copula, the Kaya Identity, and what else?* 2009).

The elaboration of the argument here can be framed, not so much as the quest for a new "story", as the quest for a "meta-narrative" -- or even a "meta-meta narrative". What is the "story" that interrelates stories about stories -- especially the tales people tell to themselves to explain their circumstances, and notably **when they have nothing to do**? How does one engage with a meta-meta-narrative and embody it fruitfully?

Negation of exclusive assertions

The use of the particular terms in the examples above highlights the constraint of language. The implication that the generality of the qualitative influence is held by any of the terms cited immediately evokes the sense in which this is **not** the case -- as with a principle versus a riddle, or with an angel versus a systemic function. Neither one nor the other suffices, as indicated by the Sanskrit phrase *Neti Neti*. The qualitative conflation, with its implication of a higher order of generality and more fundamental commonality, challenges the process of definition and boundary formation in recognizing distinctions. The quality implied by a principle is not readily to be associated with that implied by a riddle, especially when either (or both) constitutes a challenge to conventional comprehension.

The language constraint is especially evident with those terms framing the qualities as **nouns** rather than **verbs**, or vice versa (*Freedom, Democracy, Justice: Isolated Nouns or Interwoven Verbs? Illusory quest for qualities and principles dynamically disguised*, 2011). The former place undue emphasis on a degree of stasis readily associated with categories. The latter emphasize a process in which any dependable invariance becomes unduly elusive. The dilemma may be variously discussed metaphorically as one of "unfreezing" categories in contrast with "setting them in stone" (*Framing the Global Future by Ignoring Alternatives: unfreezing categories as a vital necessity*, 2009; *Transforming and Interweaving the Ways of Being Stoned: imagination, promise, rocks, memorials, petrification*, 2012).

The verb-noun relation can be understood as one of a set of binary distinctions implying a fundamental cognitive challenge as to how each of a pair is to be related to the other -- and whether other possibilities merit exploration (*Transcending Simplistic Binary Contractual Relationships*, 2012). Such distinctions include: polarities, dualities, subjective-objective, and self-other. (*Defining the objective ∞ Refining the subjective ?!: Explaining reality ∞ Embodying realization*, 2011)

The dynamic relationship of the pair can be explored through metaphors of alternation, most notably through the familiar process of walking -- switching from dependence on one leg to dependence on the other (*Metaphors of Alternation: an exploration of their significance for development policy-making*, 1984). Although extremely familiar, the use of "left" and "right" in politics, and the challenges to transitions between them, makes it clear that the cognitive implications have yet to be integrated with any elegance. Politics at least is best characterized as a case of somewhat pathetic aspiration to "hopping" on one leg, or more radically by dysfunctional "spastic" coordination (as reflecting the spirit of democracy). Similarly the relation between self and other may also be recognized as typically lacking in an elegant dynamic (*Us and Them: relating to challenging others*, 2009).

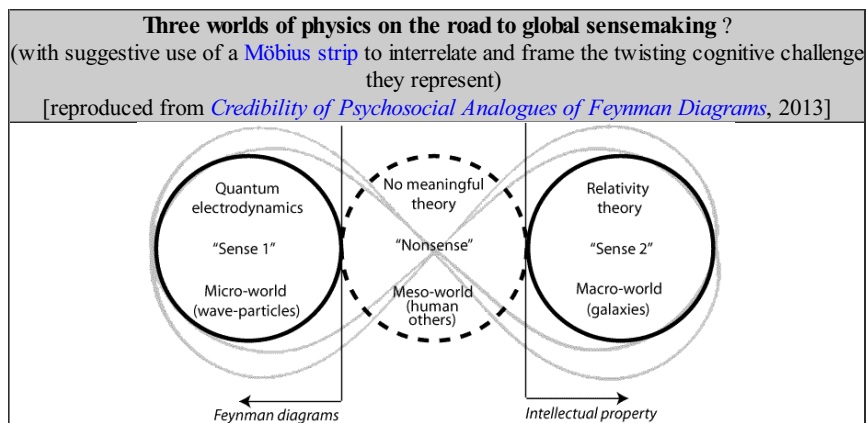
This is only too evident in various forms of conflict (interracial, interreligious, interclass, interdisciplinary, etc) -- exemplified by the global **war on terrorism** and on extremism of any form (*Norms in the Global Struggle against Extremism: "rooting for" normalization vs. "rooting out" extremism?* 2005). More generally, similar constraints are evident in the relation between static and dynamic perspectives (*Dynamic Transformation of Static Reporting of Global Processes: suggestions for process-oriented titles of global issue reports*, 2013).

The apparent "binary" contrast in the relationship, understood in practice as "questionable" and paradoxical, can be fruitfully challenged by mapping onto a Mobius strip. (***)

Navigating a middle way

Use of the Mobius strip offers a way of framing a degree of illusion associated with binary extremes. The Sanskrit expression *Neti Neti* - - in suggesting "neither this, nor that" -- is indicative of a missing perspective, perhaps an "excluded middle", but one which cannot "exist" in the same manner as the two extremes, although effectively engendered by them. Hence, perhaps, the Buddhist emphasis on the **Middle Way**. As in walking, involving neither left nor right alone, the dynamic is not fruitfully understood as "neutral". It is "something else".

The intermediary condition is partially suggested by the illusory "central perspective" offered by the following schematic based on the Mobius strip



The strange experience of this intermediary condition can be explored in terms of liminality (*Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality*, 2011). As implicit in static-dynamic, but distinct from them, it could be qualitatively associated with "style" -- as in recognition of a degree of elegance, or in the "goodness" of a move in game-playing.

The significance may also be explored through geometry, especially spherical geometry and the challenge of curvature, in contrast with representation on a flat plane (*Triangulation of Incommensurable Concepts for Global Configuration*, 2011)

Embodying complexity within a quaternary framework

The argument regarding *Neti Neti*, neither this nor that, can be taken further as understood through the quadrilemma articulated by Kinhide Mushakoji (*Global Issues and Interparadigmatic Dialogue: essays on multipolar politics*, 1988):

- this
- that (namely not this)
- this and that (namely this and not this)
- neither this nor that

The second two are conflated in the cognitive "confusion" of the Middle Way and liminality.

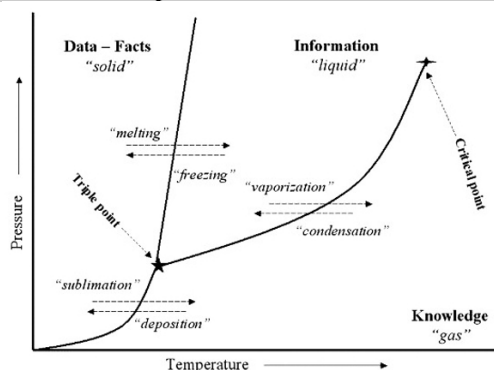
All four can be suggestively interrelated through mapping them onto the **complex plane** as framed by the mathematics of **dynamical systems theory**. They can then be used to hold the distinctions between:

- problematique
- resolutique
- imaginatque
- ludique

The first two have been a focus of various presentations by the Club of Rome. "Imaginatique" holds the dynamic of creativity associated with calls for "new thinking" (beyond conventional framings of "problem" and "solution"). The manner in which strategic initiatives are variously enabled, undermined, and disrupted by distractive "game-playing" dynamics, is held by the fourth of the set. This 4-fold pattern is discussed separately (*Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007).

Metaphorically the quaternary has been traditionally associated with the 4-fold pattern of **classical elements**: Earth-Air-Fire-Water. Whilst now readily deprecated by science, this implies the complexity of relationships more evident from a scientific perspective in a **phase diagram**. Such a representation can also be used to suggest relationships between Data-Information-Knowledge-Wisdom, as discussed separately (*Reification of the Present*, 2003):

Tentative adaptation of general phase diagram (for water) to suggest a non-linear relationship between data -- information -- knowledge



Curves: Indicate the conditions of "temperature" and "pressure" under which equilibrium between different phases of insight can exist

Critical point: The "temperature" above which the gas cannot be liquefied no matter how much pressure is applied (the kinetic energy simply is too great for attractive forces to overcome, regardless of the applied "pressure")

Triple point: The particular condition of "temperature" and "pressure" where all three states are in equilibrium

NB: Phases may be subdivided into a complex pattern of sub-phases (exemplified by the variety of forms of ice as solid water) [more]

A valuable contribution to the qualitative distinction of cognitive approaches is through the set of mindscapes proposed by Magoroh Maruyama, as indicated below. This reflects a degree of self-challenging complexity commensurate with those above. It is "self-challenging" in that the table below reflects the proclivity of one of the mindscapes -- a classificational proclivity challenged by the others.

Mindscapes types and their characteristics (reproduced from Magoroh Maruyama, <i>Mindscapes and Science Theories</i> , <i>Current Anthropology</i> , 21, 1980, 5, pp. 589-608)			
Type	Components	Relation between components	Process
H	homogenistic	hierarchical	classificational
I	heterogenistic	individualistic	random
S	heterogenistic	interactive	homeostatic
G	heterogenistic	interactive	morphogenetic

Of some relevance to the emphasis on nature and design in this argument, these mindscapes can be fruitfully compared to preferred styles of garden.

12-fold configuration of requisite variety

There is a major puzzle to the widespread preference for use of 12-fold configurations in a variety of domains (*Checklist of 12-fold Principles, Plans, Symbols and Concepts: web resources*, 2011). Elsewhere the suggestion is made that, as a combination of 3-fold and 4-fold, it offers a means of transcending the much-commented human cognitive constraint within the 7-fold -- "plus or minus two" (*Geometry of meaning: an alchemical Rosetta Stone?* 2013). There it is argued that the 12-fold may well constitute a requisite degree of cognitive variety. It has also been explored in generic terms (*Eliciting a 12-fold Pattern of Generic Operational Insights: recognition of memory constraints on collective strategic comprehension*, 2011).

The challenge here is whether this then offers an approach to the array of fundamental qualities (indicated above), conflated across systems of categories, avoiding (to some degree) the conventional cognitive traps to which the 2-fold, 3-fold and 4-fold patterns draw attention (as noted above).

Correspondences: One approach to the "conflation" is through a degree of recognition of "correspondences" -- themselves questionable, if not highly questionable as a consequence of a particular cognitive bias (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007). The question is what cognitive commonality underlies any such correspondence and how engagement with it is to be enabled. In this sense the roles of distinct riddles, or learning questions (as with a *koan*), become significant in recognition of the puzzle (or paradox) implied by the commonality. This is perhaps a form of cognitive "twist" of which the Mobius strip is indicative (*Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness*, 2004).

"Deities": A suitably provocative point of departure is through the **pantheons** of various belief systems, such as the 12-fold *Dodekathéon* of Greece and the *Dii Consentes* of Rome, between which correspondences are well-recognized. Their gods are no longer honoured and respected as in the past, just as belief in deity is systematically challenged by science -- which has little of value to say about "quality", other than with respect to measurement. However the systematic exploitation of the names of deities as intellectual property (for marketing luxury products, or as logos of major institutions) is indicative of a valued association to the qualities they distinguished -- seemingly beneath the dross of verbiage (and beyond the ken of science). Indeed, as noted above, **the "values" now widely acclaimed are effectively the "gods" of secular society -- and are "worshipped" accordingly**. In marketing terms, the "gods" have reinvented themselves -- or been given a new image.

A special issue on *Les Mythes Grecs: pourquoi on n'y échappe pas* of the journal *Philosophie* (Summer 2013) introduces its editorial as follows to argue how modernity has been colonized by Greek myth:

Les dieux et les héros grecs sont parmi nous: Midas vend des pots d'échappement et Athéna des sous-vêtements pour homme. Sisyphe prend le bus tous les matins et Narcisse fait de la télé-réalité. Au hit-parade des métaphores journalistiques, preuve incontestable de leur vitalité, l'*hubris* de Prométhée et la boîte de Pandore se bousculent en tête. Chacun peut l'éprouver au quotidien: tout droit issus de la Grèce d'Homère et Hésiode, les mythes grecs nous ont colonisés.

The editorial then argues how the reverse of this semblance is also true in that modernity -- especially philosophy -- has manipulated an essentially malleable heritage to its own ends. Curiously, honoured or not, their temples remain a focus for popular pilgrimages and tourism. Associated artefacts are much valued as an indication of cultural quality.

Despite exploiting the past, philosophy has not however engendered a more coherent understanding -- rather the reverse as previously argued by **Nicholas Rescher** (*The Strife of Systems: an essay on the grounds and implications of philosophical diversity*, 1985). This situation is reflected in the absence of any meaningful organization of some 30 contributing (or cited) authors to that special issue -- as discussed further below. By contrast, it is however appropriate to note the uptake of coherent presentations of complex sets of mythological figures in widely popular games such as *Dungeons and Dragons* -- however they are to be deprecated.

Ironically the fundamental challenge of Rescher's "strife of systems" could be further emphasized by comparing it to [Chaos](#) from which the Greek deities were originally understood to emerge -- the formless or void state preceding the creation of the universe in the Greek creation myths.

Curiously "[chaos theory](#)" is now a field of mathematics with a variety of applications to the behaviour of dynamical systems that are highly sensitive to initial conditions. Values themselves can be fruitfully understood in terms of the subtle dynamics of the [strange attractors](#) of the related study of [complex systems](#) (*Human Values as Strange Attractors*, 1993). There is however little effort to explore the "chaos" which engenders the array of extant philosophies, associated belief systems, and the chaotic array of values -- however "deities" may be associated with them.

Complementary sets of qualities: As with values more generally, it may be argued that any such "deity" constitutes a form of fundamental cognitive nexus entangled with whatever is recognized as the epitome of that particular quality -- a nexus only dimly perceived, perhaps only intuited, as "[through a glass darkly](#)". The latter might be usefully compared to the limited capacity of [X-ray crystallography](#) to resolve individual atoms. The challenge of recognizing their significance is acknowledged in engaging with both [Jungian archetypes](#) and those traditionally associated with [Platonic forms](#).

Correspondences can be sought with other pantheons, based on the qualities thereby distinguished. As implied above, and separately (*Examples of Integrated, Multi-set Concept Schemes*, 1984), the procedure could be extended to other sets with qualitative implications:

- "holy" figures and places: angelic orders, Imams (as with the 12 of Islam), apostles (as with the 12 of the Bible), sheiks (of Sufi schools), heroes, celebrities, sacred places (as a focus of pilgrimage) -- all to be understood as a focus of attention with integrative connotations
- tastes / smells: perfumes, spices, wines, beers, cheeses
- sounds, tones and tuning systems
- writings: scriptures, poetry, stories
- drama: theatre, opera, blockbuster movies
- games and sports (engagement in playing them, including martial arts)
- design: fashion and style

The argument is not that such correspondences necessarily "exist", but rather that human cognitive capacity is disposed to organize significance such as to imply a degree of correspondence, especially where fundamental qualities are of concern. Especially noteworthy is any "distinction" between qualities (as a "done thing" or *fait accompli*) in contrast with the "process of distinguishing", as an operation implying continuing creative engagement (cf. [George Spencer-Brown](#), *Laws of Form*, 1969; Douglas G. Flemons, *Completing Distinctions: interweaving the ideas of Gregory Bateson and Taoism into a unique approach to therapy*, 2001)

Qualitative complexes: As implied by synaesthesia, each of the sets of qualities challenges any singular connotation of the nature of "quality" -- further challenged by whether it is assumed to be well-bounded, as by a noun descriptor, or better understood as a dynamic (as is appreciated in qualities of movement like dance, surfing, aerobatics, and the like). As noted above, values themselves might be fruitfully understood in terms of the subtle dynamics of [strange attractors](#).

Beyond the notion of "challenge" is the sense in which living (and "quality of life") requires a shifting pattern of experience of qualities -- rather than any form of "monotony" -- to a degree that might be compared with "shapeshifting". This might be understood as a cognitive analogue to a varied diet -- an "information diet", with "cognitive vitamins", possibly even supplemented by "additives" if necessary (Clay A. Johnson, *The Information Diet: a case for conscious consumption*, 2012). The need for stimulants and psychedelics might be framed in these terms.

Cognitive diet: In a society much-focused on healthy physical diet, what are the constituents of a healthy "cognitive diet"? How many "cognitive vitamins" (and supplements) are required? Might they correspond to the 20 vitamins and supplements widely considered essential to bodily health?

Given the lifestyle diseases to which attention is increasingly accorded, are cognitive analogues to be recognized, as separately discussed (*Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008)? A striking example potentially follows from the incidence of diabetes as a result of excessive consumption of sweet stuffs. Is it possible that a cognitive analogue to diabetes emerges as a consequence of excessive predilection for the "positive"?

Fivefold integrative dynamic inspired by nature

Whereas the 12-fold can be said to "elude" closure in valuable ways vital to sustaining cognitive variety, a fivefold pattern is more readily accessible. Its continuing importance across the centuries within Chinese culture as *Wu Xing* is especially noteworthy, particularly its ambiguity as five "elements", "phases", "agents", "movements", "processes", or "stages". The dynamic between the distinguished qualities is especially emphasized. A degree of correspondence is to be found with the *Mahabhuta* (of Hinduism), the *Pancha Tattva* (of Vaishnavism), and the *Godai* (of Japanese philosophy).

Curiously the Pythagoreans were attentive to a similar pattern associated with the deity [Hygieia](#) and considered fundamental to health -- hence "hygiene" (*Cycles of enstoning forming mnemonic pentagrams: Hygiea and Wu Xing*, 2012). The latter notes other recognitions of a fivefold dynamic in relation to psychosocial organization, including the work of [Peter Senge](#) (*The Fifth Discipline: the art and practice of the learning organization*, 1990) and [Henry Mintzberg](#) (*Structure in Fives: designing effective organizations*, 1983). The implications of "healthy wholeness" suggest a particular relevance to a dynamic understanding of integrity (*Wholth as Sustaining Dynamic of Health and Wealth: cognitive dynamics sustaining the meta-pattern that connects*, 2013).

However, whilst the fivefold may be especially valued in non-western cultures, western comprehension of "health" is not articulated or

sustained by a fivefold dynamic -- despite the origin of "hygiene" and its symbolic echoes. It would seem that the elements of the fivefold got "lost" in some way -- buried in other articulations which are not necessarily conducive to an understanding of "healthy" integrity in its most general sense.

More complex insight is evident in a 30-fold articulation (6x5-fold), as in the integrative work of management cybernetician [Stafford Beer](#) (*Beyond Dispute: the invention of team synteegrity*, 1994) -- subsequently integrated into understanding of a [Viable System Model](#). Beer's approach to synteegrity suggests a response to the typically chaotic modern presentation of insight, as highlighted in the case of the 30-odd contributions to the discussion of Greek deities (mentioned above). Such complexity is evident to a degree in a 12-fold representation -- as a dodecahedron with its 12 pentagonal faces.

It is curious that -- despite the crisis of the times -- the prevailing pattern in relation to integrative insight might be caricatured as serial exercises in one-upmanship and game-playing with little ability or desire to integrate that proclivity as a factor worthy of consideration. The preferred response is to frame all others as "wrong", "misguided" or "obsolete" -- and possibly dangerously so. With respect to any sense of "healthy" dynamics, this factor is compounded by undeclared dynamics between proponents of contrasting perspectives, as separately caricatured (*Epistemological Challenge of Cognitive Body Odour: exploring the underside of dialogue*, 2006).

Complementarity of qualitative distinctions in resonance

As highlighted above by the prevailing level of "disease" between distinct perspectives and worldviews, it is curious the inability to draw on understandings of complementarity and resonance articulated by a variety of disciplines, as separately discussed (*Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008).

The most evident example is provided by the relation between distinct notes in any musical scale. Irrespective of the preferred [tuning system](#), there is recognition of appropriate relationships between those notes -- through which harmony can be elicited. The [pentatonic scale](#) offers a striking example (*Bobby McFerrin Demonstrates the Power of the Pentatonic Scale*, *World Science Festival*, 23 July 2009). This suggests a case for recognizing fruitful relationships between cognitive distinctions -- despite any apparent dissimilarity or degree of difference (as between "octaves"). Visual manifestations of such relationships are evident in [Chladni patterns](#).

The term resonance is also significant to understanding of the relationship between the distinct atoms in the organic molecule most fundamental to life, namely the [6-fold benzene molecule](#). Rather than understanding the bonds between those molecules as static -- and consequently incompatible with constraints on molecular structure -- **the bonds are understood to be in resonance within a pattern of distinct configurations**. It is this dynamic resonance which is fundamental to the viability of the resulting structure, recognized as a "resonance hybrid". **Given that life itself is then effectively sustained through a "resonance hybrid", this suggests the possibility of some form of cognitive resonance between perspectives otherwise understood to be incompatible**.

As "morphic resonance", extensive exploration of resonance has been made by [Rupert Sheldrake](#) (*A New Science of Life: the hypothesis of morphic resonance*, 1981). The hypothesis continues to be associated with considerable controversy, exemplified by an early review by the senior editor of *Nature*, John Maddox (*A book for burning?*, *Nature*, 293, September 1981, 5830, pp. 245-246), arguing:

Sheldrake's argument is an exercise in pseudo-science. Many readers will be left with the impression that Sheldrake has succeeded in finding a place for magic within scientific discussion - and this, indeed, may have been a part of the objective of writing such a book.

This appropriately highlights the continuing inability to interrelate contrasting perspectives -- even through use of unconventional frameworks -- as argued separately (*Knowledge Processes Neglected by Science: insights from the crisis of science and belief*, 2012). The problematic dynamics are further highlighted by the controversies aroused by the initiatives of [Alan D. Sokal](#) and [Jean Bricmont](#) (*Fashionable Nonsense: postmodern intellectuals' abuse of science*, 1998). Such issues are reminiscent of the controversy within the Catholic Church in the Middle Ages with regard to the dissonance associated with use of the [tritone](#) in sacred music -- causing it to be named as the *diabolus in musica*. This condemnation is now reminiscent of that by certain religions of rock and related popular music.

Catastrophic axes of qualitative bias

Problematic distinctions of quality have been fruitfully explored as engendering predictable conflict in scholarly debate. Using disagreement over literary definitions of "romantic" as an example, it has been shown that authors (in agreement or disagreement) could be distinguished along seven axes of methodological bias (W. T. Jones, *The Romantic Syndrome: toward a new method in cultural anthropology and the history of ideas*, 1961): The axes of bias distinguished, as engendering predictable debate, are preferences for:

- *Order vs Disorder*: Namely the range between a preference for system, structure, conceptual clarity, etc. and a preference for fluidity, muddle chaos, etc.
- *Static vs Dynamic*: Namely the range between a preference for the changeless, eternal, etc. and a preference for movement, for explanation in genetic and process terms, etc.
- *Continuity vs Discreteness*: Namely the range between a preference for wholeness, unity, etc and a preference for discreteness, plurality, diversity, etc.
- *Inner vs outer*: Namely the range between a preference for being able to project oneself into the objects of one's experience (to experience them as one experiences oneself), and a preference for a relatively external, objective relation to them.
- *Sharp focus vs Soft focus*: Namely the range between a preference for clear, direct experience and a preference for threshold experiences, felt to be saturated with more meaning than is immediately present.
- *This world vs Other world*: Namely the range between preference for belief in the spatio-temporal world as self-explanatory and

preference for belief that it is not and can only be comprehended in terms of other frames.

- *Spontaneity vs Process*: Namely the range between a preference for chance, freedom, accident, etc and a preference for explanations subject to laws and definable processes.

Given the "catastrophic" nature of the dissonant academic "dialogue" resulting from such biases, there is a case for considering the potential relationship of the set to those of the seven [elementary catastrophes](#) distinguished from a topological perspective by [René Thom](#) (*Structural Stability and Morphogenesis*, 1972), especially given his application of this approach to semiotics (*Semio Physics: A Sketch*, 1990). This has been clarified by others (Jean Petitot, *Logos et Théorie des Catastrophes: à partir de l'oeuvre de René Thom*, 1996; David Aubin, *Forms of Explanations in the Catastrophe Theory of René Thom: topology, morphogenesis, and structuralism*, 2004).

Given the argument here relating to conflation of fundamental qualitative distinctions, whether as "biases" or "catastrophes", it is potentially useful to explore how these might be related to the set of seven WH-questions as associated with distinctive "cognitive catastrophes": who, why, where, what, which, when, how (*Conformality of 7 WH-questions to 7 Elementary Catastrophes an exploration of potential psychosocial implications*, 2006). Does existential crisis -- whether collective or individual -- need to be brought into focus by a "deadly question", as separately argued (*In quest of the most deadly question*, 2013).

Biomimicry and ecomimicry: innovation through imitation of nature

World of models: It is not particularly obvious why there is such enthusiasm for elaborating "models" as a framework for "explanations" -- especially given the "geometry" implied by both terms. Clearly there is some need to reduce uncertainty. There is the implication that a "better" model would render life more coherent -- however that might be related to sustainability, and whether or not it could be comprehended and communicated.

The plethora of models, variously favoured or deprecated, is potentially embarrassing -- unless all but that preferred can be framed as "wrong". Since the others are not about to be eliminated, a form of "ecosystem of models" could be envisaged. A way might be found of subsuming models into a meta-model or meta-pattern (*Criteria for an Adequate Meta-model*, 1971). The biosphere is suggestive in that respect since each species can be understood as a "model", or operating within a model -- effectively a "business model" with criteria of "profitability" geared to survival.

"Cognitive biomimicry": The recent exploration of [biomimicry](#) or biomimetics is of relevance to this argument as the imitation of the models, systems, and elements of nature for the purpose of solving complex human problems ([Janine M. Benyus](#), *Biomimicry: innovation inspired by nature*, 2002; Kevin M. Passino, *Biomimicry for Optimization, Control, and Automation*, 2004). [Ecomimicry](#) is a term used by others ([Alan Marshall](#), *Wild Design: ecofriendly innovations inspired by nature*, 2009; [Ken Yeang](#), *Ecomimicry: ecological design by imitating ecosystems*, 2013).

The relevance takes on a more fundamental cognitive dimension in the light of arguments first elaborated by [Gregory Bateson](#) (*Steps to an Ecology of Mind*, 1972; *Mind and Nature: a necessary unity*, 1979) and subsequently by others, notably in terms of [eco-philosophy](#) ([Henryk Skolimowski](#), *The Participatory Mind: a new theory of knowledge and of the universe*, 1995). What might then be the nature of "cognitive biomimicry"? The relevance can be speculatively explored with respect to currently dominant modes of organization (*Systemic Biomimicry of Dinosaurs by Multinational Corporations: clearing the ground for future psychosocial evolution*, 2011)

Models as cognitive vehicles: The question is the extent to which, especially unconsciously, understanding is in some manner framed and "carried" by the "models" offered by the phenomena of nature -- especially given the engagement one may have with them. The use of such "models" has of course long been extensively explored and celebrated in poetry. Indeed poetry can be understood as offering an interface with the cognitive "vehicles" offered by nature, as implied by the argument of Gregory Bateson in explaining why "we are our own metaphor", to a conference on the effects of conscious purpose on human adaptation:

One reason why poetry is important for finding out about the world is because in poetry a set of relationships get mapped onto a level of diversity in us that we don't ordinarily have access to. We bring it out in poetry. We can give to each other in poetry the access to a set of relationships in the other person and in the world that we're not usually conscious of in ourselves. So we need poetry as knowledge about the world and about ourselves, because of this mapping from complexity to complexity. (Mary Catherine Bateson. *Our Own Metaphor*, 1972, pp. 288-289)

What then is required to "fly with the birds", to "run with the deer", to "flow with the water", or to "be like a tree" -- given the arguments of Douglas Hofstadter and Emmanuel Sander (*Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013)? What of "riding a dragon", as proposed to the imagination of the young in blockbuster movies, such as *Avatar* (2009) -- activating myths of centuries past?

Sustainable identity through metaphor: How might identity in context be expressed otherwise through a poem (*Being a Poem in the Making: engendering a multiverse through musing*, 2012)? Rather than "models", "metaphors" could prove to be the cognitive vehicles of the future, as separately argued (*Metaphors as Transdisciplinary Vehicles of the Future*, 1991).

An imaginative stimulus for such investigation is provided by a science fiction scenario explored by a number of writers. It focuses on the challenge of comprehending high degrees of complexity calling for decision-making under operational conditions (as is the case in global management):

The problem is that of piloting or navigating a spacecraft through "hyperspace" or "sub-space", as imagined in the light of recent advances in theoretical physics and mathematics. Because of the inherent complexity of such environments, writers have explored the possibility that **pilots and navigators might choose appropriate metaphors through which to perceive and**

order their task in relation to qualitative features of that complexity - for example, flying like a bird, windsurfing, swimming like a fish, tunneling like a mole, etc. The mass of data input derived from various arrays of sensors, and otherwise completely unmanageable, is then channelled to the pilot in the form of appropriate sensory inputs to the nerve synapses corresponding to his "wings" or his "fins". Perception through the chosen metaphor is assisted by artificial intelligence software and appropriate graphic displays. The pilot switches between metaphors according to the nature of the hyperspace terrain. Such speculations stimulate imagination concerning a possible "marriage" between metaphor and artificial intelligence in relation to governance.

"Cognitive ecomimicry": Do the conventional models elaborated for strategic and organizational purposes offer such complex subtlety -- and an attractive sense of participatory engagement? More specifically, given Bateson's argument for an "ecology of mind", **to what extent does "biomimicry" suggest possibilities for effectively internalizing nature and its ecosystems?** This is far beyond the aspiration of many conventional models in that it effectively implies an "ecology of models" through which engagement with reality is enabled (*Through Metaphor to a Sustainable Ecology of Development Policies*, 1989). Such **an ecology implies a dynamic relationship between very different models** -- a characteristic quite alien to the "singularity" (even "universality") claimed for each of them by their creators and adherents. What might then be the nature of "cognitive ecomimicry"?

Engaging with enduring "obsolescence": Curiously the process of elaborating conventional models bears a strange resemblance to what amounts (presumptuously) to "jump starting" evolution through a form of "memetic engineering" -- whereby species of greater viability are introduced in the expectation that they will replace those framed as "unfit for purpose". The surprise comes from the hitherto unrecognized adaptability of assumed to be "unfit", and the consequently challenging dynamics of their coexistence with newly created forms designed to supplant them.

The survival of the *coelacanth* offers a sobering lesson in this respect -- as does the coexistence of multiple generations of computers (requiring attention to "**backwards compatibility**"), otherwise incompatible with strategic efforts at planned obsolescence. Perhaps even more curious is the sense in which some models -- most notably those of religion -- define themselves as "eternal", without any conceivable justification for any form of "upgrade".

Internalizing the processes of nature through an eightfold way

Ba Gua: However it may be related to the [12-fold configuration](#) and the [5-fold dynamic](#) (as discussed above), the credibility offered over millennia to a form of "eightfold way" -- at least within Chinese culture -- merits careful consideration, as suggested by the arguments of [Susantha Goonatilake](#) (*Toward Global Science: mining civilizational knowledge*, 1999; *Cultural Consequences of the Shift to Asia*, forthcoming), and separately discussed (*Enhancing the Quality of Knowing through Integration of East-West metaphors*, 2000). The dynamic pattern in question is the *Ba Gua* of eight trigrams, each closely associated with a phenomenon of the environment -- offering an integrative understanding of how those phenomena are interrelated, whether understood statically or dynamically.

Encoding paradox and ambiguity: Of particular relevance to this argument is the manner in which that pattern encodes the epistemological challenges and paradoxes to which reference was made above -- effectively including its own negation. However, rather than engendering a pattern of complexity of limited accessibility, the challenge of comprehension is deliberately embodied within the pattern as ambiguity with which the simplest facilitating metaphors are associated. This ambiguity is reminiscent of that highlighted as a requisite of quantum physics as the [uncertainty principle](#). Furthermore, rather than dissociating the pattern from daily life, the relevance to decision-making in the dynamics enabling both individual and collective "thrival" becomes a focus of attention -- as a matter of choice in the moment.

Cognitive "zooming": Of further relevance to the epistemological challenges of "conflation" and "articulation" (as noted above) is the manner in which the encoding system specifically enables what amounts to "zooming" between different cognitive levels -- rendering implicit or explicit particular qualities. This is especially notably with respect to the articulation into the widely known 64-fold pattern of the *I Ching* (*Discovering Richer Patterns of Comprehension to Reframe Polarization*, 1998). The traditional commentary on this articulation has been experimentally adapted to a variety of domains (*Transformation Metaphors -- derived experimentally from the Chinese Book of Changes (I Ching) for sustainable dialogue, vision, conferencing, policy, network, community and lifestyle*, 1997).

Recreation as cognitive engagement with nature: With respect to cognitive implication in the dynamics of the 8-fold *Ba Gua* pattern, the felt need of individuals for recreation merits particular attention -- especially in the light of contrasting preferences for fulfilling "recreation" and "re-freshment". It is in this sense that the pattern offers a form of bridge between a conceptual model and the features of the natural environment -- perhaps best to be explored imaginatively (*Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality*, 2011).

Of relevance to this cognitive "refreshment" is the manner in which the environmental conditions indicated by the *Ba Gua* pattern can be recognized as closely associated with styles of "recreation": sky, lake, fire, thunder, wind, water, mountain, earth. It is through these that people can be understood (especially through "[deep ecology](#)") as achieving different forms of "refreshment" -- potentially implicit in periodic engagement in distinct forms of tourism (*En-minding the Extended Body: enactive engagement in conceptual shapeshifting and deep ecology*, 2003).

Internalization of nature as a key to health: Framed in this way, the question is whether "internalizing" natural processes offers an as yet unexplored strategic approach to the challenges of global sustainability (*Psychology of Sustainability: embodying cyclic environmental processes*, 2002; *Embodying the Sphere of Change Reframing metaphors of the I Ching as a codification of the patterns of change*, 2001).

Those challenges are then of "intimate" **cognitive** significance -- potentially rendering the "health" of the globe as being fundamental to

that of the individual, and vice versa.

Psychosocial indications: Of relevance to this argument are patterns of distinctions elaborated with regard to "healthy" collaborative action. Of particular interest is that of [Gareth Morgan](#) (*Images of Organization*, 1986). This suggests that organizations may be qualitatively distinguished as: machines, organisms, brains, cultures, political systems, psychic prisons, flux and transformation, or instruments of domination.

Of similar interest is the distinction made by [Meredith Belbin](#) (*Management Teams*, 1981) between roles in a team such that an effective team required members able to cover eight key roles in managing the team and carrying out its work. The number was later extended to nine, as distinguished by the *Belbin Team Inventory*. A similar variability in qualitative distinction is evident in the case of the forms of intelligence distinguished by [Howard Gardner](#) (*Frames of Mind: the theory of multiple intelligences*, 1983). Therein he distinguished eight forms: spatial, linguistic, logical-mathematical, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic. Subsequently he suggested the addition of moral intelligence

These distinctions are strongly suggestive of complementary cognitive styles -- however these may be experienced qualitatively.

Additional design dimensions?

Within a 12-fold pattern of distinctions, the above sections have discussed those relating to sets of size ranging from 0 through 8. Framed as **systematics**, detailed consideration of **12 systems** has been made by [John G. Bennett](#) (*The Dramatic Universe: the foundations of natural philosophy*, 1997) and developed by [A. G. E Blake](#) (*The Systematics Code*, 2006). The twelve systems are considered, not as scientific models but insights into degrees of organization, with the twelfth (**duodeca**) considered as associated with perfection.. Consideration could of course be given to:

- a **9-fold pattern** of distinctions: this is best exemplified by the **enneagram** and the fundamental significance that has been associated with it ([A. G. E. Blake](#), *The Intelligent Enneagram*, 1996). Bennett discusses the 9-fold as the **ennead**, indicating its significance with respect to harmonization.
- a **10-fold pattern** of distinctions: this is most evident in the widespread adoption of sets of this size to cluster arguments, principles and other points -- most probably reinforced by familiarity with the number of digits on the hands. Seemingly little cognitive significance is however attached to the **decagram**, although pointers are offered in that direction in a discussion by [Hartmut Warm](#) (*Signature of the Celestial Spheres: discovering order in the solar system*, 2010). Bennett discusses the 10-fold as the **decad**, indicating its significance with respect to integrative complementarity.
- an **11-fold pattern** of distinctions: Bennett discusses the 11-fold as the **undecad**, indicating its significance with respect to synergism. Recent research into flat space **string theories** conclude that they are 26-dimensional in the bosonic case, while superstring and M-theories turn out to involve 10 or 11 dimensions for flat solutions ([Michio Kaku](#), *The Multiverse has 11 Dimensions*, 10 November 2010; [Thad Roberts](#), *Visualizing Eleven Dimensions*, *TEDxBoulder*, 28 December 2010)

The design considerations emphasized a degree of exploratory flexibility with respect to the size of any set. The manner in which some authors have tentatively extended the distinctions they made from eight to nine is indicative of this. As indicated above, further possibilities can of course be considered, from 13-fold to 20-fold distinctions, or more (*Distinguishing Levels of Declarations of Principles*, 1980). The case for a 20-fold pattern might be reinforced by recognition of a corresponding number of "cognitive vitamins" (and supplements).

Following his major study of the *The Nature of Order: an essay on the art of building and the nature of the universe* (2003-4), the recent work of Christopher Alexander is of relevance in the focus he gives to **15 transformations** (*Harmony-Seeking Computations: a science of non-classical dynamics based on the progressive evolution of the larger whole*, *International Journal for Unconventional Computing (IJUC)*, 2009 -- as discussed separately (*Harmony-Comprehension and Wholeness-Engendering eliciting psychosocial transformational principles from design*, 2010).

Technomimicry as implied by potential of biomimicry

The value of biomimicry -- using patterns in nature as a key to innovation -- is increasingly well-recognized (as noted above). A similar argument can be made with respect to technology -- using patterns in one technological domain as a key to innovation in another -- a process potentially to be named as technomimicry.

Again that argument can be extended to suggest possible cognitive implications, as discussed separately in the light of insights from helicopter design (*Engendering a Psychopter through Biomimicry and Technomimicry: insights from the process of helicopter development*, 2011; *Technomimicry as analogous to biomimicry*, 2011).

The totality of technological systems then implies an array of possibilities for cognitive organization of a nature yet to be understood and explored (cf. [Erik Davis](#), *Techgnosis: myth, magic and mysticism in the age of information*, 1998; [Robert D. Romanynshyn](#), *Technology as Symptom and Dream*, 1989).

The point can be briefly emphasized through consideration of the justification for:

- the number of cylinders considered appropriate for a combustion engine
- the number of gears in a transmission system
- the number of tuning systems variously considered appropriate to musical harmony

From a systemic perspective such questions call for reframing understanding of the number of religions, as exemplified by [Stephen Prothero](#) (*God Is Not One: the eight rival religions that run the world -- and why their differences matter*, 2011). The argument could be

extended to other belief systems, including political parties and their distinct policies (*Tuning a Periodic Table of Religions, Epistemologies and Spirituality -- including the sciences and other belief systems*, 2007).

World-making: designing one's own vehicle

World-making: Nelson Goodman reviewed the ways in which worlds could be created through the arts (*Ways of Worldmaking*, 1978). Another environment in which the imagination can be challenged and exercised is in the creation of virtual worlds which others are invited to visit, and where they may be invited to interact. The most accessible of these is known as **Active Worlds**. It is a community of hundreds of thousands of users that have built over 1,000 3D virtual reality environments in millions of square kilometers of virtual territory -- within which they can engage in informative chat sessions. The environment is much used by teachers around the world. From architecture departments to science labs to ThinkQuest projects, Active Worlds has been adding new dimensions to learning [more]. Such world-making also allows people to experiment with alternative physical laws and social structures.

Similar environments focus on creation of **virtual ecosystems**, with artificial lifeforms of every imaginable kind [more]. The set of perspectives sustained via the website of the **Complexity and Artificial Life Research Concept for Self-Organizing Systems** is especially suggestive [papers; more]

More problematic is the possessiveness associated with such "intellectual property" (*Identity, Possessive World-making and their Transformation Dynamics*, 2012).

Imposition of designs by authorities: As variously implied above, people are confronted by conceptual "worlds" designed by authorities -- by "others". There is an expectation that people will enthusiastically subscribe to these worlds. There may even be an obligation to do so, as in the case of many religions and some political ideologies. These "worlds" are each presented as the most appropriate vehicle for quality of life and future development. Science itself now assiduously follows this path, deprecating any alternative perspectives as erroneous or misguided in a manner very reminiscent to the religions it claims to replace so effectively.

Curiously none of these "worlds" seems to have developed any capacity to interrelate alternative perspectives -- as necessary complements or as vehicles valuable for those with other biases, capacities or cognitive preferences. Nor do any of these worlds seem to have any motivation to do so. The challenge for the individual is then to live in a "universe" of multiple worldviews with little if any guidance on how to do so -- other than a possible warning that it is unwise, if not dangerous, to do so. Inspired by the arguments of physics, the universe may even be better understood as a **multiverse** (*Being a Poem in the Making: engendering a multiverse through musing*, 2012).

Interrelating otherness in design : Individuals are nevertheless obliged to deal creatively with the reality of "otherness" which "world authorities" so skillfully avoid. Metaphorically it could even be argued that individuals experience a need for "all-terrain cognitive vehicles" under conditions in which authorities only offer vehicles appropriate to relatively specific ("ideal") conditions that only occasionally correspond to the reality of daily life as experienced by many.

Individuals are increasingly obliged to elicit integrative significance from this diversity, as separately discussed (*Eliciting a Universe of Meaning: within a global information society of fragmenting knowledge and relationships*, 2013; *Self-reflexive Challenges of Integrative Futures*, 2008). Ironically, in an era in which market forces encourage individuals to "do it yourself" in the selection of materials to build and adapt their physical environments, other "forces" are effectively encouraging them to adopt a similar strategy with respect to their cognitive environment -- possibly inspired by a degree of technomimicry. Perhaps even more ironically, authorities are then forced either to offer ever "cheaper" (mass-market) constructs -- or ever more "exclusive" constructs, accessible only to the very few.

Reality on the ground: The parallels and dissimilarities implied by individual "cognitive vehicle" design are themselves instructive -- especially in the light of experience in the most undeveloped regions of the world (or in disadvantaged urban environments):

- given the relative inaccessibility of resources and know-how, notably in slum areas, construction may be significantly constrained by:
 - non-conformity to best practice
 - failure to respect building regulations, health and safety standards, environmental considerations, etc
 - lacking authorization or uncertified
 - non-completion, whether deliberate or due to delays
 - use of materials to hand, rather than the most appropriate
 - recourse to "obsolete" modalities (horse and cart, etc)
- experimental, eccentric or highly adaptable, as exemplified by
 - inventor hobbyists (cf *Those Magnificent Men in their Flying Machines*, 1965)
 - shack construction
 - vehicle maintenance in developing country garages
 - whatever "works"

Such realities are to be compared with "designs" promoted by authorities with little attention to whether appropriate resources are available -- except as provocative indications of ideal possibilities. Authorities favour belief systems which bear comparison with mega-structures -- skyscrapers, commercial complexes and temples, within which the maximum number can be gathered, reinforcing the challenges of grooming for consumerism.

Circulation of the light?

Travelling between worlds? Whilst authorities are especially attentive to the "world" with which their particular belief system is associated -- and over which they claim exclusive dominion -- individuals are necessarily aware of a variety of "worlds". One or more of these may be the consequence of their own "world-making". Some they may be obliged to visit in order to survive. Others may be explored in a spirit of curiosity, tourism and recreation. Many may be variously deprecated by authorities -- even framed as dangerous or inherently "evil". Visiting them may become a mark of imperfection -- even of heresy or sin (if not "terrorism"?). Those from "other worlds" may well be experienced and labelled as "aliens".

Framed in this way, it could be said that the capacity for exploration of "other planets" and "other solar systems", as envisaged for the future by science (fiction), is already a characteristic of the living reality of many. People now travel to different worlds in the "universe" -- as frequently as they may move around the planet. The "movement" may be physical or it may be through cyberspace. However it may also be understood as a shifting focus of attention.

It is curious to note the extent to which such travel may be collectively enabled through processes like meetings. Those so gathered by the prospect of such a visit can be readily compared to passengers on a bus (or in a spacecraft) taken on a conducted tour of another world by the speaker. The speaker may be an institutional authority (representing a religion) or an exemplar of creativity (as with TED talks). The case of an individual travelling alone on a horse, bicycle, or motorbike is another matter -- exemplifying the *Lonely Planet* archetype.

Healthy pattern of movement? It is as a movement of attention that the process may be related to traditional understanding of the "circulation of the light" (as mentioned above) -- suggestive of phases in the movement of attention which is the concern of some disciplines of meditation, as separately discussed (*Circulation of the Light: essential metaphor of global sustainability?* 2010).

Just as nomads, and jet set elites (or the *Snowbirds*), may have annual migration patterns vital to their lifestyle, is there a "healthy" pattern to such movement? The question may be related to the patterns detected in the *time management* and the *intertemporal choice* of individuals. In the present period of massive unemployment, there is indeed an important case to be made for clarifying what an individual is to "do" -- when there is "nothing to do", exacerbated by a sense of "pointlessness". **In what pattern should individuals engage to enable them to survive and thrive?**

Further to the above argument, if fundamental qualities recognized by an individual are variously central to "worlds", what might then be a "healthy" pattern of movement between them -- for that individual? In cultures with a pantheon of gods, it is common (even now) for an individual to go to a chosen set of their temples or festivals. This may correspond to the mix of activities celebrating various values recommended as appropriate for a healthy lifestyle -- even for modern businessmen.

Healthy movement in dialogue? Rather than exploring any "meditative" understanding of such "circulation", a more accessible focus is that of dialogue, especially within a group (*Enabling a 12-fold Pattern of Systemic Dialogue for Governance*, 2011; A. G. E. Blake, *The Supreme Art of Dialogue: structures of meaning*, 2009). Relevant phrases are "talking things up" and "keeping the ball in play" -- in contrast with "dropping the ball". Use of "ball" draws attention to the manner in which a "point" may be passed around a group, and transformed, as noted by methodologies such as *critical discourse analysis* and *transactional analysis*. Game-playing echoes can be found in the "passing patterns" recognized in certain sports -- notably where use is made in dialogue of the phrase "the ball is in their court".

The challenge is even more evident where humour and playfulness have a significant role in the dialogue (*Humour and Play-Fullness: essential integrative processes in governance, religion and transdisciplinarity*, 2005). The "circulation of the light" may be especially evident where a degree of flirtation is involved -- a "twinkle in the eyes" being associated with humour, play and flirtation. How do such processes suggest that the "light" of "enlightenment" circulates? What causes a remark to "fall flat" -- as is familiar in humour and flirtation (potentially implying a musical metaphor)? **Is there a form of "alchemy" to fruitful discourse -- through which "lead" exchanges are transformed into "gold"?**

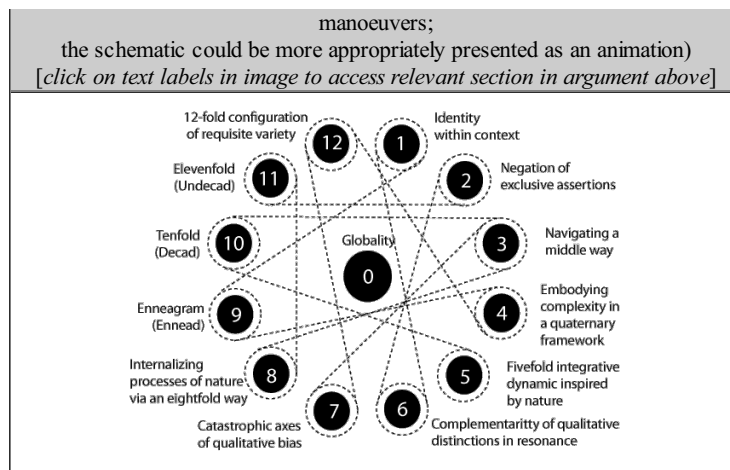
Similarly, the role of "questions" in reframing any uncreative pattern of dialogue, enhancing engagement, and eliciting unexpected outcomes, can be fruitfully contrasted with those "answers" which "dampen down" the level of excitation -- possibly to be compared with "quenching" the process of exchange (*Questioning as cognitive portal to the future*, 2013).

Whether in group dialogue, or for an individual engaging with mysterious worlds "within" (values, gods, etc), a concern may be how to enhance the pattern of movement. In ball sports, observers may be especially attentive to the subtle elegance of the game. This may be true to a degree in dialogue -- through emerging recognition of a meta-narrative. It may be privately appreciated in "inner dialogue" and meditation -- through recognition of a "pattern that connects".

It is interesting to note current reflection on the possibility of travel between the planets of the solar system on an *Interplanetary Transport Network* requiring minimal energy resources. Separately the associated indications from orbital mechanics were seen as suggestive of a way of enabling an "Inter-Other Transition Network" (*Orbiting Round Nothingness across Communication Space: possibility of an "Inter-other Transition Network"*, 2012). The suggestion there was that this form offered insights of relevance to the analogous psychosocial challenge and the need to reframe assumptions regarding the linearity of relationships and links in communication in order to ensure their viability for appropriate transfer of meaning between contrasting worldviews. The image below is also indicative of use of *gravitational slingshot* manoeuvres for such travel between planets.

Deities as gears? The sections of the above argument, as distinct qualitative worlds of understanding, may be configured schematically around the "Sun" of globality as below. Following the argument, the worlds can be conceived as deities or other value containers. Given the association with numbers, they might also be memetically related to "gears" within a transmission system. Using that metaphor, **the art is then how to "change gear" and when.**

Configuration of a set of qualitative principles distinguished by number
(also indicative of gear-shifting possibilities and gravitational slingshot)



In contrast to the elusive nature of "deities" or "values", gears are widely familiar to drivers of vehicles. The question is whether the metaphor offers insights into the process of "changing cognitive gear" (as suggested by the above schematic) . Of potential relevance to reflection on possible cognitive equivalents is the variety of:

- **types of gear:** external vs internal gears, spur, helical, skew gears, double helical, bevel, spiral bevels, hypoid, crown, worm, non-circular, rack and pinion, epicyclic, sun and planet, harmonic drive, cage gear, magnetic gear
- **means of changing gear** (altering the gear ratio to suit the task): [manual transmission](#), [automatic transmission](#), [derailleur gears](#), and [hub gears](#)
- **speed transmissions:** 4 and 5 speeds are common in automobile transmissions; many [truck transmissions](#) have 9 or 10 speeds. There are also 13, 15, and 18 speed trucks.

With respect to any such "technomimicry", the insights to be drawn from helicopter design were noted above in the light of the work of [Arthur M. Young](#) (*The Geometry of Meaning*, 1976; *The Bell Notes: A Journey from Physics to Metaphysics*, 1979). However, for the comprehension of a 12-fold pattern, rather than seeking inspiration from the helicopter whose operation few understand, the 3-fold and 4-fold patterns could be compared to the [front derailleur](#) and [rear derailleur](#) on a [multi-gear bicycle](#), as discussed separately (*Geometry of meaning: an alchemical Rosetta Stone?* 2013).

One derailleur then offers 4 possible gears -- to be compared with the 4 catastrophes with 1 active variable ([fold catastrophe](#), [cusp catastrophe](#), [swallowtail catastrophe](#), [butterfly catastrophe](#)). The other derailleur offers 3 possible gears -- to be compared with the 3 catastrophes with 2 active variables ([hyperbolic umbilic catastrophe](#), [elliptic umbilic catastrophe](#), [parabolic umbilic catastrophe](#)). Together, any one of the 4 with any one of the 3, this offers 12 possible "cognitive gears" -- 12 operational modalities between which to choose according to circumstances.

World introversion as key to a sustainable existential ecostery?

There is a major challenge in seeking to benefit from the insights relevant to any integrative reframing of "globalization". These have previously been partially discussed (*Self-reflexive Challenges of Integrative Futures*, 2008). Briefly stated, a number of seemingly (or potentially) complementary "waves" are being made in quite distinct domains of knowledge (in "my" universe), leaving it to others (or, in their absence, to "me") to enable some form of "global" comprehension, at least of relevance for "me" (*Existential Embodiment of Externalities*, 2009; *In Quest of Radical Coherence*, 1995).

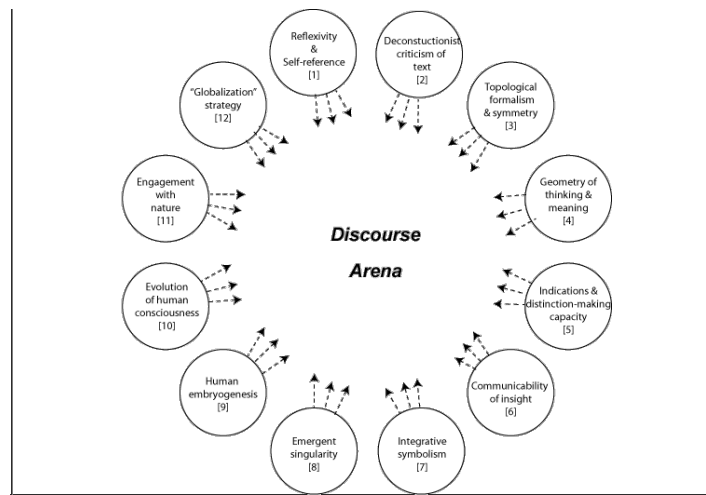
Global cognitive fragmentation: None of the representatives of such initiatives want much to do with each other, often to the extent of condemning others to a cognitive netherworld of dangerous irrelevance. There they may be visited under authoritarian guidance -- at the visitor's own peril, especially given the increasingly questionable credibility of such authorities (*Abuse of Faith in Governance*, 2009).

The representatives are typically much esteemed in their own domains within the current global civilization. The domains may however be usefully understood as "conceptually gated" (*Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society*, 2004).

This argument addresses the fundamental reality that the worldviews of authorities are effectively no longer deliverable in a timely credible manner to the ever increasing numbers obliged to make do with whatever they conceive to be accessible and relevant to their existential needs. The "globalization" espoused and promoted by authorities is no longer meaningful beyond the domain of well-captured audiences (within which consensus has been elicited) -- unchallenged by existential concerns. Internet facilities obscure the manner in which they enable and reinforce traditional divisive trends.

For convenience with respect to the following discussion, a selection of such gated domains might be configured together as follows.

Problematically interrelated domains of strategic discourse (reproduced from <i>Engendering Invagination and Gastrulation of Globalization</i> , 2010)



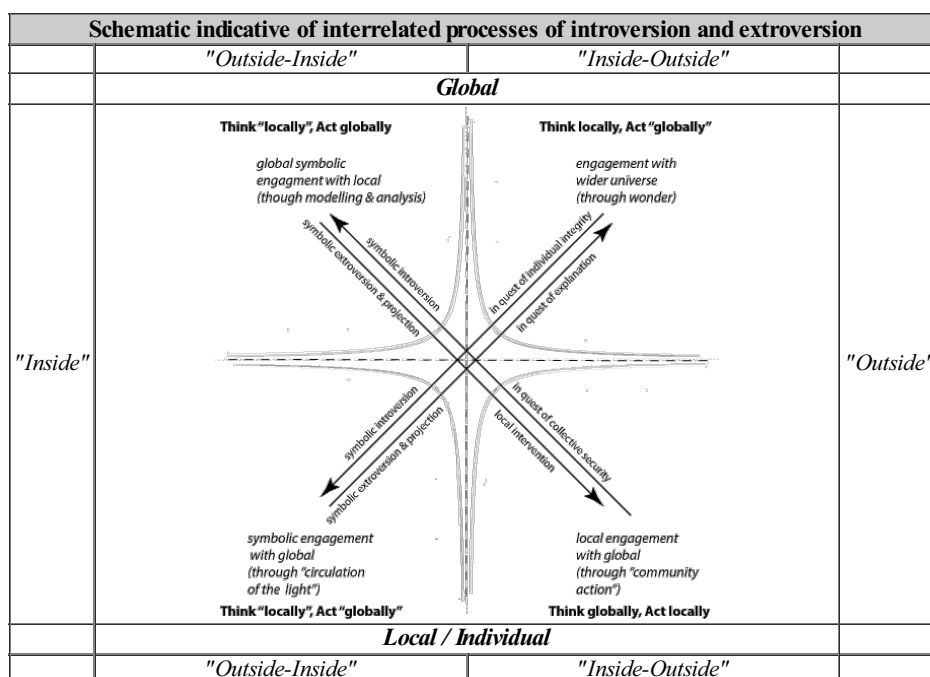
"Turning the world around": Ignoring the track record of past decades, the situation may well be framed as one calling for global transformation according to strategic patterns and plans of the past. Appeals may be made for "new thinking" to that end -- or "political will" (*International Organizations and the Generation of the Will to Change*, 1970). Some may hope for popular revolution. Optimists may focus on the potential of human ingenuity, despite indications to the contrary ([Thomas Homer-Dixon, *The Ingenuity Gap: how can we solve the problems of the future?* 2000](#)).

). Others may focus on the anticipated catalyst of natural disaster, Armageddon, or the welcome fulfillment of divine prophecy (*Spontaneous Initiation of Armageddon: a heartfelt response to systemic negligence*, 2004).

It might then be asked how the world might otherwise be "turned around". The question is especially significant in a period characterized by trends such as the following:

- virtualization and dematerialization of the economy
- ever increasing cognitive shift into the "virtual worlds" engendered by the internet and social networking
- invasive surveillance and loss of privacy (NSA and its collaborators in the PRISM initiative)
- widespread recourse to narcotic drugs
- widespread social unrest and the expectation that it will increase
- loss of confidence in authoritatively presented belief systems and recognition of a degree of self-reliance

"World introversion": Rather than "turning around", separately it has been argued that there is an opportunity -- for the individual -- of "world introversion" (*World Introversion through Paracycling: global potential for living sustainably "outside-inside"*, 2013). As noted there, the cognitively paradoxical process of turning "outside in" has also been termed "circumversion" -- summarized by the following image..



The schematic above highlights various potential correspondences:

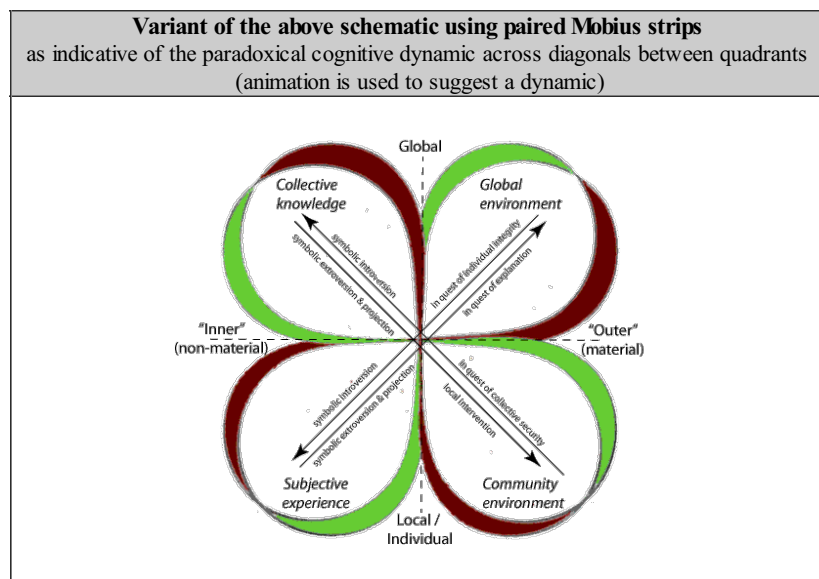
- left-hand quadrants:
 - the upper-left quadrant as the focus of a very high order of "introversion" of the world's human activity through global surveillance, analysis and modelling within supercomputers (most notably as implied by the initiatives of NSA through the

PRISM program)

- the lower-left quadrant as the focus of a very high order of subjective "introversion" within individual human consciousness, effectively "withdrawing" projections into the external world (M. D. Faber, *The Withdrawal of Human Projection: separating from the symbolic order*, 2013)
- right-hand quadrants:
 - the upper-right quadrant as the objective focus of the preoccupation of the "natural" and material sciences concerned to elaborate an understanding of world order (and to enable its governance through technocratic skills)
 - the lower-right quadrant as the objective focus of local community action and neighbourhood coherence (delinking from global dependence)
- diagonals, indicative of various forms of interactive "mirroring" between quadrants

The schematic bears a degree of similarity to the categories interrelated in the [AQAL system](#) elaborated by [Ken Wilber](#). With respect to the possibility of "turning the world around", reframed here as introversion, the schematic suggests a framework through which the NSA/PRISM strategy could be "turned around" in the light of its original form as [ECHELON](#), as discussed separately (*From ECHELON to NOLEHCE: enabling a strategic conversion to a faith-based global brain*, 2007).

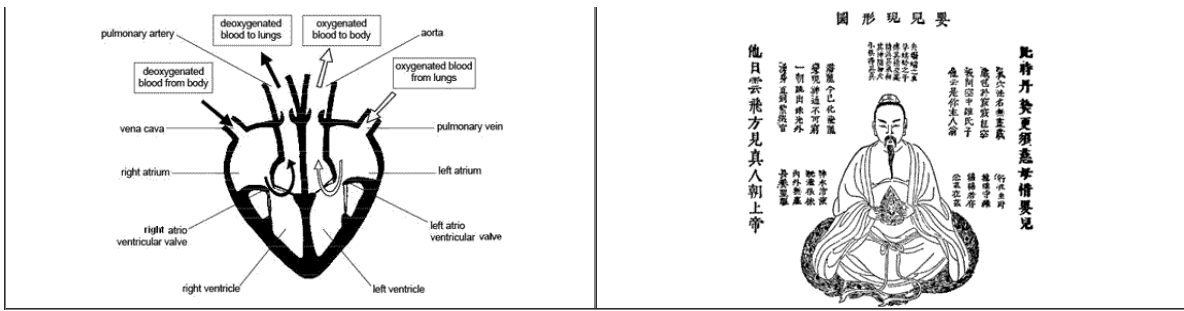
The above schematic implies a form of non-cartesian complexity through the use of paired [rectangular hyperbola](#), as was done in the above mentioned mapping of problematic, resolutique, imaginatque and ludique onto the plane of complexity (*Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007). However the paradoxical (counter-intuitive) nature of the cognitive relationships between the quadrants of the above schematic can also be usefully highlighted by the use of paired Mobius strips (along the diagonals), as in the following schematic.



Indicative metaphors of introversion: The cognitive process of "introversion" necessitates recognition of an unsuspected degree of existential "intimacy" (potentially incommunicable) as a **dynamic** challenge to conventional approaches to objective engagement with **static** "categories". Possibilities include:

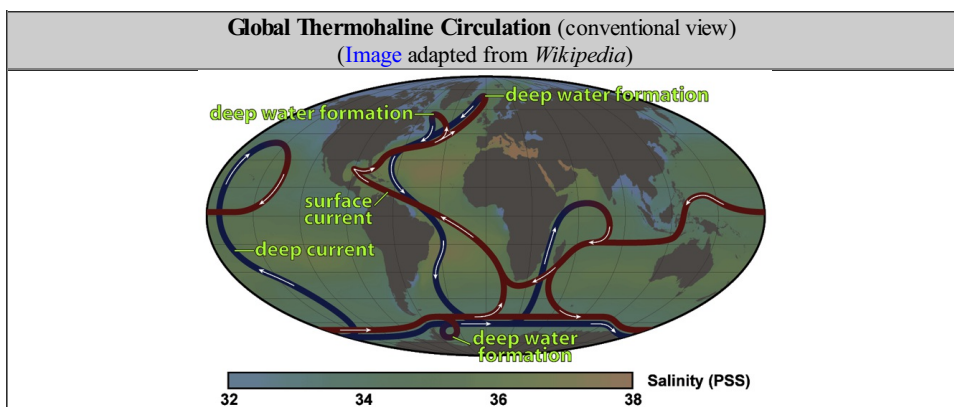
- a recognition that the engagement with "globality", implied by use of paired Mobius strips, can be explored further through the paradoxical topology of the [Klein bottle](#) and insights from [enactivism](#), as separately discussed (*Intercourse with Globality through Enacting a Klein bottle: cognitive implication in a polysensorial "lens"*, 2009)
- the possibility that the process of "world introversion" involves cognitive dynamics previously explored in the light of the biology of [invagination](#) (*Engendering Invagination and Gastrulation of Globalization: reconstructive insights from the sciences and the humanities*, 2010; *Invagination in Psychosocial Terms: understandings from web resources*, 2010)
- an implication that the above schematic could be interpreted systemically in terms of the kinds of dynamic between the 4 chambers of the human heart and their associated valves, as suggested by the following image -- thereby offering a metaphoric understanding of the "circulation of the light" reminiscent of the original insights into that process according to the ["inner alchemy"](#) (*Neidan*) of Taoism, and its comparison with the spiritual alchemy of the West. The dynamics of Neidan could be interpreted as offering insights into healthy "sustainability" from an individual perspective.

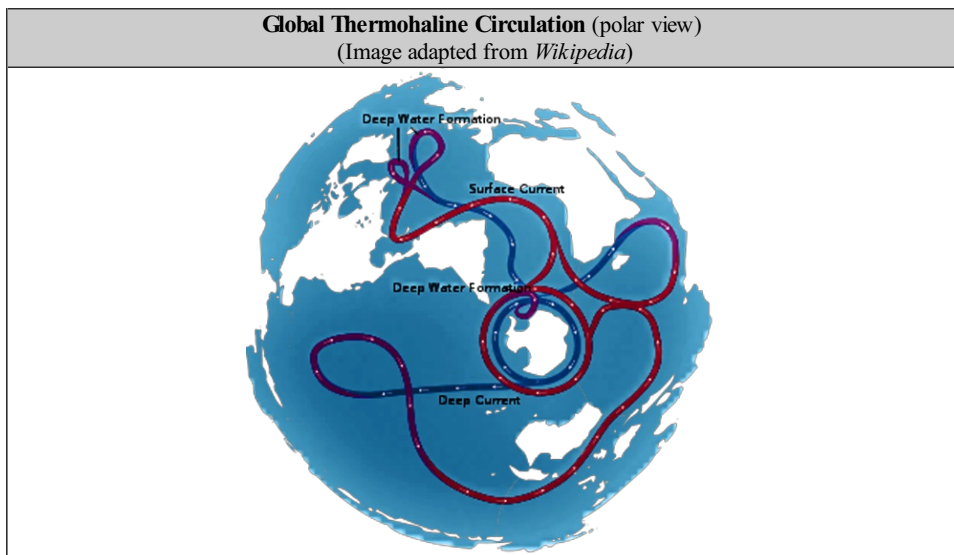
Circulatory metaphors associated with the heart provocatively suggestive of a corresponding "cognitive cardiovascular system" dynamic	
Simplified diagram of the mammalian heart (Image reproduced from Wikipedia)	Classic image of practitioner of Neidan (Image reproduced from Wikipedia)



A heart-related theme of potential relevance can also be explored in the light of the work of [Edward Haskell](#) (1972) on the "coaction cardioid", as discussed separately (*Cardioid Attractor Fundamental to Sustainability: 8 transactional games forming the heart of sustainable relationship*, 2005) and by Timothy Wilken (*UnCommon Science*, 2001). Suggestive commentary and imagery is provided in the *Wikipedia* profile of the [cardiac cycle](#).

Psychosocial "thermohaline circulation"? In a related exploration, consideration was given to the systemic insights to be drawn from the [global circulation of ocean currents](#) with their changing temperature and salinity -- suggesting the possibility of a [psychosocial "thermohaline circulation"](#)? (*Transcending One-eyed Global Modelling Perspectives: incorporating under-currents into global circulation of value*, 2010). The circulation is illustrated by the following images.



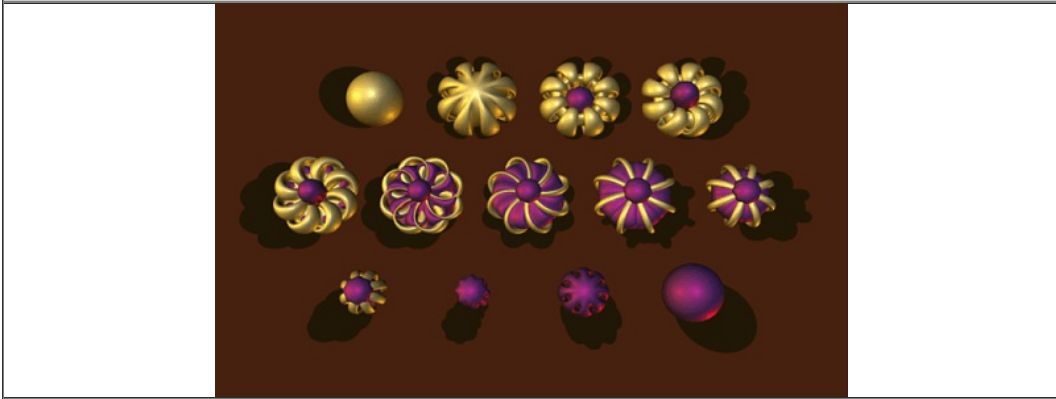


The ocean circulation metaphor is notably useful because it suggests a possible cognitive analogue to the [Great Pacific trash vortex](#) -- a gyre of marine debris in the central North Pacific Ocean.

Sphere introversion: The metaphors and supporting images above rely on conventional systemic representations, possibly in relation to a sphere. References to the Mobius strip and Klein bottle do however point to the cognitive challenge of a paradoxical geometry. This was the primary focus of the separate discussion of "[world introversion](#)" and the global potential for living sustainably "outside-inside". There the suggestion was made that the cognitive challenge could be better understood through the highly unusual process of "[sphere inversion](#)" -- turning a sphere "inside-out" or "outside-in" -- a process only recently discovered and illustrated through various video animations. The stages in that process (as visually represented) are geometrically reminiscent of the patterned division of a circle into an increasing number of segments as shown below.

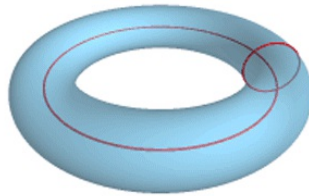
Phases in one process of a sphere turning inside out (overhead view)

Centerfold of *Making Waves* (1995) a full-color 48-page book by Silvio Levy that accompanies the video *Outside In* available from the [Geometry Center](#)



Although a much simpler transformation process, the following animation suggests that the world (as a globe) cannot "breathe" when confined to a spheroidal geometry. **The transformation into a torus (and back) points to a possibility of cycling through a pattern of geometric forms variously supporting understandings of "globality"**. To be consistent, maps such as those above call for articulation on such patterns (as discussed below).

Animation from *Wikipedia* of the degeneration of a [standard torus](#) into a sphere as the distance to the axis of revolution decreases



Invagination of globalization: The following argument endeavours to weave together threads whose mirroring of one another is in part a symptom of the requisite complexity and of its challenge to comprehension. The following figures offer one integrative overview, presented progressively to enable understanding of the argument as subsequently expanded. In particular, the right-hand image merits reconsideration in the light of the work of William S. Huff (*Homonym, Homonym and Homonym, and Other Word Pairs*, 1992), as previously discussed in relation to the *Ba Gua* coding scheme (*Conditions of Objective, Subjective and Embodied Cognition: mnemonic systems for memetic coding of complexity*, 2007).

Overview of relationship between aspects of the argument -- each reconfigured with respect to the precedent (reproduced from <i>Engendering Invagination and Gastrulation of Globalization</i> , 2010)	
Disparate processes tending to engender "gastrulation" of globalization	Partial articulation of left-hand figure, introducing colour-coding of pairs of processes
Further articulation of right-hand figure with pairs disposed across the circle, effectively dividing it into two halves, with arrows indicating inferences discussed in the text	



Existential ecostery as University of Earth: a Unistry?

Imagining as a sustaining process: As argued here, an "existential ecostery" is a dynamic imaginative process -- of active imagining rather than the product of imagination. As with the articulation by [The Ecostery Foundation](#), it is indeed a place of confluence in time of ecological values, knowledge and wisdom. The cognitive challenges of such a "place" in "time", draw upon the emerging insights into the nature of "spacetime" as imagined and articulated by physics -- hence the focus on the cognitive paradoxes of higher dimensionality and how they might be rendered comprehensible. How then to dwell within an ecostery -- to live as an ecostery in a world of paradox and uncertainty? (*Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality*, 2011; *Living with Incomprehension and Uncertainty: re-cognizing the varieties of non-comprehension and misunderstanding*, 2012).

Reframing experience of spacetime: Careful attention has been given to the experiential interplay of space and time by various authors ([Yi-Fu Tuan](#), *Space and Place: the perspective of experience*, 1977; Christopher Day, *Spirit and Place: healing our environment -- healing environment*, 2002; Christopher Alexander, *The Timeless Way of Building*, 1979; Barry Patterson, *The Art of Conversation with the Genius Loci*, 2005; [Edward S. Casey](#), *Getting Back into Place: toward a renewed understanding of the place-world*, 1993 [James A. Swan](#), *The Power of Place: sacred ground in natural and human environments*, 1991; [Christian de Quincey](#), *Radical Nature: rediscovering the soul of matter*, 2002). Although there is a literature on the "spirit of place", "genius loci", or "psycho geography", its interpretation in terms of the dynamics of the pattern of attention it implies is less evident -- although experientially these are entangled in sustaining identity within an "ecostery".

The introduction framed the existential challenge within the current period of dramatic worldwide unemployment -- marked by increasing social unrest. It noted that official statistics make little reference to the increasing proportion of the population excluded from the "workforce" through aging and legislative measures regarding "retirement". Similarly little reference is made to the "underemployed" in the effort to provide a positive statistical spin to "employment" figures. The increasing numbers "incarcerated" (in prisons, hospices, apartments, or other facilities) are also excluded from consideration.

For all those so excluded, the question asked there remains: "what is one to do" when "there is nothing to be done"? Little imagination is devoted to how billions of people might order the pattern of their daily lives under such circumstances -- having exhausted a variety of conventional possibilities, and especially when subject to resource constraints. The question acquires other dimensions through recognition of the increasing importance of [narcotics](#) as a means of enhancing imaginative capacity in a world experienced as significantly boring.

World introversion through metaphor: The very recent recognition of the degree of invasive global surveillance, and its enabling of highly questionable local intervention, might well be reframed as indicative of some features of the argument here for "world introversion" (in contrast to the problematic outcomes of "revolution", more conventionally advocated as an alternative). As framed here, this raises the question as to whether the world could be "turned around" otherwise -- as speculatively explored previously in relation to [ECHELON](#), as predecessor of the NSA/PRISM program (*From ECHELON to NOLEHCE: enabling a strategic conversion to a faith-based global brain*, 2007).

The current revelations of NSA/PRISM's unprecedented global ambition to ingest meta-data on everyone are effectively an effort to track the communication processes of the world -- effectively the "global emissions" of a virtual form (*Sins of Hot Air Emission, Omission, Commission and Promise: the political challenge of responding to global crises*, 2005). The ambition is so terrifyingly radical and unexpected that it justifies a case for a correspondingly radical cognitive approach on the part of the individual -- necessarily acting in virtual secrecy. This might also be understood as "terrifying", as separately explored (*Thinking in Terror*, 2005). **Radical use of metaphor, reframing interpretation of the "external" globe, might then be compared to the PRISM quest for "meta-data"** (*Being the Universe: a metaphoric frontier*, 1999; *Enactivating Multiversal Community: hearing a pattern of voices in the global wilderness*, 2012).

Possibilities of integrative insight: The NSA/PRISM program is conceptually exciting, even an inspiration, as what may prove to be the ultimate feat of human knowledge organization through the challenge of "global sensemaking" it presents to its analysts -- a many-fold development of the integrative aspirations of the [Global Sensemaking](#) network. How indeed to order and render meaningful such vast quantities of meta-data -- beyond what conventional mathematical techniques can offer? The fundamental challenge of human comprehensibility remains, however, as indicated in the arguments above. How indeed to "make sense" of it?

Whilst the possibility of "drill down" techniques is obvious, the integrative challenge of "zooming out" (for which there is not even an

equivalent term) is far from resolved -- given the constraints on human cognitive capacity and the limited ability to recognize larger patterns. One possibility has been partially envisaged through inverting the "telescope" metaphor (Joel de Rosnay, *The Macroscope*, 1979).

Other possibilities may emerge from approaches to [group symmetry](#) of very high dimensionality -- through the mathematics of "moonshine theory" or consideration of the [Mandelbrot fractal](#) (*Potential Psychosocial Significance of Monstrous Moonshine: an exceptional form of symmetry as a Rosetta stone for cognitive frameworks*, 2007; *Psycho-social Significance of the Mandelbrot Set: a sustainable boundary between chaos and order*, 2005).

However the argument above effectively suggests another approach to "zooming out" consistent with the indications of various spiritual and other unconventional disciplines (*Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement*, 2002). The argument made is that metaphor may be a key to such reframing.

Possibilities of oversight? Especially relevant to the NSA/PRISM program as a global simulation is the manner in which the much-vaunted adequacy of "democratic oversight" (or "[congressional oversight](#)") is enabled (and is itself [verified through simulation](#)) -- given the human cognitive constraints in relation to such vast quantities of data. A number of bodies are concerned with the process, including the [Parliamentary Oversight Global Task Force](#) and the [Inter-Parliamentary Union](#). There are many documents relating to the process (*Parliamentary Oversight of Intelligence services*, DCAF, 2006; *Oversight and Guidance: the relevance of parliamentary oversight for the security sector*, DCAF; *Tools for Parliamentary Oversight: a comparative study of 88 national parliaments*, IPU, 2007)

In that context, **irony of the highest order is evident in the ambiguity of "oversight"** -- indicative as it also is of negligence and blindspots, and of the "intelligence failure" which gave rise to 9/11.

Dreaming and dreamcatching: The argument can be reframed as embodying a dream. This is consistent with the case made from the worldview of physics by [Stephen Hawking](#) (*The Dreams That Stuff Is Made Of: the most astounding papers of quantum physics -- and how they shook the scientific world*, 2011). The theme is more deliberately articulated by [Steven M. Rosen](#) (*Dreams, Death, Rebirth: a multimedia topological odyssey into alchemy's hidden dimensions*, 2013). The understanding is explored otherwise by [Vasily V. Nalimov](#) (*Realms of the Unconscious: the enchanted frontier*, 1982) by providing a remarkable aesthetic synthesis of biological, mathematical, and linguistic manifestations of probability. The significance of dreaming is variously fundamental to the Aboriginal [Dreaming](#), to the fantasies attractive to the young in blockbuster movies, and to the consumption of [psychedelic drugs](#).

Curiously "Al-Qaida" can be understood as a dream, since it does not "exist" in any conventional sense of the word, as separately argued (*Cultivating Global Strategic Fantasies of Choice : learnings from Islamic Al-Qaida and the Republican Tea Party movement*, 2010) As noted there, the process of embodying a dream is significant to the elaboration of strategy at the highest level, indicated by the neocon strategy of governance as presented by Ron Suskind (*Without a Doubt*, *The New York Times*, In The Magazine, 17 October 2004) following an exchange he had with an aide in the decision-making circle of President Bush:

The aide said that guys like me were "in what we call the reality-based community," which he defined as people who "believe that solutions emerge from your judicious study of discernible reality." I nodded and murmured something about enlightenment principles and empiricism. He cut me off. "That's not the way the world really works anymore," he continued. "We're an empire now, and when we act, we create our own reality. And while you're studying that reality -- judiciously, as you will -- we'll act again, creating other new realities, which you can study too, and that's how things will sort out. We're history's actors . . . and you, all of you, will be left to just study what we do."

Whether it be the Tea Party movement or Al-Qaida -- or those who articulate their nature to the wider world -- it remains unclear who are "history's actors" engaged in creating their "own reality".

Ironically, as a development of the neocon strategy, the NSA/PRISM can then be understood as both the embodiment of that dream and an effort to catch those dreaming "otherwise" -- the Al-Qaida dream. The global network of systems to collect meta-data can be understood as a desperate effort to detect dangerous dreams. It is effectively designed as the first global [dreamcatcher](#). The greater irony is that the dreams of physicists are potentially far more radical and dangerous than those of Al-Qaida -- in their disruptive reframing of understanding of conventional reality. What of that of [Martin Luther King](#) (*I Have a Dream*, 1963)? Or those highlighted by [Slavoj Zizek](#) (*The Year of Dreaming Dangerously*, 2012)?

Qualitative "meta-data": These considerations frame possibilities of reflection regarding an "existential ecostery" -- especially given implied attentiveness to any blindspot, as is characteristic of disciplines of meditation, and in the cited example of Taoist *Neidan* (understood as a cognitive embodiment of the globe as sensed). As a "dreamcatcher", NSA/PRISM endeavours to absorb the totality of patterns of human communication in quest of the "pattern that connects" -- Bateson's meta-pattern. It aspires to the elaboration of a "Theory of Everyone" (rather than the Theory of Everything of physics).

The possibility for the individual, however, is to engage with the totality of the globe as sensed through meaningful dynamic patterns of qualities -- qualitative meta-data articulated through metaphor (values, deities, gears, etc). This is the meta-pattern which an individual might embody, as speculatively explored (*Walking Elven Pathways: enactivating the pattern that connects*, 2006; *Everything as a Metaphorical Theory of Everything*, 2012).

Cognitively engendering a University of Earth: As a process of cognitive "world introversion", the significance of the globe then constitutes a form of [University of Earth](#) -- sustained for the individual as an existential ecostery, paradoxically "located" in spacetime.

Given the original contrast made between "ecostery" and "monastery", this suggests a degree of consideration for "university" -- as a new form of dreaming.

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