



laetus in praesens

Alternative view of segmented documents via Kairos

21 January 2013 | Draft

Going Nowhere through Not-knowing Where to Go Sustaining the process of autopoiesis through point-making

-- / --

Introduction

[Challenges to understanding of point and identity](#)

[Point identity and identification with a point](#)

[Cognitive epicycles -- prefiguring more fundamental insight?](#)

[Psychodynamics of point-making as autopoiesis](#)

[Identification with a sustaining "heliocentric" locus?](#)

[Complex entanglement of comprehension](#)

[Nothingness and not-knowing](#)

[Going "nowhere"](#)

[Not-knowing "where to go" ?](#)

[References](#)

Introduction

Whether for the individual, for factional interests, or for global governance, it is becoming increasingly clear that many experience a sense of "going nowhere". Part of the issue lies in not knowing "where to go" in quest of whatever might have been imagined as desirable. The issue has been highlighted with respect to the young -- as challenged by unemployment in an increasingly complex society -- and with the long-term unemployed. It is also implicit in the situation of the terminally ill and the elderly, especially those confined to hospice care. It is otherwise highlighted by those living with every probability of imminent death, namely the cannon fodder of major battles, those in highly asymmetric warfare, and those on death row -- all variously not knowing whether they will survive another day.

Curiously, key responses under such conditions tend to be centered on various interpretations of "point". Most commonly this takes the form of the assertion of some point in arguments ("making" or "accepting" a point), competing with others for points (as in games), gaining or losing percentage points (as in political and market surveys), or endeavouring to determine "the point" of some process -- even of life as a whole, as with those considering suicide. One motivation may be the quest for a "high point" -- commonly framed as a "high".

In contrast to this tendency is the identification of individuals with data "points" in research surveys and the administrative tendency to treat individuals as "points" aggregated in any concept of social organization -- notably as nodes in a network.

The following argument explores the experiential implication of point identity and identification with a point -- in the light of both intuitions implied by common metaphors and the implications of subtler understandings of point from mathematics and physics. The emphasis is on individual experience (as carried by such metaphors) and **not** on the conventional explanations of that experience by others. This follows from an interpretation of the recognition by Alfred Korzybski that the "map is not the territory" (cf. *The Territory Construed as the Map: in search of radical design innovations in the representation of human activities and their relationships*, 1979). Korzybski's insight has been otherwise emphasized by Nassim Nicholas Taleb (*Antifragile: things that gain from disorder*, 2012).

The argument endeavours to reframe the existential anxiety of "not-knowing" in the light of a traditional appreciation of that modality as paradoxically related to wisdom -- and therefore of potential significance to more fruitful insights regarding "sustainability". Knowing "where to go" may not be the most fruitful and sustainable cognitive stance in a complex situation. It may well be a cognitive trap, as suggested by the arguments of Taleb.

Challenges to understanding of point and identity

There is a strange similarity to the definition of "point" and of "identity". Both terms are readily used with little thought as to their meaning -- or rather an unquestioning assumption as to what they do mean. Thus a point is one of the simplest markers -- readily used in counting, in surveys and in geometry. In all such uses there is little question as to the subtler implications of "point" as they emerge through the challenges of mathematical philosophy and physics.

Identity is similarly lacking in any mystery in common usage. Individuals are held to have "identity" and readily claim to have a sense of their own identity. This is defined administratively by identity papers. Identity may be considered to be established unambiguously for the latter purpose through photo IDs, finger-printing, retina scans or DNA. Others may easily claim to know "who someone is" -- to be able to identify them. Similar issues are evident in the case of the "existence" of some collectives, if not all (*Cultivating Global Strategic Fantasies of Choice: learnings from Islamic Al-Qaida and the Republican Tea Party movement*, 2010).

Conventional understandings of both point and identity are challenged by experience under certain circumstances.

Point: Common understandings of "point" are challenged by such as the following:

- Assumptions are readily made regarding the geographical centre of a city, conveniently represented as a point on maps. This assumption is reinforced by the indication of distances between such points on maps and on road signs. It is however evident that the "point" in question is notional whether or not it is indicated by a marker at a symbolic "centre". Any such centre may well drift over time, as the city develops in particular directions -- and potentially in a vertical direction.
- The "point" made in an argument, and the effort to "make a point", both offer a sense of point which is potentially more elusive than any point which can be simply indicated as a marker -- then possibly to be counted. It may be readily assumed that the point can be adequately represented by a (bullet) point in representations (such as *Power Point*). [*It is appropriate to note that this point is itself one of a number of bullet points which follow*]
- The point may not however be held to be meaningfully (re)presented by this means, as with "you have made a good point" -- consequent on the process of "pointing out" and potentially resulting in an other "accepting the point". An argument may then be challenged by some through statements such as: "what exactly is the point you are making?" or "you have completely missed the point". The nature of the point is then resistant to "compression" into conventional point-form -- as on any to-do list, for example.
- Related efforts may be made to "point" to possibilities. Such "pointing" implies a need to focus in the direction of pointing, possibly another point -- one to be attained in the future.
- In addition to the process of "pointing out", use of the gesture of "pointing" may be perceived as highly questionable even deliberately threatening -- characterized in an extreme case by "bone pointing" as a mode of ritual execution.
- Moments of experiential significance, whether of fulfillment or disaster, are readily described and understood as "high points" or "low points" respectively. As associated with an unusual perspective, they subsequently constitute a "point" of reference and may well be perceived as a "turning point" with respect to life and strategic choices.
- Agreement on a "point", as with the reality of climate change, may be a prerequisite for consensual strategic action. Disagreement on some important "point" may well undermine that possibility.
- A strategic agenda may be formulated as a set of points, as with a declaration, a charter, or a set of principles. The question is then what each point implies beyond the seeming clarity achieved by the articulation into distinct points in a set (*Distinguishing Levels of Declarations of Principles*, 1980). Is there an unexplicated pattern of connectivity between the points and what does this then imply for the individual points as containers for distinct meanings? How is meaning associated with a point -- how does a point hold strategic meaning? How might the "point" of a declaration be understood -- as a whole ? Making any such declaration, or an appeal, may itself be undertaken to "make a point".
- A sense of "pointlessness" may undermine engagement in collective strategic initiatives or in individual life experience -- with little understanding as to what might be the nature of the missing point

Related metaphorical understandings of "point" are discussed separately in a more general context (*Engaging with Globality: through cognitive lines, circlets, crowns or holes*, 2009; *Metaphorical Geometry in Quest of Globality*, 2009). Further considerations arise from the function of "point" in appointment, well-appointed, and disappointment.

Identity: Common understandings of "identity" are challenged for the individual by existential concerns as to "who one really is". These are potentially a cause of extreme anxiety. They may manifest in a variety of forms:

- Those born of broken families, or adopted at an early age, may wonder who they really are -- as this may, hopefully, be partially defined by their original biological parents, if these can be found.
- Beyond biological parents, the concern with identity may take the form of a quest for "roots" in generations past, most notably for those in immigrant families
- The sense of identity, and the quest for identity, may be strongly associated with place and hereditary lands to which claims may be made. Others may frame a person's identity by the land of origin in this hereditary sense.
- Identity may be strongly felt to be associated with a (dynastic) family or tribe -- or be so held by others. This recognition may be in terms of ethnic group or caste. Such identity may be further qualified in terms of bloodline.
- Irrespective of tradition, identity may be associated with ownership of property -- whether land or intellectual property -- especially to the extent that identity is determined by the wealth derived from such ownership.
- Identity is widely associated with personal qualities, most notably strength, beauty, intelligence or talent -- hence the effort to cultivate them, possibly to "reinvent oneself".
- In the absence of other indications of identity, an individual may feel impelled to prove to be "someone" -- rather than be labelled

by others as a "nobody" and consequently to sense a lack of identity

- Association of identity with tangible forms as above may lead to recognition of how identity can be misrepresented through subterfuge -- possibly taking the form of loss of identity or identity theft
- In the absence of administratively approved forms of photo IDs, finger-printing, retina scans or DNA, a person may well be declared to have no identity and therefore to be "non-existent" from a legal perspective. This may even lead to a struggle for identity in some jurisdictions where the absence of proof of identity is interpreted as an indication of being legally dead -- irrespective of physical evidence to the contrary.
- Irrespective of the above, individuals may strongly associate with the traditional philosophical question of "Who am I" -- and the many responses offered in answer to that. (cf. *Am I Question or Answer?* 2006)
- Identity may be held to be emergent through a process of maturation or individuation -- assisted by any of a variety of processes of self-development and personal development

Point identity and identification with a point

The above arguments together call for "correlating" the significance of the following:

- **Existence of a point:** Does a point really "exist"? In what "space"? How is that existence is to be comprehended? When a point is made, where is it made, other than in recognition of that fact through making a mark? Aspects of the question have been explored with respect to the "calculus of indications" deriving from the much-cited work of [George Spencer-Brown](#) (*The Laws of Form*, 1969).

Related questions are explored with respect to **unidimensionality**, notably in some statistical methods (Peter M. DeMarzo, Dimitri Vayanos, Jeffrey Zwiebel, *Persuasion Bias, Social Influence, and Unidimensional Opinions*, 2003). The latter argues that persuasion bias implies the phenomenon of unidimensional opinions; that is, the convergence of individual opinions over a multidimensional set of issues to a single "left-right" spectrum. Of further interest is the inferred dominance of "suboptimal" unidimensionality under certain conditions (F. Gregory Ashby, Sarah Queller and Patricia M. Berretty, *On the dominance of unidimensional rules in unsupervised categorization, Perception and Psychophysics*, 61, 1999). Unidimensionality may signify without depth or scope.

Far less clear are considerations of **unidimensionality** and **nondimensionality** which might be understood as characterizing a point and the nature of its possible existence. Unidimensional has been concerned speculatively (*Not to be Unidimensional Conscious* is the second album by Disharmonic Orchestra, released in 1992) and with respect to politics (Hani Zubida and Doron, Gideon, *How to Coerce a Multi-Dimensional System into a Unidimensional Frame*, *World Political Science Review*, May 2009). Nondimensionality might be understood as the final condition of the process of **nondimensionalization**, namely the removal of units from an equation involving physical quantities by a suitable substitution of variables.

A point could be understood as essentially **dimensionless**, in the light of understanding of a **dimensionless quantity**, namely without an associated physical dimension. It is thus a "pure" number, and as such is always treated as having a dimension of 1. Dimensionless quantities are widely used in mathematics, physics, engineering, economics, and in everyday life (such as in counting).

Greater significance is potentially to be associated with considering a point to be in some manner **infinitesimal**. In mathematics **infinitesimals** have been used to express the idea of objects so small that there is no way to see them or to measure them. The intuitive notion of an infinitesimal difference is readily comprehensible. In their exploitation the key insight has been that objects could still retain certain specific properties, such as angle or slope, even though they were quantitatively small.

- **Concentration of identity in a point:** Identity may be understood (and experienced) as especially focused at a "point", as in the "one-pointed" concentration, recognized as necessary in many disciplines and sports. This has been extensively explored in the much-cited work of [Eugen Herrigel](#) (*Zen in the Art of Archery*, 1948). Anecdotal accounts of torture may also refer to the manner in which identity is experienced during the process -- as being reduced to a central, focal point or concentrated there.

Some uses of scintilla, otherwise understood as an iota or a spark, are of relevance to any individual identification with a point (as indicated by [Steven M. Rosen](#) (*Dreams, Death, Rebirth: a multimedia topological odyssey into alchemy's hidden dimensions*, 2013). This has been developed by alchemists, as noted by Carl Jung (*Mysterium Coniunctionis: an inquiry into the separation and synthesis of psychic opposites in alchemy*, 1963), later published in the *Collected Works of C. G. Jung* (1970, Vol. 14, pp. 48-56) with the following comment:

The alchemical doctrine of the scintilla or spark is presented, the symbol of the eye is examined and its significance is explained in psychological terms. The concept of spark or scintilla is found in the writings of [Meister Eckhart](#), [Heracitus](#), [Hippolytus](#) and [Simon Magus](#) as well as in those of the alchemists. Alchemists defined the spark as [Archaeus](#), the fiery centre of the earth which is hermaphroditic, consisting in a conjunction of male and female. The parallel to [Adam Kadmon](#), the original man of Jewish Gnosis and the product of the conjunction of sun and moon, is noted. The significance of the eye as a symbol of the scintilla is discussed and related to the doctrine of Gnosticism and Manichaeism. The psychological analysis of the eye and sun as symbol and allegory of the consciousness, which is the mark of the ego complex, is compared to the alchemists' view of the union of the scintillae to form gold (sol) and the Gnostic goal of reintegrating atoms of light. [[Gerhard](#)] [Dorn](#)'s concept of the scintilla, an invisible sun in the centre of man

and a fire point created by tension of masculine and feminine principles in Mercurius, is examined as in [Heinrich] Khunrath's description of the scintilla as elixir. The resemblance between Khunrath's concept and that of Monoimos is noted.

- **Recognition of point identity:** Demystification of an individual as a point by society, especially as formalized by administrative procedures and academically inspired surveys, models and simulations. This contrasts with the question of the nature of individual identification with such a point, as a point identity. The issue may acquire special significance in target acquisition for purposes of the assassination of the unwanted.
- **Individuality and "point-making":** Here the issue is how an individual identifies with "making a point", whether in an argument, in sport, or otherwise -- as being intrinsic to the process of self-assertion, self-actualization, and self-definition, as variously understood -- "making one's mark in life". This raises the question of how the dynamics of making a point can carry a sense of identity -- perhaps as the (wave)form of an elementary catastrophe.

As is evident in many forms of discourse, "making a point", or the effort to do so, is experienced as an expression of identity -- even an assertion of identity. This may seek or require a corresponding process by others -- in "accepting a point" so made. This complementarity could be considered exemplified in conception as a consequence of "intercourse" -- communication understood biologically or as a dialogue process ("*Human Intercourse*": "*Intercourse with Nature*" and "*Intercourse with the Other*", 2007). In the light of this argument it is strange that a "proto-individual", as an egg prior to conception, is of the size of a period in a printed text, with a sperm smaller than that.

- **Whether collectively or individually:**
 - the subtlety of a set of principles, upheld as guiding or governing behaviour, is articulated in a configuration of points as a pattern of connectivity. Hence various initiatives, expressed metaphorically as efforts at "connecting the dots".
 - a "point", experienced as "high" or "low", may provide a focus for decision-making or constitute a "turning point" in a pattern of choices
 - in relationships with any "other", much effort at "making a point" is directed such as to "make a hole" in the pattern of connectivity upheld by the arguments of the "other" as "connective tissue" essential to the "social fabric". This is most evident in political, religious and academic discourse
 - any point made by an "other" may indeed prove to be an attractor, but may well be misunderstood, or completely "missed". The latter may reinforce perception of otherness as a disruptive source of meaninglessness -- possibly of incommensurable styles.

There are then profoundly curious implications to the relationship between:

- identification of "identity" with a point
- identification of guiding principles with points (as articulated by "bullet points")
- any fundamental sense of pointlessness
- the preoccupation with making (or tearing) "holes" in the arguments with which others identify -- rendering them "pointless", and those identified with them as effectively "nobodies" (if the "point" somehow embodies that identity)
- the physical manifestation of this destruction in existentially dramatic form:
 - in the construction and firing of bullets and missiles to destroy the physical identity of others -- through creating perceptible points and holes in them. Of relevance is the exploration (discussed below) of the mysterious nature of "holes", and their relationship to points, by Roberto Casati and Achille C. Varzi (*Holes and Other Superficialities*, 1994).
 - the degree of investment in destroying the mysterious (point) identity of others by use of weapons designed visibly to "make a point" in their bodies, possibly expanded into a "hole". Also strange is the training and focus required to ensure the delivery of such "point-making capacity" -- and the principles of honour and duty with which such action is imbued.
- the manner in which aspects of physical ballistics are used metaphorically in conventional strategic responses to opponents, whether it be "bullet points", "ammunition" or "targets", as discussed elsewhere (*Enhancing Sustainable Development Strategies through Avoidance of Military Metaphors*, 1998; *Missiles, Missives, Missions and Memetic Warfare*, 2001). The potentially problematic relation between "projects" and "projectiles" may be explored in this light. It is of course evident in the efforts to "target" those of other cultures with propaganda. This suggests the merit of exploring the nature of "cognitive ballistics" (*Cognitive Ballistics vs. Derivative Correlation in Memetic Warfare*, 2009).

This "correlation" is strangely evident in the conflation of experience -- and the metaphor through which it is illustrated -- in *Zen in the Art of Archery* (1948), about which the author writes:

(...) The archer ceases to be conscious of himself as the one who is engaged in hitting the bull's-eye which confronts him. This state of unconscious is realized only when, completely empty and rid of the self, he becomes one with the perfecting of his technical skill, though there is in it something of a quite different order which cannot be attained by any progressive study of the art (...)

Cognitive epicycles -- prefiguring more fundamental insight?

Contrasting qualities: There are many indications of constraints on the human capacity to recognize distinctions -- potentially associated with point identities. The phenomenon has been notably explored by [George Miller](#) (*The Magical Number Seven, Plus or Minus Two: some limits on our capacity for processing information*, *Psychological Review*, 1956), although approaches by other authors are of relevance, as separately summarized (*Systems of Categories Distinguishing Cultural Biases*, 1993). The phenomenon can be considered in terms of the capacity to cluster distinctions in many domains into sets of a limited size (*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*, 1980). More recent research of relevance to social networking concerns is that on [Dunbar's Number](#), namely the cognitive limit to the number of people with whom an individual can maintain stable social relationships.

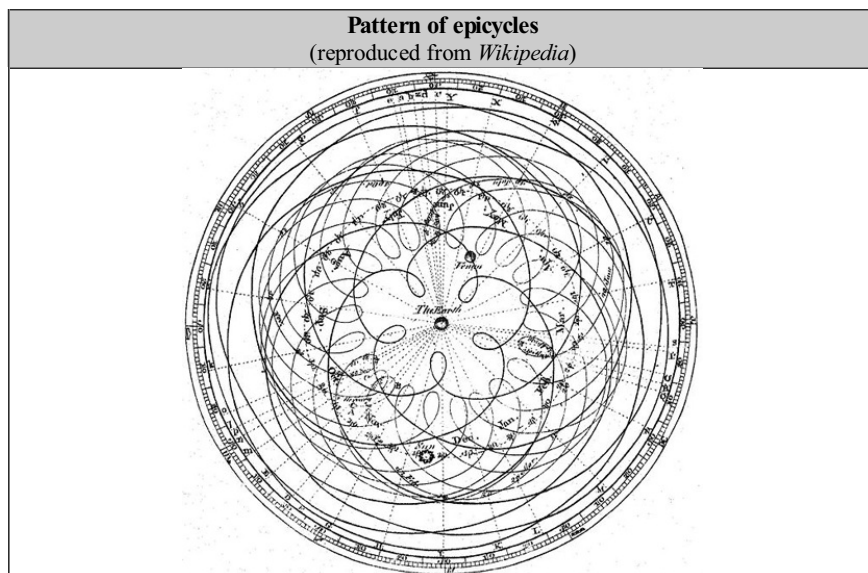
Qualitative encounters compared to encounter with planets: Rather than as a simple list or static pattern, the question here is the nature of the experiential dynamic of the cognitive encounter with "distinctions". Such distinctions can be variously understood in terms of styles, preferences or types -- each eliciting some degree of attraction or repulsion. This response may vary with time and circumstances -- as with choice of clothing, food, music, or activity.

The strategic response may be perceived as "flitting" between such choices, with little sense of pattern, coherence or continuity. Especially relevant is the memory of each encounter, the manner in which the experience is forgettable, and the subsequent possibility of renewing it. Each encounter functions as a kind of learning zone with the shift from one to another as tracing out a form of learning pathway -- possibly repetitive and to be recognized (by others) as habitual cycles, if not vicious -- potentially to be associated with the pathology of [attention deficit-hyperactivity disorder](#) (ADHD).

A potentially fruitful approach is to consider the elements of the set of such distinctions as being associated with "planets", in the light of the manner in which the dynamics of planets posed a challenge to the earliest astronomers. A degree of justification is provided by the tendency in those times to associate various distinct qualities with those planets. The planetary metaphor was a theme of [Marsilio Ficino](#), as described by [Thomas Moore](#) (*The Planets Within: the astrological psychology of Marsilio Ficino*, 1990) and separately discussed (*Composing the Present Moment: celebrating the insights of Marsilio Ficino interpreted by Thomas Moore*, 2001). It is echoed to a degree by [Joseph Campbell](#) (*The Inner Reaches of Outer Space: metaphor as myth and as religion*, 1986), and more recently by [Neil Shubin](#) (*The Universe Within: discovering the common history of rocks, planets, and people*, 2013).

The planetary metaphor encourages a degree of recognition of phases in "cycles" -- however those cycles are understood or experienced (as with the movement of the planets). This may be limited to a sense of recurrence without being comprehensible as an orderly pattern of phases as a whole. Within that setting, the experiential phases of one distinctive quality may reinforce or undermine those of another at different times. Qualitative distinctions may then be "in phase" or "out of phase" to some degree. The issue is of significance in design.

Cognitive epicycles: The explanation first offered by [Ptolemy](#) for the perceived complexity of the movement of the planets was for a geocentric pattern presented diagrammatically in terms of [epicycles](#) -- the Earth, understood as being the centre of the universe, then considered to be the centre of that movement as shown below



This pattern preceded the "correct" explanation which emerged centuries later in heliocentric terms. This emergence is now presented as a primary indication of the triumphant success of the scientific method. The epicycle model is now deprecated as an indication of past inadequacy, now transcended by progress in comprehension. It is in this sense that it has been variously used in discussion of stages of cognitive development (as noted in references below).

The point to be made here is the possibility that the **ability to comprehend a set of incommensurable distinctions, as they are dynamically encountered (over time), may currently bear closer similarity to the justification originally accorded the geocentric model than that now accorded the heliocentric model.**

An individual, as a mysteriously experiential point identity, is more readily understood (especially by that individual) to be positioned at the centre of the explanatory universe -- however complex may appear the dynamics of the distinctions experienced from that perspective.

The coherence offered by the transcendent "logic" of the "heliocentric model", challenging this grounded sense of "geocentric" understanding, can only be appreciated through disassociation -- through detachment from the appearances of that grounded worldview. This requisite detachment may be felt to be as unrealistic by the individual concerned as was evident in historical resistance to the heliocentric model.

Whilst a "heliocentric" worldview may be in principle more correct and more elegant, offering more appropriate understanding of the dynamics between incommensurable distinctions, it may be experientially "inaccessible" in ways that merit attention. Comprehension may be readily trapped in a more powerfully attractive "geocentric" worldview through inability to achieve the detachment required. In a sense the immediate appeal of every model or theory -- giving it a sense of being "right" -- is indicative of the trap.

This suggests that **every theoretical model can be fruitfully assumed to be "geocentric" in contrast to the "heliocentric" insight by which it will be reframed by future understanding** -- born of greater detachment, when this is existentially viable. In this sense the "geocentric" experience, represented to a degree by epicyclic movement, prefigures the emergence of "heliocentric" insight -- if and when this is sensed to be meaningful and viable. Curiously any "geocentric" model must necessarily "make more sense", given its relatively closer and more direct relation to the senses -- and, by extension, to the sensational. It follows that identity may be more readily framed by such engagement -- as with its identification with the land in many cultures.

Unsuspected "geocentric" attachments? Of relevance to any organization of distinctions, it is appropriate to note the manner in which these sets tend conventionally to be organized, as indicated above with respect to number and patterns of N-foldness. Also of relevance are the methods of documentation systems, such as the *Dewey Decimal Classification* or the *Universal Decimal Classification*. As essentially nested listed structures, these have their limitations in reflecting the variety of dynamic considerations required for any **transdisciplinary systemic approach** to the global condition -- hence the **experimental approach** used in the ordering of the *Encyclopedia of World Problems and Human Potential*, as described separately (*Functional Classification in an Integrative Matrix of Human Preoccupations*, 1982).

Given the possibility of unsuspected attachment to what the future may deprecate as a "geocentric" mode of classification, it is therefore appropriate to note recent research on the manner in which the brain organizes information, as reported by Sara Reardon (*Take a peek inside the brain's filing cabinet*, *New Scientist*, 5 January 2013). Using most common nouns and verbs, the activation responses of neurons of individuals under an fMRI scanner were mapped (Huth, Nishimoto, Vu and Gallant, *A continuous semantic space describes the representation of thousands of object and action categories across the human brain*, *Neuron* 2012). The results suggest that the brain organizes visual information by its relationship to other information.

Such research may be related to that on how human modular brains lead people to deny and distort evidence as reported by Michael Shermer (*Logic-Tight Compartments*, *Scientific American*, January 2013). He argues:

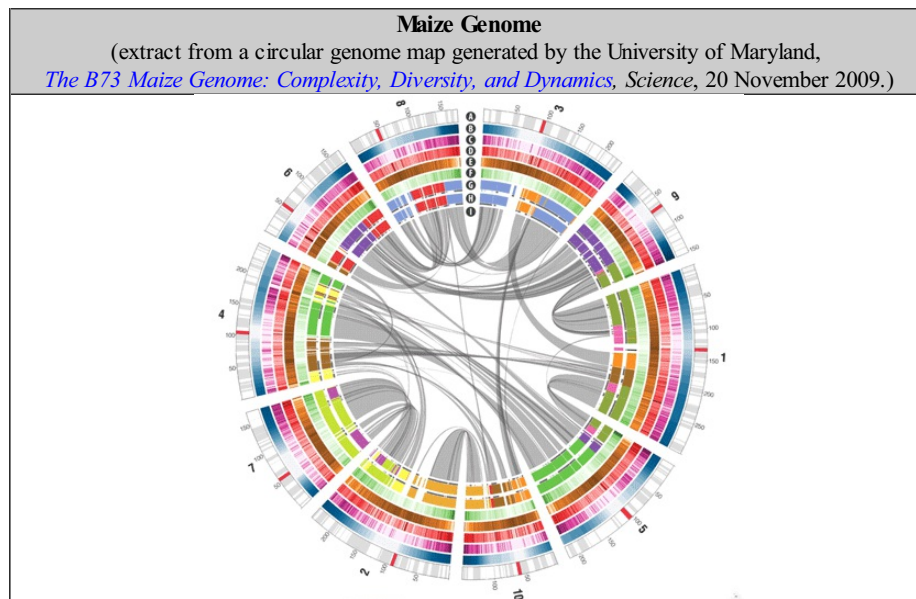
If you have pondered how intelligent and educated people can, in the face of overwhelming contradictory evidence, believe that evolution is a myth, that global warming is a hoax, that vaccines cause autism and asthma, that 9/11 was orchestrated by the Bush administration, conjecture no more. The explanation is in what I call logic-tight compartments -- modules in the brain analogous to watertight compartments in a ship. The concept of compartmentalized brain functions acting either in concert or in conflict has been a core idea of evolutionary psychology since the early 1990s.... There is no unified "self" that generates internally consistent and seamlessly coherent beliefs devoid of conflict. Instead we are a collection of distinct but interacting modules often at odds with one another. The module that leads us to crave sweet and fatty foods in the short term is in conflict with the module that monitors our body image and health in the long term. The module for cooperation is in conflict with the one for competition, as are the modules for altruism and avarice or the modules for truth telling and lying.

Compartmentalization is also at work when new scientific theories conflict with older and more naive beliefs. In the 2012 paper "*Scientific Knowledge Suppresses but Does Not Supplant Earlier Intuitions*" in the journal *Cognition*, Occidental College psychologists Andrew Shtulman and Joshua Valcarcel found that subjects more quickly verified the validity of scientific statements when those statements agreed with their prior naive beliefs. Contradictory scientific statements were processed more slowly and less accurately, suggesting that "naive theories survive the acquisition of a mutually incompatible scientific theory, coexisting with that theory for many years to follow."

Physics offers a formal legitimacy to speculation on the first moments of the expression of an identity, whether in an individual or through the points made in creative pursuit of particular agendas. The most recent cosmological reflections of astrophysicists regarding the "Big Bounce", in relation to the prevailing model of the "Big Bang", point to new and more integrative ways of understanding the formation of the explicated universe. It is implied by the cyclic model or oscillatory universe interpretation of the Big Bang where the first cosmological event was the result of the collapse of a previous universe. **Loop quantum gravity** (LQG) is a theory that attempts to describe the quantum properties of gravity. Davide Castelvecchi (*Scientists Extend Einstein's Relativity to the Universe's First Moments*, *Scientific American*, 9 January 2013). New calculations extend Einstein's general theory of relativity into the universe's first few moments.

Of relevance here is the extent to which the prevailing understandings of today themselves constitute "naive beliefs" -- in the eyes of the future. Of even greater interest, however, is the total incapacity and disinterest of physicists in their point-making process, through which each new model acquires recognizable identity superceding the old. Self-reference is restricted to issues regarding an "observer" but does not extend to a "point-maker", as separately discussed (*Knowledge Processes Neglected by Science*, 2012). There is a remarkable sense in which it is assumed that any further insight into the nature of reality in future centuries will be a "mere footnote" to 21st century science. This is remarkably exemplified in the deprecation of religious belief, widely publicized through the unquestionable point-making efforts of **Richard Dawkins** (*The God Delusion*, 2006).

As an atheist Dawkins has become identified with that point, especially regarding the nature of death (Richard Dawkins, *Sex, Death and the Meaning of Life*, 2012). Such efforts imply a quest for personal identity in contrast with his scientific beliefs and indifference to the potential implications of the subtlest reflections of theoretical physicists -- all of whom are faced with death, possibly to be preceded by tragic forms of senility. Especially intriguing is his fascination with his identity as portrayed in a mapping of his genome -- one of the first people in the UK to possess such a representation (*Richard Dawkins sequences his genome*, *Science and Atheism*, October 2012). Ironically in terms of the above argument, it is portrayed as a circle with only an implied centre -- a [circular genome map](#), typically subject to copyright restrictions. As the originator of the concept of a meme, there is further irony to the incapacity to produce an analogous "circular memetic map" indicative of his conceptual identity. A visually striking genome map of this kind is provided below.



The elusive nature of the transition from one such "geocentric" perspective to another can be explored through the contrast between a "rotten" perspective and an "enlightened" one (a "heliocentric" perspective), as in the argument of Henryk Skolimowski (*From the Rot to the Light*, *Scientific and Medical Network Review*, Winter 2012). He introduces his theme as follows:

The title itself says it all. Our true journey of becoming is one in which we overcome the petrified forms, and the rot around us, in favour of new openings, transcendence and Light. Yet so often we stay stuck in the old forms. We do try to reach the Light and transcend but instead we are performing the epicycles of the old. It is not sufficient to have good intentions. It is not sufficient to criticise the old eloquently. We need to have courage, imagination and will to break the mirror in order to be on the other side of it. And then we shall realise that there was no mirror - only our own mind, which has been holding us in captivity.

Strangely, in arguing previously for a participatory universe, Skolimowski seemingly has little to say about the continuing function of "rot" -- so vital to the dynamics of sustainable ecological systems (*The Participatory Mind: a new theory of knowledge and of the universe*, 1995). Again, the "rotten" framework is necessarily more directly accessible to the senses and is in that sense more meaningful.

Gravity and gravitas? The epicyclic metaphor suggests a sense in which the attraction of each is to be understood in terms of the "gravitas" (as potentially experienced in others) from which "gravity" originally derived as the "force that gives weight to objects". This then accords with the seriousness of that particular perspective, as recognized by the belief of those who promote it and others who are "moved" by it, and the significance then associated with "motivation".

Together these suggest consideration of how that seriousness contrasts fundamentally with superficiality -- and the possibility of "taking things lightly". The seriousness of problems -- their qualitative "weightiness" -- is typically described metaphorically in terms of their "gravity". Quantitative statistical methods may focus on the relative "weight" of a problem -- possibly by massaging the data, through a [weighting process](#), thereby adjusting some items to be perceived as more significant than others. Ironically this could be compared with mastery of "gravity control" -- irrespective of the "mass" of data, as in the case of climate change.

Curiously, in contrast to its use in [gravity modelling](#) of marketing [catchment areas](#), the degrees of seriousness of problems are not distinguished in terms of their relative gravity -- and the catchment areas they engender within belief systems. The same could be said of the related concept of a [gravity well](#) -- suggestive of the manner in which the "light" in any communication in that system is "bent" around that well, as typically recognized in the more dubious processes of news management. The possibility of using a communication equivalent to a [gravitational lens](#) also merits exploration.

The metaphor also recalls the sense in which a person may be recognized as "orbiting" or "revolving" around another. It offers further insight, given the "gravitational" implication, of how "right" is distinguished as an orientation to a "centre of gravity". In physics, that [centre of mass](#) of a distribution of mass in space is the unique "point" where the weighted relative position of the distributed mass sums to zero. Whether in a physical object or, metaphorically, in relation the identity of a person, that "point" is necessarily intangible and elusive.

Cognitive slingshot transitions?: As a more directly accessible explanation, the epicycle model highlights an interesting possibility for

navigating experientially from phase to phase within any habitual cycle -- of navigating between alternative realities (*Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement*, 2002; *Entering Alternative Realities -- Astronautics vs Noonautics: isomorphism between launching aerospace vehicles and launching vehicles of awareness*, 2002).

Metaphorically the possibility may be understood through the [gravitational slingshot manoeuvre](#), used in the design of space missions, through which the gravitational pull of one attractor can be used to accelerate a spacecraft onwards to another planetary destination -- offering the possibility of an [Interplanetary Transport Network](#) (cf. *Interplanetary Superhighway Makes Space Travel Simpler*, Jet Propulsion Laboratory, 17 July 2002) as discussed separately (*From an "Interplanetary Transport Network" to an "Inter-other Transition Network"?* 2012).

Curiously there is a degree of recognition to such dynamics in use of "rebound" to describe the experiential process in interpersonal relationships following a particularly painful break-up. More curious is recent insight into the possibility of [loop quantum gravity](#) (LQG), a theory that attempts to describe the quantum properties of gravity in relation to [loop quantum cosmology](#) and the so-called Big Bounce, mentioned above (Emanuele Alesci and Francesco Cianfrani, *Quantum-Reduced Loop Gravity*, January 2013)

Versification of phases: Another way of getting a sense of a "cognitive slingshot" is through versification in poem or song. The phase experienced as embodied in each verse is first anticipated, then enacted, then abandoned for the next. The poem or song, when remembered as a whole, then offers a degree of coherence which transcends the experience of any particular verse and places it in a context -- whose nature can be intuited to a degree but not articulated otherwise.

The transformation from verse to verse may employ devices usefully recalled by the prefixes which can be applied to "verse", as understood in geometrical transformations and optical systems: inverse, reverse, diverse, converse, obverse, perverse, and the like, as separately discussed (*Transforming the Art of Conversation*, 2012).

There is then the intriguing possibility of "re-cognizing" each moment of life as a verse -- through "versification of the moment", placing it in a space of coherence of larger degree, as separately explored (*Being a Poem in the Making: engendering a multiverse through musing*, 2012; *Enactivating Multiversal Community: hearing a pattern of voices in the global wilderness*, 2012).

Poets and song writers endeavour to recall moments having such memorable qualities that can to a degree be shared -- through resonance -- with the experience of others subsequently. The challenge is the cultivation of the ability to improvise such verses for oneself in the moment rather than to depend on past products of others. A sense of this possibility -- interweaving the verses -- is offered by the title of a book by [Mary Catherine Bateson](#) (*Composing a Life*, 1990).

A "neti neti" process? This astronomical indication, suggesting a way of navigating between modes of experience by a pattern of successive attractions and repulsions, can be understood in terms of progressive recognition of the dynamics of attachment-detachment. Traditionally this has been recognized through the Sanskrit philosophical adage: *Neti Neti* (not this, not that). However, rather than the static emphasis of that statement, here the emphasis is on the process of successively engaging and disengaging -- perhaps engendering a more fundamental insight..

Cognitive epispirals? The pattern of planetary epicycles is typically represented as flat (as above) -- consistent with the plane of the solar system. Such a pattern is reminiscent of the variety of two-dimensional centro-symmetric representations of types and other distinctions -- of which the traditional [mandala](#) is the most elaborate.

Given the elaboration of a three-dimensional model of human development in spiral form (cf. [Don Beck and Chris Cowan](#), *Spiral Dynamics*, 1996), it is useful to ask whether the comprehension challenges this implies might be prefigured by recognition of "cognitive epispirals" rather than the simpler epicycles. The [epispiral](#) is a plane curve with polar equation giving rise to representation as two-dimensional images reminiscent of those such as the mandala. It is the polar or circle [inversion](#) of the [rose](#) curve, itself reminiscent of the [rose window](#) and its psychological symbolism.

Mathematically, the epispiral is one of three forms of [Cotes spiral](#). The other two being one of [Poinso's spirals](#) and the third corresponding to a [hyperbolic spiral](#). These forms, as with discussion of the [Binet equation](#), suggest the possibility of psychosocial implications of relevance to the experiential considerations here.

Experientially, as with the planets, a degree of movement "out of the plane" may be sensed -- usefully to be understood as giving rise to some form of spiral experience. One possible metaphor is the coiling of the DNA molecule, with the implication of "cognitive DNA", as previously discussed (*DNA Supercoiling as a Pattern for Understanding Psycho-social Twistedness*, 2004). The DNA metaphor is especially interesting in that it is intimately related to the emergence of individuality from a point at the moment of conception. As a configuration of "points", it is also of interest as a consequence of efforts to associate individual "identity" with the [genome](#), notably by Richard Dawkins (*The Selfish Gene*, 1976; *The Extended Phenotype*, 1982), and despite the reassessment of the assumptions of the [Human Genome Project](#) leading to renewed emphasis on [epigenetics](#).

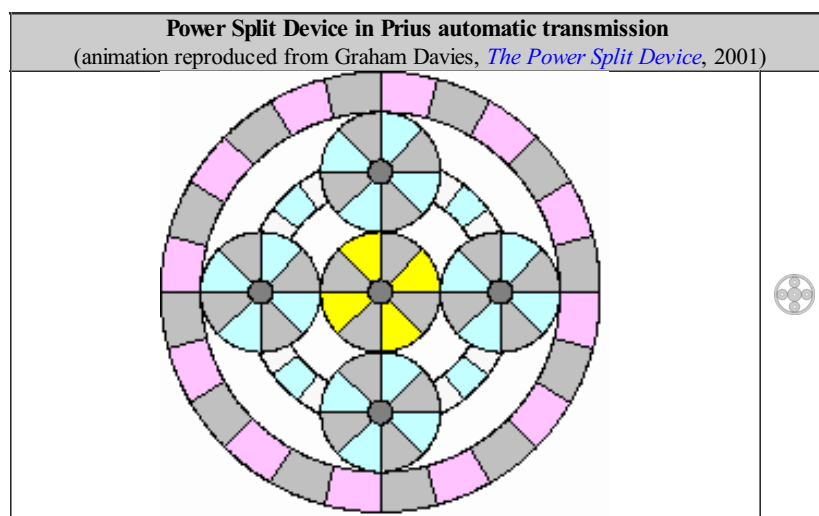
Another metaphor of potential value to understanding such spiral dynamics of comprehension is the movement of plasma in a toroidal tokamak fusion reactor and the control of that spiraling movement by a configuration of magnets, as separately discussed (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006).

Unwittingly, the complex nature of a cognitive epispiral is delightfully suggested by the [Meander Aquaphonium](#), using a variety of sounds triggered periodically by the movement of water through a spiral form -- effectively an interactive musical fountain. This "whimsical community arts project", commissioned by the Deloraine Rotary Club (Tasmania), was developed collaboratively under the direction of [Kim Clark](#). The sounds are generated through the following disparate instruments: Pan pipes, Irish whistle plonk dunker, 6 string rotary guitar, Swiss Horn and a Balinese gamelan instrument.

on permanent display at the [Great Western Tiers Visitor's Centre, Deloraine \(Meander Valley\)](#), Tasmania



Epicyclic gearing as a cognitive model: Although the epicyclic pattern is deprecated as outdated from a "heliocentric" perspective, it is remarkable that the value of the pattern should be recognized in [epicyclic gear systems](#) -- notably used in a common pencil sharpener and in the [automatic gear transmissions](#) of automobiles. The predominant form of automatic transmission is hydraulically operated, using a [fluid coupling](#) or torque converter, and a set of [planetary gearsets](#) (or epicyclic gearing) to provide a range of gear ratios. In the [Toyota Prius](#) transmission, for example, a special gear set is included -- the "[Power Split Device](#)" (PSD). The challenge of rendering its role and movement comprehensible has been admirably addressed by Graham Davies ([The Power Split Device](#), 2001) in the animation below.



As Davies explains:

In the picture at right, I have tried to show how the gears of the PSD are arranged and how they mesh together. The gear in the center is called the "sun" gear. The gears surrounding it are called the "planets"... The shafts of the planet gears are fixed to a "planet carrier", which can rotate around the same axis as the sun. This is not shown in the diagram. Around the outside is the ring gear, with its teeth pointing inwards and meshing with the planets. This also rotates around the same axis as the sun.

Most people have difficulty visualizing how the gears move in an epicyclic gear set. To help with this, I set about creating some animations. I tried first to animate the above diagram, but I quickly gave up and devised a different picture of a planetary gear. This is shown at left here. This simpler representation does not show the gear teeth. Instead, the "gears" roll against each other. The colored bars make it easier to see how each gear is moving. Looking closely, you can see that I've not cheated and the gears do not slip. The grey bars always line up with each other as the gears go around... The sun gear is, obviously, yellow. The planet gears are blue. The white band with blue bars behind the planets represents the planet carrier. You should imagine that the planet shafts are fixed to this and see how the planet gears move around with the carrier as a whole as well as rotating on their shafts. The ring gear is "rose".

Clearly, as Davies notes, comprehending the "automatic transmission" of an automobile is a challenge, despite widespread familiarity with its use. It is therefore to be expected that there is similar difficulty in comprehending any sun-and-planet "cognitive gearing" -- especially when the "planets" are not as symmetrically arranged as in the schematic gearbox above. Prior to emergence of automatic transmission systems, the metaphorical operation of "[Conceptual gearboxes](#)" was previously discussed in relation to [manual transmission](#) ([The Future of Comprehension: conceptual birdcages and functional basket-weaving](#), 1980):

... it would seem to be worthwhile considering the nature of the "conceptual gearbox", which we seem to have at our disposal. We can see that certain "gears" would be necessary under certain conditions - whether acting individually or collectively. (For example, the "first" gear would seem to be necessary to start any process). And maybe many of our troubles come because our individual or collective engines are being "revved" above the r.p.m. which the favoured first and second gears can handle. Maybe we are going too fast and do not know how to get into the appropriate conceptual gear.

Such arguments suggest that the transition from manual to automatic transmission systems offers insights into the cognitive challenge of shifting from the "geocentric" over-identification with particular gears to a "heliocentric" mode through which the shift is smoothly done according to circumstances, below the level of conscious attention -- with the traps that that "unconsciousness" may imply (cf. [John Ralston Saul](#), *The Unconscious Civilization*, 1995). Within the "manual" context, it is ironic that in order to "shift" gears a "clutch" is required to disconnect consciously from one mode in order to engage another. Whilst extensive use of automatic transmission implies orderly transition between cognitive modalities, it might be asked whether civilization is increasingly functioning "on automatic", with reduced capacity to comprehend how and when particular "gears" are required or how such transition may be organized.

The static schematic image (on the right above) is reminiscent of the many [mandala-like maps of consciousness](#) -- themselves necessarily represented as **static**. In that sense it is useful to explore the four "psychological functions" identified by [Carl Jung](#) (*Psychological Types*, 1971), notably as extended to form a pattern of eight "psychological types". The animation (on the left above) suggests an epicyclic **dynamic** interrelating those functions, absent from conventional maps of consciousness -- raising valuable questions as to whether, cognitively speaking, the movement of an implied "sun" drives that of the "planets", or vice versa. A useful discussion of epicycles in relation to Buddhist cosmology is offered by Alexander Berzin (*Buddhist Cosmology: a comparison of the Abhidharma and Kalachakra explanations*, 1987).

The challenge to comprehension is all the greater if both "planets" and "sun" are to be understood in 3 dimensions or more, moving in relation to one another -- as could be implied by the experiential relation between those cognitive functions.

Psychodynamics of point-making as autopoiesis

Identity as both point and sphere: As argued here, an individual is a mysteriously experiential "point identity" -- both to the individual and to others. The individual necessarily tends to engage from that perspective with the universe for explanatory purposes -- however complex may appear the dynamics of the distinctions experienced from that perspective.

As indicated above, there is considerable ambiguity to being constrained as a "point identity", when that identity is more readily and commonly experienced through the integrative globality and extensiveness of a sphere -- the "world" within which one lives. There may even be a sense in which there is a degree of alternation between identification with point and with sphere -- the experiential point "expanding" to a sphere from its centre according to circumstances. Any such expansion is then readily associated with a sense of "fulfillment". The relation may also be characterized by a descriptive paradox analogous to that of the Heisenberg [Uncertainty Principle](#) (cf Garrison Sposito, *Does a generalized Heisenberg Principle operate in the social sciences? Inquiry*, 1969).

Richer cognitive significance has been associated with more complex geometrical and topological forms, as in the work of [Jacques Lacan](#), [R. D. Laing](#) (*Knots*, 1970) or [Steven M. Rosen](#) (*Topologies of the Flesh: a multidimensional exploration of the lifeworld*, 2006, *Dimensions of Apeiron: a topological phenomenology of space, time, and individuation*, 2004). This suggests the potential of an array of ways of using such metaphors to enable more appropriate understandings of identity (*Intercourse with Globality through Enacting a Klein bottle: cognitive implication in a polysensorial "lens"*, 2009; *Engendering Invagination and Gastrulation of Globalization: reconstructive insights from the sciences and the humanities*, 2010).

Point making: Understood in this way, the question is how the individual (as a "point-identity") then "makes a point", thereby asserting identity -- through a degree of identification with the point so made. This may well be as a strange reflection of the identity of the originator, or some form of projection into the point so made. Suggestive of a heliocentric "solar" process is the work of Douglas Hofstadter and Emmanuel Sander (*Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013).

The psychological experience of the processes is then reminiscent of conception, giving birth, or engaging with whatever it is hoped to leave as a legacy of living -- "leaving a mark". There is necessarily a contrast between the form the point takes in the eyes of the beholder and the form with which the originator identifies.

Given the pattern offered by the emergence of the planets to form a solar system, there is a case for exploring "point making" by an individual as one of engendering "planets", as in studies of the [formation and evolution of the Solar System](#). These "planets" then become the "geocentric" vehicles of distinct and contrasting expressions of identity -- emanations of a "heliocentric" identity whose generative nature remains necessarily elusive and inaccessible.

Individual as universe: There is a challenge to comprehension of the complex richness of such a context. There is therefore a case for using understanding of the universe which originally inspired astronomical reflection and the quest for explanatory order (*Towards an Astrophysics of the Knowledge Universe: from astronautics to noonautics?* 2006; *Astrophysical metaphor*, 2012). This is notably consistent with arguments of such as [Joseph Campbell](#) (*The Inner Reaches of Outer Space: metaphor as myth and as religion*, 1986), as noted above, or of [Henryk Skolimowski](#) (*The Participatory Mind: a new theory of knowledge and of the universe*, 1995). Current insights of astrophysics have the universe originating mysteriously from a point -- although it remains unclear how that originating point was originally made "from nothing" ([Lawrence M. Krauss](#), *A Universe from Nothing: why there is something rather than nothing*, 2012).

It is of course common to refer to a person as "living within their own universe" -- perhaps with the world understood as "revolving around" the person. For many life may well be framed in those terms. It may also offer creative possibilities for reframing engagement with life, as separately suggested (*Being the Universe: a metaphoric frontier*, 1999; *The Territory Construed as the Map: in search of radical design innovations in the representation of human activities and their relationships*, 1979). In particular this may enable the transformation of the art of conversation, as separately discussed (*Proposed universes and their conversation potential*, 2012).

As indicated there recent research by [Stephen Hawking](#) and colleagues (*Accelerated Expansion from Negative Lambda*, 2012), has shown that the universe may have the same surreal geometry as some of art's most mind-boggling images (Lisa Grossman, *Hawking's 'Escher-verse' could be theory of everything*, *New Scientist*, 9 June 2012). This offers a way of reconciling the geometric demands of

string theory, a still-hypothetical "theory of everything", with the universe as observed -- through a negatively-curved Escher-like geometry (essentially a hyperbolic space).

Their results rely on a mathematical twist previously considered impossible, namely the use of a **negative cosmological constant** rather than a **positive** one. The new approach provides a description of "all the possible universes that could have been -- including ones in which the solar system never formed, or in which life might have evolved quite differently". Making conventional use of a positive cosmological constant, it had proven impossible to describe universes that were "anything more than clunky approximations to reality." A plethora of universes have now been generated from wave functions with negative cosmological constants.

With the individual understood as a universe, of which s/he may indeed be assumed to be the centre, the riches of reflection on the nature, origin and shape of that universe, as articulated by physics, can be explored as ordering templates for experience. Insights into the origins of galaxies, stars and planets may then be used to that end. The lifecycle of stars -- from origin to final collapse - is then suggestive of how the individual might consider ordering the experience of a lifetime.

Understandings of universe as a source of insight: It is the subtlety of insight of astrophysics regarding comprehension of the universe that calls for comparison with the insight through which individual identity is comprehended. Why should it be assumed that the subtlety of individual identity would be less than that of the universe -- as comprehended through the best of human insight? A more readily accessible metaphor of possible value is the emergence of spherical bubbles from point sources in a heated fluid.

Such metaphors are indicative of a mysterious originating "pressure" driving the process of "point making" -- of which the reproductive insight, and its surrogates, are the most evident consequence in the case of the individual. The process of "point making" and the sustainability of identity are then strangely entangled. The mystery may extend to the seemingly fundamental drive to destroy the identities of "others" and alternatives.

Point-making and identity in the light of stellar evolution: Why are "light" and "brilliance" such acceptable metaphors in communication processes and the appreciation of insight? Why are celebrities in many domains termed "stars"? Why the preoccupation with "visibility" in the promotion of people and initiatives? Why the value and meaning attached to "enlightenment"? Why the ambiguity and concern relating to the "dark" (*Enlightening Endarkenment: selected web resources on the challenge to comprehension*, 2005).

As discussed in an earlier document with respect to **cognitive engagement** in the light of stellar evolution, there are other intriguing patterns to be derived from astrophysics (*Towards an Astrophysics of the Knowledge Universe: from astronautics to noonautics?* 2006).

How does the array of relatively simple reactions sustain the complexity and coherence of a sun? Can consciousness be understood in terms of the patterns of solar reactions through which light and heat are generated for mundane life -- in the light of *Cybernetics and Human Knowing* (A Journal of Second Order Cybernetics, Autopoiesis and Cyber-Semiotics) ? What then is to be understood by hydrogen and helium?

Could the conscious life then be usefully understood in terms of the **Hertzsprung-Russell diagram** (showing the luminosities of the stars plotted against their surface temperatures) and its significance for the process of stellar evolution?

Is the initial phase of conscious evolution a contraction of the preconscious (the protostar) from the collective unconscious (the interstellar gas)? In the case of stellar evolution, this stage typically lasts millions of years. Half the gravitational potential energy released by the collapsing protostar is radiated away; half goes into increasing the temperature of the forming star. This might echo insights from the Tibetan *Book of the Dead*.

Can temperature be understood as degree of self-awareness? Eventually the temperature becomes high enough for the fusion of hydrogen to form helium. The star then enters its longest period in stellar evolution, known as the main sequence in the context of the Hertzsprung-Russell diagram. As the star's helium content builds up, the core contracts and releases gravitational energy, which heats up the core and increases the rate of hydrogen consumption. The increased reaction rates cause the stellar envelope to expand and cool, and the star becomes a red giant. Eventually, the contracting stellar core will reach temperatures in excess of 100 million degrees. Helium burning then sets in, and the star starts shrinking in size.

In the further course of evolution, the star may become unstable, possibly ejecting some of its mass and becoming an exploding nova or supernova or a pulsating variable star. The end phase of a star depends on its mass. A low-mass star may become a white dwarf; an intermediate-mass star may become a neutron star; and a high-mass star may undergo complete gravitational collapse and become a black hole. Are some of these patterns not reminiscent of the possible final stages of life of media personalities -- especially movie "stars", but also the geniuses of our era?

Autopoiesis through point-making: The argument suggests a curious relationship between the impulse to make points in some form or another (including "scoring" as more generally understood to encompass both competitive success and sexual conquest) and the self-engendering or self-creation explored as **autopoiesis** (Humberto Maturana and Francisco Varela, *Autopoiesis and Cognition: the Realization of the Living*, 1973; Kyrill A. Goosseff, *Autopoeisis and meaning: a biological approach to Bakhtin's superaddressee*, *Journal of Organizational Change Management*, 23, 2010, 2).

Autopoiesis, sharing etymology with poetry, emphasizes the challenge of eliciting some form of dynamic harmonious elegance valued by both science and the arts (cf. Ira Livingston, *Between Science and Literature: an introduction to autopoetics*. 2006). The pattern, to be recognized here as interrelating the verses, has been named by **Gregory Bateson** as a "meta-pattern". It may be understood as a comprehension of the interweaving of correspondences between the insights embodied in the disparate verses, as separately discussed (*Interweaving Thematic Threads and Learning Pathways*, 2010; *Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007).

Such harmony is also considered fundamental to the nature of order as experienced by humans, as clarified by **Christopher Alexander**

(*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) with respect to "15 transformations", as discussed separately (*Harmony-Comprehension and Wholeness-Engendering: eliciting psychosocial transformational principles from design*. 2010).

Identification with a sustaining "heliocentric" locus?

As argued above, identity is most readily associated with "geocentric" identity -- despite the confusion of incommensurable dynamics, suggestively mapped as cognitive epicycles. The curious challenge is the nature of the requisite detachment through which greater coherence emerges from a "heliocentric" perspective. From a "geocentric" perspective the importance of the "sun" is unquestionable in sustaining life. From a "heliocentric" perspective, it is the "sun" which enables and sustains the "geocentric" movements most commonly associated with life as it is known and experienced.

There is a curious difference between the two perspectives with respect to movement, progress and "going somewhere":

- the "geocentric" perspective is witness to repeated
 - progress through the seasons and their variability
 - daily movement of the "sun" with the passage of time especially marked by the contrast of night and day
- the "heliocentric" perspective is
 - witness to the circumnavigation by the geocentric perspective -- "going nowhere" repeatedly, through being locked into an orbit (offering an illusion of "going somewhere" from a "geocentric" perspective)
 - effectively unmoving -- "going nowhere" (although offering the illusion of "going somewhere" from a "geocentric" perspective)
- both perspectives are characterized by rotation on an axis (with the system as a whole in less evident movement with respect to a universal context)

Both "Sun" and "Earth" figure extensively in the insights offered by mythology -- and a sense of the possibility of identifying with them as patterning dynamics. Using these metaphors, the question is how meaningfully to embody the dynamics of the contrasting perspectives with respect to:

- **going "somewhere"** -- implying achievement through the sense of possibility in having somewhere to go (and the potential of sustainability there). This exemplifies the sense of both the "arrow of progress" and any quest for a metaphorical Holy Grail (*In Quest of Sustainability as Holy Grail of Global Governance*, 2011). This can be deprecated in the sense offered by the image of a dog chasing its own tail -- an image consistent with planetary motion, whether framed as heliocentric or in terms of epicycles.
- **going "nowhere"** -- with the challenge of how to elicit the emergence of potential and sustainability without endeavouring to move "anywhere", especially when there is a sense of there being "nowhere to go". Going "nowhere" is of course readily deprecated in the light of any conventional understanding of "progress".

The first offers an illusion of progress towards a condition of sustainability -- but without clarifying the dynamics of that condition when achieved. The illusion may be usefully associated with that of continuing "growth as sustainability". Sustainability may then be associated with "resilience", as the capacity to return to a desired condition despite disruption. This understanding is vigorously challenged by Taleb (*Antifragility*, 2012), suggesting that sustainability might be better understood as the transformative capacity in response to disruption and Black Swan surprises, namely an intangible learning capacity more consistent with the values implicit in "growth", but obscured by the conventional preoccupation with growth of the tangible.

The second is necessarily a paradoxical challenge to comprehension -- how to progress (and develop) whilst standing still. The articulation of such a self-sustaining dynamic can be explored in terms of the dynamics of a nuclear fusion reactor -- through which it is hoped to release the "power of the sun", as mentioned above and separately discussed (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006). Unfortunately, as critics have remarked, progress towards the goal of a sustainable fusion reaction, as currently conceived, has been "35 years away" for a number of decades.

The relevant "solar" or "heliocentric" insight required for such sustainability can be tentatively explored through understandings of an "indwelling" intelligence (*Implication of Indwelling Intelligence in Global Confidence-building*, 2012). Notably with respect to the arguments of Neil Shubin (*The Universe Within: discovering the common history of rocks, planets, and people*, 2013) There would seem to be the possibility of a tantalizing correspondence, equivalence or isomorphism -- whether in topological or experiential terms -- between comprehension of:

- universe, and its emergence from a mysterious "point identity"
- human conception, and the emergence of identity from a point (sperm/egg, invagination)
- "surprise", associated with such emergence,
- transformation from the structures/processes contributing to that emergence (notably in terms of the learnings associated with antifragility)
- insight into the cosmological pattern constituted by DNA, as extensively explored by anthropologist Jeremy Narby (*The Cosmic Serpent: DNA and the origins of knowledge*, 1999), as separately discussed (*Myth and indigenous knowledge*, 2006)

Complex entanglement of comprehension

Projection of identity into geometry and topology: Projection of distinct "heliocentric" attributions into "geocentrically" perceived "planets", thereby enabling comprehension -- through the "specialization" of a subtle, complex, integrative dynamic, mirroring aspects of the whole. *Through point-making I am -- whole*

Intuitive understanding carried metaphorically by "point", "hole", "globe". With identity imagined and denied, by "making" or "getting" the point, and by "making" or "filling" holes -- through which a sense of fulfillment is variously achieved. Most fundamentally these processes are recognized in those of motivation and sexual fascination. The significance is collectively evident with respect to any massive national budgetary "hole" -- or military intervention as a "point-making" exercise. It is otherwise evident in that context in use of "line" -- as an extension of "point" -- in discussion of a budgetary line, a "bottom line", and alignment with a strategic initiative, but especially of "crossing the line". Of particular relevance is the sense in which the "gravity" of any preoccupation engenders a sense of what is "right" -- perceived as "upright" or righteous -- namely an alignment that passes through the "centre of gravity".

The complexity of the entanglement is usefully carried by forms such as the Mobius strip and the Klein bottle, as separately discussed (*Intercourse with Globality through Enacting a Klein bottle*, 2009). These variously suggest the possibility of a "stereoscopic" liminality through which cognitive engagement with greater conceptual depth might be enabled.

Of interest is how simple a system of denotation can be elaborated in order to hold these comprehension process distinctions. Possibilities are suggested by the hexagram notation of the *I Ching* and *T'ai Hsüan Ching*, or the notation elaborated for the calculus of indications by *George Spencer-Brown (Laws of Form, 1969)*.

Beyond epicyclic governance? There is a case for exploring the manner in which the challenges of "global" governance are effectively constrained through what amounts to a "geocentric" understanding of "global". In this sense, the "global" of strategic management has epicyclic characteristics, notably what those deprecated as a "fire-fighting" response to periodic crises and Black Swan surprises. This is to be contrasted with the "globally" of aspirations and promotion of unity and universalism -- better distinguished and understood through the "heliocentric" metaphor (cf. *Future Generation through Global Conversation: in quest of collective well-being through conversation in the present moment*, 1997).

Beyond epicyclic governance?		
	"geocentric" like planet (Earth)	"heliocentric" like Sun
going nowhere	path dependence (tail-chasing dog) questing for something, experiencing emptiness	already there (self-sustaining dynamic) engaged dynamically with no-thingness and emptiness of form
nowhere to go	knowing {constrained by habitual path dependence} externalization of direction of movement frustrating pursuit of externalities	not-knowing (where to go) internalization of movement embodying a generative process of not-knowing where to go

Eppur si Muove: The much studied confrontation between *Galileo Galilei* and the Catholic Church (the "*Galileo Affair*"), regarding the movement of the Earth around the Sun, offers a valuable template through which to explore the individual and collective cognitive challenges to the comprehension of such a shift in perspective -- culminating in his alleged declaration of *Eppur si Muove* ("and yet it moves") after being obliged to recant his views. Especially intriguing is the manner in which the qualitative values with which a "geocentric" worldview is "obviously" imbued mirror those of the subtlest, integrative, existential experience -- but requiring a paradoxical cognitive twist through a form of mirror inversion, usefully suggested by the Mobius strip. The geometrical convolutions of the epicycles of a "geocentric" perspective are reflected in the "cognitive convolution" required by the paradox so evident in the Mobius strip -- appropriately echoed by the title employed by *Douglas Hofstadter (I Am a Strange Loop, 2007)*.

The attributes most valued in a "geocentric" understanding are then those associated more fundamentally with "heliocentric" understanding; immedicacy, warmth, connectedness. The values deprecated in "heliocentric" are those consequent on "geocentric" attractions and their associated distractions.

Why should "science" assert so categorically that it will not fall victim to a similar cognitive trap -- echoing the historical role of the Catholic Church in response to emergent insight? The orthodoxy of conventional science -- represented so ably by *Dawkins* and others -- has its dogmas in relation to reality, as at that time, despite the astoundingly counter-intuitive insights of fundamental physics.

The argument can be explored in relation to the hypothesized *technological singularity*, namely the theoretical emergence of superintelligence through technological means. Since the capabilities of such intelligence would be difficult for an unaided human mind to comprehend, the technological singularity is seen as an occurrence beyond which events cannot be predicted. In that respect a scientifically and philosophically credible understanding of the 'technologically singularity' requires a more satisfactory explanation of how consciousness fits into a cosmic evolutionary scheme, as argued by *Tom Lombardo (Consciousness, Cosmic Evolution, and the Technological Singularity, Journal of Futures Studies, 17, 2012, 2, pp. 93-100)*.

Nothingness and not-knowing

Omar Khayyám, variously acclaimed as the "poet of uncertainty" (in a BBC Documentary series, 2009), the "poet of doubt", and the *Shakespeare of Iran* -- is recognized as unique in being remembered as both a great poet and a great mathematician [See extensive entry in *Stanford Encyclopedia of Philosophy*]. However, as the famed author of the *Rubáiyát of Omar Khayyám*, quatrains such as the following are attributed to him:

*The Worldly Hope men set their Hearts upon
Turns Ashes -- or it prospers; and anon,
Like Snow upon the Desert's dusty Face
Lighting a little Hour or two -- is gone.*

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.*

For another person acclaimed as wise, [Lao Tsu](#):

*The sage is always skilful at saving things,
And so nothing is uselessly cast away.
This is called the hidden wisdom*

*Therefore the sage does not fail in anything,
since he does nothing;
Does not lose anything, since he holds nothing*

In a period in which the future is experienced by many as having "nothing to offer" and in which many have been "left with nothing" (as a consequence of man-made and natural disasters), there is a case for exploring the nature of "nothingness" more attentively.

Nothingness for physics: Curiously, and perhaps appropriately, "nothing" has become of considerable significance to astrophysics, as noted above (Lawrence M. Krauss, *A Universe from Nothing: why there is something rather than nothing*, 2012). Credibility has been given to the sense in which nothingness is the main characteristic of both matter and outer space (*Emerging Significance of Nothing*, 2012). The possibility of "dark matter" has been hypothesized to give coherence to theories regarding the nature of the universe.

Cognitive nothingness?: This suggests the further possibility that some cognitive form of "nothingness" may underlie that to which the senses so readily attribute substantive reality, as separately discussed (*Unthought as Cognitive Foundation of Global Civilization: implications of God, debt, overpopulation, waste, negligence, encroachment and death?*, 2012). Significance would appear to be mysteriously associated with nothingness. This possibility has long been affirmed in various Eastern religions through insights such as the "emptiness of form". There is a case for exploring how the variety of related insights can be configured, as discussed separately (*Configuring the Varieties of Experiential Nothingness*, 2012). Engaging with that nothingness is necessarily a cognitive challenge -- as readily avoided and denied as is the effective denial of the current insight of physics.

Nothingness as a "hole" in reality: The nature of "nothingness" becomes more mysterious when recognized as a "hole", as remarkably discussed by Roberto Casati and Achille C. Varzi (*Holes and Other Superficialities*, 1994) -- with respect to the borderlines of metaphysics, everyday geometry, and the theory of perception (as they summarize in the [entry on holes](#) in the *Stanford Encyclopedia of Philosophy*). What might indeed be the cognitive implications, as separately discussed (*Existential implications -- of a "hole" in conventional reality?*, 2012) ?

A key factor with respect to the emergence of appropriate engagement with nothingness may be intimately associated with what is "missing", as argued by [Terrence W. Deacon](#) (*Incomplete Nature: how mind emerged from matter*, 2011; *What's Missing from Theories of Information?*, 2010) and previously discussed (*Evolutionary influence of the absent*, 2011). For Deacon:

... have we been looking in the wrong places for clues? ... brain researchers and philosophers of mind have focused on brain processes, neural computations and their correspondences with the material world. But what if we should be focusing on what is not there instead? ... I believe that in order to overcome this stalemate we need to pay more attention to what is intrinsically not present in everything -- from life's functions and meanings to mind's experiences and values. [*emphasis added*]

The impressive exploration by Matthew E. May (*In Pursuit of Elegance: why the best ideas have something missing*, 2009) is notable for having been embraced by the conference process of the design world through TED (Technology, Entertainment, Design).

Emptiness: As a human condition characterized by a sense of generalized boredom, social alienation and apathy, [emptiness](#) is framed by Western sociologists and Christianity as a negative, unwanted condition. A sense of the emptiness of life is recognized as accompanying dysthymia, depression, loneliness, despair, and other mental/emotional disorders, including borderline personality disorder. The feeling is also part of a natural process of grief, separation, death of a loved one, or other significant changes. The sense may well be felt to justify suicide. Associated with despair, a personal sense of emptiness may have wider implications (*Implication of Personal Despair in Planetary Despair*, 2010).

"Non-existence": In societies cultivating class and other distinctions to some degree, many may be effectively condemned to a condition of "non-existence" as "nobodies". It is well-recognized in the case of the treatment of servants, as has always been the case with slaves. The attitude has long been evident in relation to treatment of women in many cultures ([Elise M. Boulding](#), *The Underside of History: a view of women through time*, 1976). Such behaviour may strongly reinforce lack of self-esteem and the sense of emptiness described above. It may itself have collective equivalents, as separately explored (*Collective Memory Personified: an Analogy*, 1980). The behaviour has been widely condemned with respect to racial and ethnic discrimination.

Strategic unknowns: As separately discussed (*Unknown Undoing: challenge of incomprehensibility of systemic neglect*, 2008), the former US Secretary of Defense, [Donald Rumsfeld](#) continues to be cited for his prescience in strategic and security circles due to his succinct articulation of the challenge of what may be known with any confidence in a world of increasing uncertainty. His formulation famously took the form of a "poem" -- on *The Unknown* -- presented during a Department of Defense news briefing on 12 February 2002. The insight has been most recently used in the analysis by Nathan Freier (*Known Unknowns: Unconventional 'Strategic Shocks' in Defense Strategy Development*. Strategic Studies Institute, U.S. Army War College, November 2008).

Unknowledge in economics: Ulrich Witt (*Novelty and the bounds of unknowledge in economics*, *Journal of Economic Methodology*, 16, 2009, 4) has argued that economic development and growth are driven by the emergence of new technologies, new products and services, new institutions, new policies, and so on. Important though it is, the emergence of novelty is not well understood. Epistemological and methodological problems make it a difficult research topic. As Witt notes, they imply a "bound of unknowledge" for economic theorizing wherever novelty occurs in economic life -- as first articulated by [G. L. S. Shackle](#).

Apophysis and not-knowing: Especially relevant to this argument is the extensive discussion of the *via negativa*, especially from a theological perspective in respect of the nature of deity. This has also been termed apophatic theology. It is a theology that attempts to [describe God by negation](#), to speak only in terms of what may **not** be said about the nature of the perfection assumed to be characteristic of God. It is contrasted with the descriptive affirmations of [cataphatic theology](#).

That mode of argument can be adapted to the nature of individual identity -- as experienced -- and the cognitive traps of its over-definition, as separately discussed (*Being What You Want: problematic kataphatic identity vs. potential of apophatic identity?* 2008). It raises the experiential question of the nature of "not-knowing" and the problematic consequences of seeking to "know" and define, typically ensuring premature closure in the light of future insight.

A non-theological appreciation of *via negativa* has been most recently articulated by Nassim Nicholas Taleb (*Antifragile: things that gain from disorder*, 2012), notably reviewed by [Julian Baggini](#) (*Antifragile: how to live in a world we don't understand by Nassim Nicholas Taleb*, *The Observer*, 16 December 2012). The *via negativa* is the focus of *Book VI* of that opus, where Taleb argues:

But if we cannot express what something is exactly, we can say something about what it is not -- the indirect rather than the direct direct expression. The "apophatic" focuses on what cannot be said directly in words... The method began as an avoidance of direct description, leading to a focus on negative description, what is called in Latin *via negativa*.

He applies the argument to the contrast between positive acts of commission typical of governance and those of omission in any intervention:

Acts of omission, not doing something, are not considered acts and do not appear to be part of one's mission... Yet in practice it is the negative that's used by the pros...

Now when it comes to knowledge the same applies. The greatest -- and most robust -- contribution to knowledge consists in removing what we think is wrong -- subtractive epistemology.... I have called "Platonicity" the love of some crisp abstract forms, the theoretical forms and universals that make us blind to the mess of reality and cause [Black Swan effects](#). Then I realized that there was an asymmetry. I truly believe in Platonic ideas when they come in reverse, like negative universals.

So the central tenet of the epistemology I advocate is as follows, we know a lot more what is wrong than what is right, or... negative knowledge (what is wrong, what does not work) is more robust to error than positive knowledge (what is right, what works). So knowledge grows by subtraction much more than by addition -- given that what we know today might turn out to be wrong but what we know to be wrong cannot turn out to be right, at least not easily.... disconfirmation is more rigorous than confirmation.

A much-cited related argument has been presented by the poet [John Keats](#) as: *when a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason*. This he termed [negative capability](#), namely the capacity of human beings to transcend and revise their contexts. The term has been used by poets and philosophers to describe the ability of the individual to perceive, think, and operate beyond any presupposition of a predetermined capacity of the human being, as separately discussed (*Negative capability: a bridge to nowhere as a bridge to nowhere?* 2011).

In a section on *Do you really know where you are going?*, Nassim Nicholas Taleb (2012, pp. 169-171) clarifies how classical thinking prevented appreciation of antifragility as vital to sustainable development. He argues:

The erudite mind's denigration of antifragility is best seen in a sentence that dominates the *Summa [Theologica of Thomas Aquinas]*, being repeated in many places, one variant of which is as follows: "An agent does not move except out of intention for an end"... in other words, agents are supposed to know where they are going, a teleological argument (from *telos*, "based on the end") that originates with Aristotle.... This entire heritage of thinking... is where the most pervasive human error lies, compounded by two centuries of the illusion of unconditional scientific understanding. This error is also the most fragilizing one.

So let us call here the teleological fallacy, the illusion that you know exactly where you are going, and that you knew exactly where you were going in the past, and that others have succeeded in the past by knowing where they are going.... The error of thinking you know exactly where you are going and assuming that you know *today* what your preferences will be *tomorrow* has an associated one. It is the illusion of thinking that others, too, know where they are going, and that they would tell you what they want if you just asked them

Going "nowhere"

The various forms of experience of nothingness and not-knowing give some sense of the experiential reality of "going nowhere". The question here is how this experience might be fruitfully transformed -- or at least the possibilities for considering how this might be done, as suggested by the clues offered below.

The argument follows from the sense of a "heliocentric locus" -- "implied" rather than "explicit"-- as suggested by the arguments of physicist [David Bohm](#) (*Wholeness and the Implicate Order*, 1980; *The Undivided Universe: an ontological interpretation of quantum theory*, 1993). The explicit is then to be understood in "geocentric" terms, with the implicit in "heliocentric" terms. The first being a feature of grounded experience, the second evident in the manner in which light is evident -- emanating from an essentially inaccessible Sun.

Indwelling intelligence: One intuitive approach is in terms of the case for experience of an "indwelling intelligence", as separately discussed (*Implication of Indwelling Intelligence in Global Confidence-building*, 2012)

Uncertainty of partial comprehension: Cognitive anticipation of potential emergence of surprises (Black Swan effects in the language of Nassim Nicholas Taleb) implies a modality of "expecting the unexpected", namely living creatively with a degree of incomprehension and ignorance in order to avoid the dangers of premature closure, as variously argued separately (*Living with Incomprehension and Uncertainty*, 2012; *Towards the Systematic Reframing of Incomprehension through Metaphor*, 2012; *Towards the Dynamic Art of Partial Comprehension*, 2012)

Living penultimately: The sense of "inaccessibility" of any such intangible, implicit, "transcendent" locus suggests the importance of recognizing the manner in which the "heliocentric" locus is more fruitfully understood as "circled", as with the grounded reality of the "geocentric" experience. (*Paradoxes of Engaging with the Ultimate in any Guise: living life penultimately*, 2012; *Orbiting Round Nothingness across Communication Space: possibility of an "Inter-other Transition Network"*, 2012; *Way Round Cognitive Ground Zero and Pointlessness? Embodying the geometry of fundamental cognitive dynamics*, 2012).

Cyclic identity: The emphasis on the cyclic nature of experience, together with the possibility of cyclic development and **eternal recurrence** (implied by use of "rehearsal"), are suggested by the classic statements:

- The First Shall be Last, and the Last First (*Matthew 20:16*)
- 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. (T. S. Eliot, *Little Gidding*, 1942).

Such recognition suggests the merit of consideration of identity as cyclic rather than simply constrained to a point, to a linear series of point, or to a sphere (*Emergence of Cyclical Psycho-social Identity: sustainability as "psychically" defined*, 2007). This is consistent with related issues discussed separately (*Strategic Complexity 8 Attracting Consensus: Klein is beautiful 8 Sustaining identity in time*, 2011; *System Dynamics, Hypercycles and Psychosocial Self-organization*, 2010; *Cognitive Cycles Vital to Sustainable Self-Governance*, 2009; *Identity, Possessive World-making and their Transformation Dynamics*, 2012).

The question here is the nature of the subtlety, implied by apophysis. This is characterized by a form of emptiness, as expressed in [Thomas Merton's](#) interpretation of *The Pivot* of [Chuang Tzu](#):

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

Not-knowing "where to go" ?

As suggested by the indications in the previous section, there is a real challenge to use of language in indicating the possibility of transforming the limitations of "going nowhere". The challenge includes:

- any expectation that there is an "answer" regarding "where to go" according to conventional understanding, rather than recognizing that the condition may itself be a "question"
- any assumption that the conventional question-answer dynamic is adequate to that transformation
- the manner in which "pointing" to possibilities invoke the questionable characteristics of "point" any sense of direction towards a more appropriate worldview. Such pointing recalls the challenge for any dog owner in seeking to focus attention of the dog on some distant matter of concern

Possible indications as to the nature of a process of not-knowing "where to go" might then include:

- the self-referential insight offered by [Douglas Hofstadter](#) (*I Am a Strange Loop*, 2007) following his earlier work (*Gödel, Escher, Bach: an Eternal Golden Braid*, 1979), as separately discussed (*Sustaining a Community of Strange Loops: comprehension and engagement through aesthetic ring transformation*, 2010)
- the manner in which question-and-answer might then be understood as embodied into a "strange loop" of which the paradoxical [Möbius strip](#) offers one useful indication and the Zen *koan* another. As a dynamic question-answer might then function such as to engender a form of cognitive energy -- a subtler form of knowing with which "enlightenment" is intuitively associated
- the manner in which more meaningful globality -- implied by "pointing" -- is essentially "enacted" as suggested by [Francisco Varela](#) (*Laying Down a Path in Walking*, 1987) and separately explored (*En-joying the World through En-joying Oneself: eliciting the potential of globalization through cognitive radicalization*, 2011; *Intercourse with Globality through Enacting a*

Klein bottle: cognitive implication in a polysensorial "lens", 2009). This extends implication of the topological paradox of the Mobius strip to the *Klein bottle*, as extensively explored by Steven M. Rosen (*Topologies of the Flesh: a multidimensional exploration of the lifeworld*, 2006).

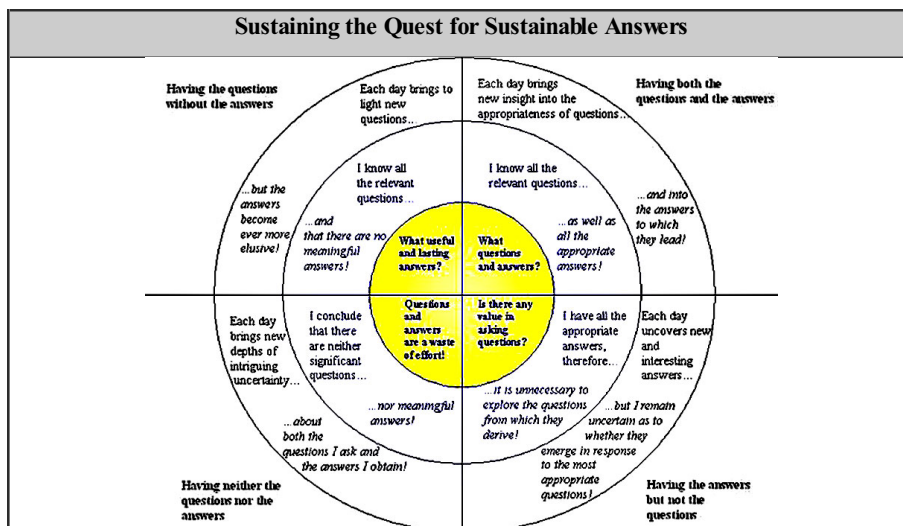
- the appropriate irony that the process of self-renewal, as the Holy Grail of the quest for sustainability, is perhaps best comprehended through cognitive analogues to the nuclear fusion cycle within the Sun, as separately discussed (*Embodiment of Identity in Conscious Creativity*, 2011; *Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006).

Attention can then usefully focus on mnemonic catalysts to enable such comprehension, as separately suggested (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007; *Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007). The geocentric/heliocentric metaphor offers one such possibility. The work of Douglas Hofstadter and Emmanuel Sander (*Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013) may well imply a more specific relationship between creative "point-making" and the solar processes of "heliocentric" insight.

Using a depiction of *Hathor*, a mythological complement to the Egyptian deity *Horus*, the following animation then suggests a provocative representation of the requisite dynamic -- the "twinkle" -- in the strategic third eye of sustainability. The *Oxfam "doughnut"* has been incorporated there as part of the "twinkle cycle", previously presented and discussed in simpler form (*Embodiment of Identity in Conscious Creativity: challenge of encompassing "con"*, 2011). The subtitle of that document emphasizes the necessary cognitive vigilance to transcend the confidence games so typical of conventional approaches to strategic governance.



Given the desperate preoccupation with discovering "answers" to the sense of "going nowhere", thereby eliminating the "question", the situation might be fruitfully reframed by the following mnemonic (reproduced from *Sustaining the Quest for Sustainable Answers*, 2003)



The following table suggests the possibility of another form of catalytic cognitive mnemonic -- exploiting a play on relevant words, notably those of the title. Each offers a distinct focus. Together they form a configuration of complementary modalities as separately discussed (*Eliciting a 12-fold Pattern of Generic Operational Insights: recognition of memory constraints on collective strategic comprehension*, 2011; *Enabling a 12-fold Pattern of Systemic Dialogue for Governance*, 2011)

		"space"		"time"	
		here	there	when	then
"logic"	not	not here (implying there?)	not there (implying here?)	not when (implying then?)	not then (implying now?)

"present"	now	now here (implying nowhere else?)	now there (implying not here?)	now when (implying not then?)	now then (implying now?)
"cognition"	know	know here (implying not there?)	know there (implying not here?)	know when (implying know then?)	know then (implying not now?)

Conclusion

As indicated in the introduction, the emerging situation is one in which it becomes ever more apparent that it is only "nothing" that is on offer from global governance and its advisors, if only in term of their evident inability to reach any sustainable consensus, as previously argued (*The Consensus Delusion: mysterious attractor undermining global civilization as currently imagined*, 2011; *Ungovernability of Sustainable Global Democracy? Towards engaging appropriately with time*, 2011).

The institutions of governance now appear to stand for "nothing", other than the semblance of standing for something -- and are unable to prove otherwise. Science, ironically, would argue similarly with respect to religion. It might be said that "offering nothing" has become an art form (*The Art of Non-Decision-Making*, 1997). This "art" is notably characterized by the capacity to deliver only a semblance of what is promised, despite a track record indicative of the improbability of fulfilling that commitment.

Typically "nothing" is now resolved in efforts to achieve coherence in response to crisis. Ironically, understood otherwise, "nothing" is indeed what is on offer in terms of the destructive consequences of incoherence and the use of weapons (of mass destruction) under those circumstances. Most concretely, aside from the existential chllenge of the starving, is the expectation of "nothing" now offered with respect to employment prospects, as predicted by a recent ILO report (*Global unemployed will reach a record 200 million in 2013*, *GlobalPost*, 22 January 2013).

The various references to the work of Taleb (*Antifragility*, 2012), and the fundamental contrast he draws between "resilience" and "antifragility", are of particular relevance at the time of writing given a theming of the current [World Economic Forum](#) (Davos, 2013) as "Resilient Dynamism". An articulation of that theme has been provided by the President of the Rockefeller Foundation, [Judith Rodin](#) (*Rebound: Building a More Resilient World*, *The Huffington Post*, 23 January 2001). This initiative has raised a fundamental question for some, as to whether Taleb's "antifragility" has been misappropriated and rebranded by the Forum (David Wagner, *Did Davos Steal Its Theme From an Author Who Hates Davos?*, *The Atlantic Wire: what matters now*, January 2013). It also raises the question as to whether those at the World Economic Forum understand the point made by Taleb -- given his extremely critical comments on their track record in supporting the thinking which resulted in the current global financial crisis. In the light of the argument above, will the Davos Forum be as dangerously "pointless" in offering "nothing" -- as with previous events -- in order to ensure "business as usual"?

This argument has noted the point-making enabled by firearms as a destructive expression of identity at the fatal expense of others -- currently highlighted by highly publicized [school shootings](#) and the ever increasing capacity to "spray bullets" (*Gruesome but Necessary: global governance in the 21st Century?* 2011). The use of video games to simulate the experience, and to train those intending to use them in reality, has itself been highlighted by the controversy associated with dubious remarks made by UK [Prince Harry](#) -- in process of being groomed for a public identity as a warrior prince (*Taliban retaliate after Prince Harry compares fighting to a video game*, *The Guardian*, 22 January 2013).

These examples are is suggestive of a curious relationship to point-making in other arenas (exemplified in the form of "bullet points") where it is again both an expression of identity and potentially destructive of the connectivity with which others identify. Arguments such as this one then conform to the pattern. The classic formula of Descartes, *I think therefore I am*, might then be reformulated as *Through point-making I am*.

Not-knowing: It is in this context that individuals may engage in new ways with "nothingness", whether as an unexplored cognitive opportunity or as obliged by circumstances. The challenge is then one of engendering an existential "place to be" (as explored by [Christopher Alexander](#)) through cognitive radicalization of some kind -- perhaps to be understood dynamically through "embodiment" of time.

This would seem to imply a special form of "not-knowing" in contrast to the certainties promulgated to little avail by belief systems of every persuasion. As noted by the Insight Meditation Center:

"Not-knowing" is emphasized in Zen practice, where it is sometimes called "beginner's mind."An expert may know a subject deeply, yet be blinded to new possibilities by his or her preconceived ideas. In contrast, a beginner may see with fresh, unbiased eyes. The practice of beginner's mind is to cultivate an ability to meet life without preconceived ideas, interpretations, or judgments.

Knowing implies, metaphorically speaking, a capacity to see and grasp "around a corner" or "over a hill" from which the previously unknown will necessarily become apparent. Such knowing, and the certainty it offers, is effectively invested in topological ignorance and denial of potential. It is preoccupied with closure, necessarily premature. Hence the case for "not-knowing" as a vigilant cognitive stance anticipating the unexpected.

Going nowhere: Various understandings of this have been articulated. These include that of Shinai Jakar (*What is 'Boldly Going Nowhere'?* 18 November 2011) who refers to the verses on faith mind of [Sengstan](#) (Sosan, Jianzhi Sengcan), 3rd Zen Patriarch (*Hsin Hsin Ming: the Book of Nothing* as translated by Richard B. Clarke).

Related understandings have expressed in terms of the "crazy wisdom" tradition of Tibetan Buddhism ([Chögyam Trungpa](#), *Crazy Wisdom*, 2001; John Horgan, *Rational Mysticism: dispatches from the border between science and spirituality*, 2004; [Georg Feuerstein](#), *Holy Madness: the shock tactics and radical teachings of crazy-wise adepts, holy fools, and rascal gurus*, 1991). The sense of "boldly

going" is also offered by interpretations of the [Fool](#) in the traditional Tarot card pack. There the Fool is the spirit in search of experience, representing the mystical cleverness bereft of reason within any individual, the childlike ability to tune into the inner workings of the world. The sun shining behind the Fool represents the divine nature of the Fool's wisdom and exuberance, holy madness or "crazy wisdom".

Taleb's *Antifragility* (2012) has already evoked recognition of its consonance with "crazy wisdom", as in the [review by Paul Di Filippo](#):

When not hewing to the concrete and tactile, Taleb shows an allied, parallel flair for philosophical, at times almost spiritual disquisition.... At times he sounds like a prophet or Zen master, and in fact I kept flashing on the heady "crazy wisdom" teachings of the Tibetan sage Chogyam Trungpa during Taleb's sermons -- sermons that often border on healthy rants against the sorry state of civilization.

-- My definition of modernity is humans' large-scale domination of the environment, the systematic smoothing of the world's jaggedness, and the stifling of volatility and stressors.... Modernity is a Procrustean bed...

-- Just as great geniuses invent their predecessors, practical innovations create their theoretical ancestry.

-- Note that globalization has had the effect of making contagions planetary -- as if the entire world became a huge room with narrow exits and people rushing to the same doors, with accelerated harm.

... His remit is all human activity, and the ways we attempt unwisely to pervert natural flows. Like Douglas Hofstadter in *Gödel, Escher, Bach: an Eternal Golden Braid*, Taleb is a man holding a live wire connected to a heretofore untapped cosmic dynamo...

The "crazy wisdom" recognized in some Eastern cultures is echoed to some degree in the traditional role of the [court jester](#) in relation to governance. This is now more evident in the role of [political satirists](#) -- exemplified in the USA by [Jon Stewart](#).

A quite different set of insights is offered in fiction by the classic of [Samuel Butler](#) (*Erewhon: or, Over the Range*, 1872), with "Erewhon" as an anagram of "Nowhere" suggestive of requisite paradoxical insight, inspired by Butler's experience in New Zealand [where much of the above argument was developed]. The "spatial" nature of Erewhon was an inspiration for the complementary "temporal" world of *Nehwon* (an anagram of "Nowhen") developed in the work of [Fritz Leiber](#).

Liminality: One approach to framing the existential possibility evoked above is through living imaginatively "between" what is presented above as a "geocentric" worldview and as a "heliocentric" worldview -- or between "going nowhere" and "not-knowing where to go". This implies a cognitive dynamic that is dependent on neither certainty nor uncertainty but engages with both as appropriate, as argued separately (*Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality*, 2011). It might be succinctly reframed as "going knowhere" through the paradoxical engagement with "where". The Fool, as mentioned above, is indicative of both the beginning and the end, neither and otherwise, betwixt and between, [liminal](#).

Of related relevance, Buddhist meditative practice involves an interplay between knowing and not-knowing. A fruitful commentary on that interplay from other perspectives is offered, with diagrams, by [James S. Atherton](#) (*Doceo; Knowing and not knowing*, 2011).

Wealth of the alternative one percent? Much has been made of the control of the world's wealth by "one percent" of the population - - unknown to most -- but of extreme [concern to the 99%](#). This of course focuses on tangible resources.

The "negative capability", and the capacity of "not-knowing", together suggest that there is another form of "wealth", essentially intangible, to which some have access -- necessarily unrecognized and unappreciated by most. They might well be considered an alternative "one percent".

This unrecognized "wealth" is intimately related to a particular form of cognitive freedom, unconstrained by tangible resources and potentially accessible to all. It is explored to a degree by current research in quest of the elusive condition of [happiness](#), as discussed separately (*Happiness and Unhappiness through Naysign and Nescience: comprehending the essence of sustainability?* 2008; [Duane Elgin](#), *Voluntary Simplicity: toward a way of life that is outwardly simple, inwardly rich*, 2010).

Dialogue dynamics: Many forms of discourse can be recognized as "going nowhere". It is increasingly evident that of the lifestyle choices and preferences of others, "nothing" can be meaningfully said in direct communication with others -- especially in the case of the closest relatives and friends. The extent of identification with a "geocentric" worldview -- "my world" -- suggests recognition that the potential of dialogue can be better explored through "avoiding" the implication of expression of a "heliocentric" worldview.

The art of dialogue may lie in responding "in passing" to the "weight" of any perspective -- to its gravitational attraction -- as with the "cognitive slingshot" maneuver described above. This could enable a dialogue equivalent to the the possibilities of interplanetary movement (cf. *From an "Interplanetary Transport Network" to an "Inter-other Transition Network"?* 2012). Direct engagement with the essentials of any perspective -- "landing on a planet" -- is then avoided, as with any implication that it is fruitful to engage directly with a "heliocentric worldview", namely to "land on the Sun". This offers a means of reframing the process of "buck passing".

Sustainable connectivity: Memory is fundamental in a knowledge-based society. It is however increasingly "outsourced" into information systems. The process of forgetting then becomes of importance under conditions of information overload.

Again the capacity to "flit" more effectively between perspectives, as implied by orbital manoeuvres, merits attention in terms of the pathways capable of sustaining a pattern of connectivity.

Aging: As noted, the existential challenge of "going nowhere", with a future having "nothing to offer", is especially agonizing -- if not tragic -- for both the young and the aging. Curiously the young have memories to acquire as a foundation for their sense of identity, whilst the old have memories they are faced with losing -- threatening their very sense of identity.

The argument above suggests the possibility of much greater understanding of the intimate relation between point (making) and identity. For the elderly this may be a means of sustaining the connectivity of memory with which identity is associated. The nature of the relationship between "geocentric" and "heliocentric" understanding then becomes fundamental -- with the potential of more fruitfully dynamic engagement with "nothingness".

Global memetic collapse: Much is made of the potential of civilizational collapse as a consequence of resource constraints and environmental disaster, man-made or otherwise. With the development of a knowledge-based civilization, optimism focuses increasingly on the capacity to use such facilities to counter such possibilities.

However, with the evident much-challenged capacity to deliver any remedial response, there is the possibility that collapse will take other forms, as suggested by an existential encounter with "nothing". This may be exacerbated by information overload, limited attention capacity, erosion of collective memory, and loss of credibility of any authority -- perhaps combining into loss of meaning and significance, especially in collective form. Any claims to coherence might then be understood as a "cosmic joke", perhaps in the spirit of [Douglas Adams](#) (*The Restaurant at the End of the Universe*, 1980).

Any such process of "global memetic collapse" may perhaps bear resemblance to the pattern of collapse in the lifecycle of any sun. The [Hertzsprung-Russell diagram](#), mapping stages in this process, might then be explored in terms of the varieties of 'not-knowing'.

"Universe" and identity: The argument has noted the subtle sophistication through which physics now explores richer understandings of the universe as emerging from "nothing". Emphasis has been placed on use of such insights as templates for understanding of individual identity more fruitfully -- as it emerges from the point of conception and cognitively embodies a universe of experience. Physics offers an unsuspected formal legitimacy to speculation on the first moments of the expression of identity, whether in an individual or through the points made in pursuit of particular agendas -- although physicists seem to be incapable of self-referential cognitive embodiment of that understanding.

More provocatively, as noted, the most recent cosmological reflections of astrophysicists regarding the "Big Bounce" in relation to the "Big Bang" even point to ways of understanding the collapse ("death") and "reincarnation" of identity -- the transition to and from "nothingness". However, rather than the repetitive "resilience" implied by "bounce", the point made by Taleb (2012) regarding the transformation characteristic of "antifragility" is indicative of new ways of appreciating "reincarnation" -- if only as implied by the limited sense of "reinventing oneself" in the course of an identity life cycle, as previously suggested (*Reinventing Your Metaphoric Habitat*, 1992; *Being the Universe : a Metaphoric Frontier*, 1999).

References

Christopher Alexander:

- The Nature of Order: an essay on the art of building and the nature of the universe. Center for Environmental Structure, 2003-4. [\[summary\]](#)
- New Concepts in Complexity Theory: an overview of the four books of the Nature of Order with emphasis on the scientific problems which are raised. 2003 [\[text\]](#)
- Harmony-Seeking Computations: a science of non-classical dynamics based on the progressive evolution of the larger whole. *International Journal for Unconventional Computing (IJUC)*, 5, 2009 [\[text\]](#)

James Atherton. Knowing and Not Knowing. *Doceo*, 11 February 2011 [\[text\]](#)

Ron Atkin:

- Combinatorial Connectivities in Social Systems; an application of simplicial complex structures to the study of large organizations. Basel, Birkhauser, 1977
- Multidimensional Man; can man live in 3-dimensional space ? Penguin, 1981

John D. Barrow. The Book of Nothing: vacuums, voids, and the latest ideas about the origins of the Universe. Vintage Books, 2000

Mary Catherine Bateson:

- Composing a Life. Dutton, 1990
- Composing a Further Life: the Age of Active Wisdom. Dutton, 2010

David Bohm:

- Wholeness and the Implicate Order. Routledge, 1980 [\[summary\]](#)
- The Undivided Universe: an ontological interpretation of quantum theory. Routledge, 1993

Joseph Campbell. The Inner Reaches of Outer Space: metaphor as myth and as religion. Alfred van der Marck Editions, 1986 [\[summary\]](#)

Roberto Casati and Achille C. Varzi. Holes and Other Superficialities. MIT Press, 1994

Henry Corbin. The Man of Light in Iranian Sufism. Omega Publications, 1994

Terrence W. Deacon:

- Incomplete Nature: how mind emerged from matter. W. W. Norton, 2011
- What's Missing from Theories of Information? In: Paul Davies and Niels Henrik Gregersen (Eds.), Information and the Nature of Reality: From Physics to Metaphysics. Cambridge University Press, 2010, pp. 146-169 [\[text\]](#)

J. L. E. Dreyer:

- A History of the Planetary Systems from Thales to Kepler. Cambridge University Press, 1906
- A History of Astronomy from Thales to Kepler. Dover, 1953

Duane Elgin. Voluntary Simplicity: toward a way of life that is outwardly simple, inwardly rich. Harper, 2010

Georg Feuerstein. Holy Madness: the shock tactics and radical teachings of crazy-wise adepts, holy fools, and rascal gurus. Paragon House, 1991

Timothy B. Heath and Subimal Chatterjee. Mathematization's Threat to Behavioral Science: of epicycles and probability weights

Douglas Hofstadter:

- Gödel, Escher, Bach: an Eternal Golden Braid. Basic Books, 1979 [[summary](#)]
- Metamagical Themas. Basic Books, 1985 [[summary](#)]
- I Am a Strange Loop. Basic Books, 2007 [[summary](#)]
- What Is It Like to Be a Strange Loop. In: Uriah Kriegel and Kenneth Williford (Eds). Self-Representational Approaches to Consciousness. MIT Press, 2006, pp. 465-516

John Horgan. Rational Mysticism: dispatches from the border between science and spirituality. Houghton Mifflin., 2004;

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

Lawrence M. Krauss. A Universe from Nothing: why there is something rather than nothing. Free Press, 2012

R. D. Laing. Knots. Penguin, 1970

James Lewis. The Epicycles of Global Warming. *American Thinker*, 20 December 2012 [[text](#)]

Ira Livingston. Between Science and Literature: an introduction to autopoetics. University of Illinois Press, 2006

Matthew E. May:

- The Shibumi Strategy: a powerful way to create meaningful change. Jossey-Bass, 2010
- In Pursuit of Elegance: why the best ideas haved something missing. Broadway Book, 2009
- The Elegant Solution: Toyota's formula for mastering innovation. Free Press, 2006

Thomas Moore. The Planets Within: the astrological psychology of Marsilio Ficino. Lindisfarne Press, 1990

Joseph D. Novak. Epicycles and the Homocentric Earth: or what is wrong with stages of cognitive development? *Science Education*, 61, 1977, 3, pp. 393-395 [[abstract](#)]

Robert C. Richardson. Epicycles and Explanations in Evolutionary Psychology. *Psychological Inquiry*, 11, 2000, 1, pp. 46-49 [[abstract](#)]

Steven M. Rosen:

- Dreams, Death, Rebirth: a multimedia topological odyssey into alchemy's hidden dimensions. 2013 [[text](#)]
- Topologies of the Flesh: a multidimensional exploration of the lifeworld. Ohio University Press, 2006 [[excerpts](#)]
- Dimensions of Apeiron: a topological phenomenology of space, time, and individuation. Value Inquiry Book Series of Editions Rodopi, 2004 [[excerpts](#)]

Sonia Sedivy. Nonconceptual Epicycles. In: Christine van Geen and Frédérique de Vignemont (Eds.), The Structure of Nonconceptual Content, University of Chicago Press, 2006 [[summary](#)]

Neil Shubin. The Universe Within: discovering the common history of rocks, planets, and people. Pantheon Books, 2013

Henryk Skolimowski:

- The Participatory Mind: a new theory of knowledge and of the universe. Arkana, 1995 [[review](#)]
- A Lotus Flowering in the Mud: autobiography of a philosopher. Detroit Creative Fire Press, 2011 [[review](#)]

Michael S. Slocum. Innovation Epicycles: the needed layers of innovation. *TRIZ Journal* [[text](#)]

George Spencer-Brown. The Laws of Form. Allen and Unwin, 1969

Nassim Nicholas Taleb. Antifragile: things that gain from disorder. Random House, 2012 [[summary](#)]

Chögyam Trungpa. Crazy Wisdom. Shambhala Publications, 2001

David Watson. Subtypes, Specifiers, Epicycles, and Eccentrics: toward a more parsimonious taxonomy of psychopathology. *Clinical Psychology: Science and Practice*, 10, 2003, 2, pp. 233-238



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](#).

For further updates on this site, [subscribe here](#)