



laetus in praesens

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Having Bought into a Wreck – What Now? Cognitive challenges of embodying reality otherwise

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Introduction

Whether in collusion with others or not, I seem to have bought shares in a total wreck of some kind. It could be a house or some means of transportation -- possibly a truck, or a boat, or a train, or a plane. Some call it global civilization. Like the Cubans after their revolution, I am faced with the challenge of a rapidly decaying "automobile" for which I cannot get spare parts. This is despite the reported rate of development of technology elsewhere (beyond my reach and comprehension), and the promises with which it is associated. How am I then to engage with the wreck, which could indeed collapse further at any moment? There is some irony that, as an "auto-mobile", getting it to work is curiously reminiscent of what is otherwise framed as the challenge of "sustainability".

One approach for me is simply to note the facts of this situation -- to bear witness. To whom? Various parts do not work as they might be expected to work -- whether frozen, ill-fitting, or poorly connected. The pipework seems mysteriously to be leaking. There are unpredictable sparks from the electrical system -- suggesting that something is working to a degree, but perhaps dangerously so. One aspect of this situation is that I am variously keen on some of these parts and their preservation. I want them to work. They carry significance for me and I identify with them -- and especially with the "automobile" as a whole, if only it would work. In a sense I am locked-into parts as they once worked, or might have worked, and have little time for proposals regarding alternatives -- especially alternative modes of transportation. However it is a serious mess. I have taken the "automobile" apart on various occasions. I have multiple parts scattered around my garage and yard -- some acquired by various means from elsewhere. I have forgotten where some might have fitted. Basically I am confronted with chaos and do not know what to do.

A second approach is for me to recognize certain patterns in the situation. I can reframe it in aesthetic terms. I can see how other "stuff" from elsewhere might be used to substitute for some parts of the "automobile" that do not work -- or at least compensate for my inadequacy. I can indeed become more flexible and inventive in this process of looking for equivalents to get the "automobile" to work, or to appear to do so to my satisfaction. I can also begin to see that some of the constraints on fixing the "automobile" are due to constraints blocking my own imaginative creativity. The brokenness of the "automobile" is a kind of mirror of my own incompetence and failure to get to grips with the situation. More challenging is the sense in which I am effectively conning myself in my approach to the "automobile". Clearly I have some responsibility -- if not a fundamental one -- for having tricked myself in buying into the wreck in the first place (whether or not I only have shares in the "automobile" with others who were similarly tricked into its acquisition). Then what?

A third approach is for me to articulate my understanding of my situation in relation to the "automobile". I can be sophisticated. I can philosophize about it and about the nature of its existence, and mine in relation to it. I can analyze it in sociological terms, in systemic terms, or in terms of the possibilities of some more fruitful approach -- about which I can variously speculate imaginatively. I can

express my condition in nostalgic song, music, humour, drama, or turn it into a game. I can organize a party around the "automobile" , using it as a focus for fun -- even turn it into a monument for regular ritual celebration. What am I trying to achieve? What do I want to "leave behind"? With whom (or what) should I be engaging far more intimately to engender that? What of my situation is meaningfully replicable? What would fixing the "automobile" do for me? Do I really want to possess and own a "automobile" ? Why? Is there some strange kind of illusion implied by this engagement with the potential of the "automobile" as a means of my transportation. To where?

A fourth approach is of course to step back from these other approaches and to see myself and the "automobile" as part of a far larger scheme of things. What shift in perspective does this imply? Is it more realistic or less so -- given the passage of time and the probable reality of events elsewhere, of which I am only partially aware, if at all? Should I be taking account of subtler dimensions of which I have only the faintest intimations -- whether the supernatural or those wrapped up in the immediate reality of the moment, according to fundamental physics? Is there a case for being far more radical in my understanding of my situation (and that of the "automobile") -- did I but know how? More radically inventive perhaps -- to the degree of completely reinventing myself and the world around me. And my "automobile"?

Environmental preamble

Patterns of categories: In taking my argument further, I can trap myself in the first approach indicated above -- namely in a pattern of categories which, being effectively sterile, lacks what it takes to "work". Any categories named necessarily raise issues about what they "mean" and how they fit meaningfully together as a [viable system](#) comprehensible to me (if to no one else). As with the second approach, I can also "cheat" by borrowing and adapting frameworks "from elsewhere".

Given the challenge to global civilization of environmental collapse, the set of the more fundamental categories of the material environment seems appropriate -- solid ("Earth"), fluid ("Water"), gas ("Air") and heat ("Fire") -- is ready to hand. They have the merit of being features of the most common experiential reality. They are a rich source of metaphor -- long used as a basis for further insight, whether in the sciences or the arts, or as a catalyst for speculation (*Weather Metaphors as Whether Metaphors: transcending solar illusion via a Galilean-style cognitive revolution?* 2015).

Common weather metaphors	
adapted from John D. Casnig (<i>A Language of Metaphors</i> . Knowgramming.com, 1997-2013) with more extensive examples in each case	
<ul style="list-style-type: none"> • Shower: <i>He showered her with gifts.</i> Giving is dropping from above. • Cloud: <i>The event was clouded over by protests.</i> Protests are an intrusion of light. • Fog: <i>My memory is a little foggy.</i> Memory is a visible object. • Rain: <i>Into each life some rain must fall.</i> Hardship is a precipitate (from above). • Hail: <i>A hail of bullets.</i> (Cold, hard and driven). • Wind: <i>The winds of change.</i> Change is the product of (lateral) forces. • Sunshine: <i>You are the sunshine of my life.</i> Happiness is light (see "cloud"). • Sunset: <i>He'd entered his sunset years.</i> One's life is a single day. • Clear skies: <i>It's gonna' be clear skies from now on.</i> Clear skies are not a threat. • Lightening rod: <i>He became a lightening rod for party criticism.</i> Criticism is (negative) energy from above. • Blow: <i>You'll be blown away!</i> Our position is susceptible to sudden change. • Gust: <i>Criticism began to gust in from all sides.</i> Critics are blow-hards! • Thaw: <i>Relations between the two countries began to thaw.</i> Relationships can be frozen solid, making change or growth impossible. • Thunder: <i>The boss thundered into the room.</i> Anger is hostile weather. • Breeze: <i>This homework is a breeze.</i> Challenge is an opposing force. • Dawn: <i>The dawn of civilization.</i> Civilization has its day. 	<ul style="list-style-type: none"> • Grey skies: <i>Grey skies are gonna' clear up!</i> Rain is bad (see "cloud"). • Cold: <i>A cold reception.</i> A gathering has a climate. • Dry spell: <i>Business suffered a long dry spell.</i> Revenue is the welcome rain of business. • Chilly: <i>It's been a little chilly around the office since Mr. Ironbritches became boss!</i> An office has an emotional climate, which may be invaded by a cold front. • Blizzard: <i>There was a blizzard of activity at the emergency room.</i> (Seemingly erratic movement). • Whirlwind: <i>It was a whirlwind romance that spun out of control.</i> Romance may be phenomenal and brief. • Drift: <i>He was a drifter, of origin unknown.</i> A lack of will is a lack of destination. • Misty: <i>Misty, water-coloured memories...</i> Memories are neither solid nor distinct. • Season: <i>It is the season of change.</i> Change is natural, occurring in phases, spaced by a lack of change. • Winter: <i>She entered a spiritual winter.</i> Our spirit has seasons, and may cause us to hibernate. • Autumn: <i>They had entered their autumn years.</i> One's life is a single year (see "sunset") • Twilight: <i>He entered his twilight years a broken man.</i> (see "sunset") • Darken: <i>The skies of his future began to darken.</i> Darkness is a threat. • Weather: <i>His face was weathered by a long, troubled life.</i> Bad events wear the youth from our face. • Storm: <i>She was unsure if her proposal could weather the storm of scrutiny.</i> Scrutiny is harsh weather to one's ideas.

Remarkably weather metaphors are a central feature of global preoccupations. This is the case with claims of a new "Cold War" and metaphorical use of "warming" -- ironically at a time when there is anxiety with regard to "global warming" (*Prospect of Warming US-Russia Ties Worries China*, *Voice of America*, 17 January 2017; *US, China relations begin to cool as Trump's honeymoon with Xi ends*, *CNN*, 4 July 2017). There are numerous references to "heated exchange" in political or diplomatic contexts. "Overheating" is a major concern in economics.

Use is also made of "hurricane" with respect to financial crisis and to "storm" (*Trump, deemed 'not above the law', faces legal storm*, *Reuters*, 21 March 2018). There are detailed studies of the extent to which weather metaphors are used to frame crises (Maria Henriqueta Cortes de los Rios, *Cognitive Devices to Communicate the Economic Crisis: an analysis through covers of The Economist*. Iberica, 2010; Antonella Luporini, *Metaphor in Times of Crisis: metaphorical representations of the global crisis in The Financial Times and Il Sole*, 2013).

Although extensively exploited, the conflation of "weather" and "climate" metaphors has not been fruitfully clarified -- despite its seeming importance ((*Climate Change as a Metaphor of Social Change*, 2008; *Climate of Change Misrepresented as Climate Change: insights from metaphorical confusion*, 2008). This is potentially curious in that it is climate, not weather, which has been the focus of a variety of potentially insightful attempts at its classification -- the *Bergeron classification*, the *Spatial Synoptic Classification system*, the *Köppen Climate Classification System*, the *Lamb Weather Types* -- as discussed separately (*Psychosocial unease and cognitive weather*, 2015).

Comprehending complexity through aesthetics? Potentially more intriguing is the engagement of poets with nature in offering insight into the subtleties and interstices beyond the simplistic categories of convention. The importance of this has been highlighted by the biologist/anthropologist [Gregory Bateson](#), in explaining why "we are our own metaphor", in pointed out to a conference on the effects of conscious purpose on human adaptation that:

One reason why poetry is important for finding out about the world is because in poetry a set of relationships get mapped onto a level of diversity in us that we don't ordinarily have access to. We bring it out in poetry. We can give to each other in poetry the

access to a set of relationships in the other person and in the world that we are not usually conscious of in ourselves. So we need poetry as knowledge about the world and about ourselves, because of this mapping from complexity to complexity. (Cited by Mary Catherine Bateson, 1972, pp. 288-9)

In looking desperately "elsewhere" for maps to frame appropriately the challenges I face with my "automobile", maybe I am missing the sense in which the beauty of the "territory" itself -- in all its complexity -- offers a better map (*The Territory Construed as the Map: in search of radical design innovations in the representation of human activities and their relationships*, 1979). Despite the intense preoccupation with "beauty" as a category -- variously a feature of poetry and other arts -- the aesthetic sense remains a mystery. In summarizing its many aspects, a provocative "definition" is offered by [Shahidha Bari](#): *It is an unmistakable arrangement of attention and affect, a way of understanding and engaging with the world* (*The Puzzle of Beauty*, Aeon, May 2018).

Intuited complementarity: environmental cycles and learning cycles?

The question raised here is whether there is a "mysteriously familiar" complementarity between learning (as variously recognized) and the experience and comprehension of the weather (and the cycles between its various conditions). These can be explored separately (*Correlating a Requisite Diversity of Metaphorical Patterns: entuning the dynamic of cognitive eases and diseases*, 2015) in terms of the following:

Systemic organization of diseases and eases?	Cognitive implication in a Chinese system articulated through weather-related metaphors
Relevance of weather metaphors to existential unease	Interpretations of patterns of empowering and disempowering conditions
Psychosocial unease and cognitive weather	
Crises framed by weather metaphors	

In that spirit, the framework adopted by [Arthur Young](#) is especially relevant through his preoccupation with cycles of learning (*Geometry of Thinking*, 1976). His inspiration derived from the innovative insight he acquired in developing the original [Bell helicopter](#) with its unusual piloting challenges -- subsequently generalized by him in philosophical terms to include the speculative possibility of designing a "psychopter".

This sense that there may be learning processes which could offer a new kind of overview (or integrative perspective) justifies a degree of speculation in that regard (*Engendering a Psychopter through Biomimicry and Technomimicry: insights from the process of helicopter development*, 2011). It is however the cognitive implications of his consideration of the four classical environmental categories which merits appreciation in the current period of variously predicted environmental catastrophe. It is even possible that the neglect of those cognitive implications is a factor in enabling such a disaster.

Especially relevant at this time is Young's argument that:

Common sense has been so incapacitated by sophisticated obfuscation that we no longer even know how to pull our hand out of the fire when it's getting burned. In fact, it would almost seem that the progress of thought has reached a complete standstill, for we have not only more unanswerable questions and paradoxes than ever existed before, but a well-established staff of experts to preserve them for posterity and prevent any idle persons from presuming to solve them. (p. 110)

In terms of the "desperate need" for such matters to be more effectively addressed, he then argues:

As [Francis] Bacon said, it is the lighter stuff that floats on the river of time; the more profound sinks to the bottom. Such has been the fate of the [four elements](#), whose deeper meaning has long since disappeared beneath the surface... The Greeks apparently thought of the elements as states of matter, just as most modern thinkers do... But this is not their *meaning*. To say air is gaseous and water is liquid is simply to reiterate the words themselves... We must look deeper. As often happens with symbols, we can actually find them in use right now. For example, the economist speaks of *liquid* assets, by which he means assets that are readily negotiated, like cash, as distinct from real estate, which is the frozen (or earth) form of investment. Anything concrete is earth, so the *element* earth means that aspect of a situation that is practical and "down to earth". Air, by contrast, is the mental aspect, and fire the vital and initiating factor. These meanings emerge in the use of the words as verbs... (p. 111)

These points are made by Young following his careful elaboration of a four-phase learning cycle in the light of the physics of motion, its observation, and its control -- which he relates to the measure formulae of physics. His summary takes the following tabular form:

Correlation of physical properties with knowledge processes in learning cycles (as proposed by Arthur Young)		
<i>Actions</i>	<i>States</i>	<i>Relations</i>
position (<i>observation</i>)	moment (<i>significance</i>)	power (<i>knowledge</i>)
velocity (<i>change</i>)	momentum (<i>transformation</i>)	moment of inertia (<i>faith</i>)
acceleration (<i>spontaneous act</i>)	force (<i>being</i>)	action (<i>impulse</i>)
control (<i>control</i>)	mass control (<i>establishment</i>)	work (<i>fact</i>)

A more detailed articulation of the above pattern is presented separately with the measure formulae (*Adapting psychosocial insights from learning/action cycles*, 2011). Young's twelvefold pattern, combining the threefold and the fourfold, can be variously adapted (*Geometry*

of meaning: *an alchemical Rosetta Stone?* 2013; *Typology of 12 complementary strategies essential to sustainable development*, 1998; *Characteristics of phases in 12-phase learning / action cycles*, 1995; *Typology of 12 complementary dialogue modes essential to sustainable dialogue*, 1998).

For the purpose of the following argument, a particular emphasis can be given to the meaning associated with the cells of the table in the 3 left-hand columns.

Adaptation of Arthur Young's table to environmental and learning cycles (links in the table are to commentary in final sections)					
<i>Actions</i>	<i>States</i>	<i>Relations</i>	Classical elements	Logical variants	
"Cardinal" Challenge?	"Fixed" Constraint?	"Mutable" Flexibility?			
observation <i>position</i> <i>definition</i> <i>frozen categories</i>	significance <i>mess</i> <i>chaos</i>	knowledge/power <i>lock-in</i> <i>identification</i>	"Earth" Solidity / Concrete Productivity?	substantive (evidently)	is
change/reaction <i>belief / con / bluff</i> <i>illusion/twist</i>	transformation <i>equivalence/metaphor</i> <i>correspondences</i>	faith / inertia <i>outside-in</i>	"Water" Fluidity Liquidity?	both substantive and non-substantive	both is and is-not
spontaneity <i>expression</i> <i>initiative</i>	being/force <i>possession (IP)/home</i> <i>closure/plasma</i>	impulse/action <i>reproduction</i> <i>legacy</i>	"Air" Opinion Innovation?	non-substantive	is-not
control <i>radical/reinvention</i> <i>creativity</i>	establishment <i>coherence / universe</i> <i>confidence</i>	fact/work <i>higher dimensions</i> <i>imagination</i>	"Fire" Excitement Creativity?	neither substantive, nor non-substantive	neither is nor is-not

Trilemma and Quadrilemma: The 2 right-hand columns of the table are a concession to logic, suggesting a distinction between the **rows** in terms of the **tetralema** (or quadrilemma), more commonly recognized in Eastern traditions and notably featured in the work of **Kinhide Mushakoji** (*Global Issues and Interparadigmatic Dialogue*, 1988). The 3 left-hand **columns** might then be understood as the challenge of a **trilemma**. Both tetralema and trilemma have acquired strategic significance when understood as making a choice between four and three contrasting options, respectively:

- Quadrilemma (for example):
 - *What is the energy quadrilemma?* (*Amcham Belgium*, September 2015)
 - Hao Jin: *Quadrilemma not Trilemma: Fiscal Policy Matters* (*Caep Working Papers*, 2016-003)
 - Burton A. Weisbrod: *The Health Care Quadrilemma: an essay on technological change, insurance, quality of care, and cost containment* (*Journal of Economic Literature*, 29, 1991)
 - A.G.Olabi: *Energy quadrilemma and the future of renewable energy* (*Energy*, 108, 2016)
 - Eduardo Gudynas: *Climate Change, the Quadrilemma of Globalization, and Other Politically Incorrect Reactions* (*Globalizations*, 30, 2016, 6)
 - Tom Gilson: *Trilemma or Quadrilemma? Answering the "Legend" Critique of C.S. Lewis's Trilemma* (*Christian Apologetics Alliance*, 3 January 2013)
- Trilemma (for example, as indicated by *Wikipedia*):
 - In religion: **Epicurus' trilemma**; **Apologetic trilemma**
 - In law: **The "cruel trilemma"**
 - In philosophy: **The MÜnchhausen trilemma**; **The trilemma of censorship**
 - In economics: **"The Uneasy Triangle"**; **The "Impossible trinity"**; **Wage policy trilemmas**; **The Pinker social trilemma**; **The political trilemma of the world economy**
 - In politics: **The Zionist trilemma**; **"Žižek trilemma"** (under Communism)
 - In business: **The project-management trilemma**; **The trilemma of an encyclopedia**

There is a case for acknowledging recognition of the the challenge to comprehension of the threefold through the use of the **tritych** in art. Little is said of "quadrics" and their comprehension however (M. Berger, *Conics and Quadrics*, 2010).

Young offers the following clarification (*The threefold division*, 1976, pp. 25-31):

In discussing the learning cycle, I implied that fourfold analysis is insufficient as a general description of process... the cycle includes not only actions but other factors as well. This is the threefold cycle of stimulus, response, and result. The three aspects in this case are again different categories, for which it is quite difficult to find sufficiently general names... The threefold is not limited to this cycle. In fact, the cycle, as an analytic concept, does not fully describe the threefold. In the more general sense, this is a way by which wholes divide into three interrelated factors... Since it is basically nonconceptual, it cannot be defined...

The nonconceptual subtlety of the threefold can also be discussed otherwise, notably in the light of the insights of **Jacques Lacan** and of

the semiotic triangle of meaning (*Interrelating disparate threefold cognitive patterns as a polyhedron*, 2017; *Cognitive Implications in 3D of Triadic Symbols Valued in 2D*, 2017; *Visualization in 3D of a trinity of connotations as a cognitive pill*, 2017; *Triangulation of Incommensurable Concepts for Global Configuration*, 2010)

Revisoning a tabular configuration of categories

As discussed further below in relation to self-reflexivity, any reflection on the table above itself involves learning processes which are variously labelled within the table. These raise questions as to how they are defined and how they are to be comprehended, if at all. The table itself is a "product" of such processes. Any assumption that the table is a finished product locks thinking into processes in its first row. There are other considerations as indicated below.

Phase diagrams and blurring category boundaries: Any metaphorical equivalence to the features of the natural environment in terms of the four "classical elements" highlights the sense in which the categories distinguished blur into each other in the experience of nature (as noted in the checklist of weather metaphors above). Framed otherwise, the interplay between those elements is vital to biological life - just as their analogues may be vital to cognitive life. There are extensive references to the "blurring of categories" in other contexts.

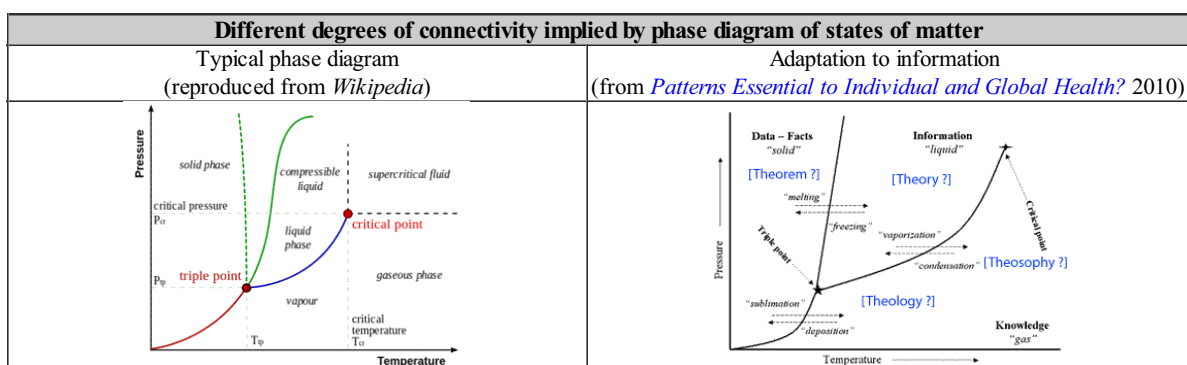
Examples indicative of blurred category boundaries				
	"Earth"	"Water"	"Air"	"Fire"
"Earth"	--	moisturised soil (mud, quicksand, snow, hail)	dust aerated soil	unfreezing soil magma
"Water"	moisturised soil mud, , quicksand, snow, hail	--	rain-baring wind mist, fog	superheated steam
"Air"	dust aerated soil	rain-baring wind mist, fog	--	warm wind pyroclastic flow
"Fire"	unfreezing soil magma	superheated steam	warm wind pyroclastic flow	--

To the extent that the classical elements have been recognized as the basic states of matter, it is appropriate to note how a state of matter is now recognized -- especially **given any implication for cognitive analogues, already recognized through their use as metaphors**. In physics, a state of matter is one of the distinct forms in which matter can exist., with four "fundamental" states of matter held to be observable in everyday life: **solid**, **liquid**, **gas**, and **plasma**.

Many other states are known to exist, such as glass or liquid crystal, with some only existing under extreme conditions, such as Bose-Einstein condensates, neutron-degenerate matter, and quark-gluon plasma. These only occur, respectively, in situations of extreme cold, extreme density, and extremely high-energy. Some other states are believed to be possible but are currently only theoretical (see *List of states of matter*). Whether recognized as metaphors (as with "glass ceiling"), these other states may bear comparison with the variety of **states of consciousness** that are variously recognized.

Unusual "states of matter"			
Non-classical states	Low-temperature states	High-energy states	Other proposed states
<ul style="list-style-type: none"> Glass Crystals with some degree of disorder Liquid crystal states Magnetically ordered Microphase-separated 	<ul style="list-style-type: none"> Superfluid Bose-Einstein condensate Fermionic condensate Rydberg molecule Quantum Hall state Photonic matter Dropleton 	<ul style="list-style-type: none"> Degenerate matter Quark matter Color-glass condensate Very high energy states 	<ul style="list-style-type: none"> Supersolid String-net liquid Superglass Dark matter

The overly simplistic nature of the cognitive adaptation of Young's tabular presentation is especially apparent when the relationships between the fundamental states of matter are indicated in a **phase diagram** as discussed separately (*Phase diagram of degrees of argument connectivity*, 2014; *Metaphorical geometry as a cognitive vehicle*, 2014).



A number of **distinct immiscible phases** can also exist within the same state of matter -- as with **triphasic** and **tetraphasic liquids**. Of

some relevance, the phase diagram metaphor has been explored with respect to the distinction between data, information, knowledge and wisdom.

In the tabular presentation, the cell boundaries are then better understood as permeable, with cells "shading into one another" -- blending together in some way. The permeability can be understood as enabling (or occasioning) a form of osmosis (*Cognitive Osmosis in a Knowledge-based Civilization: interface challenge of inside-outside, insight-outsight, information-outformation*, 2017). The blurring can also be recognized in terms of **liminality**, as variously experienced (*Living as an Imaginal Bridge between Worlds: global implications of "betwixt and between" and liminality*, 2011).

With respect to any adaptation of Young's table, these considerations give focus to the challenge as to where to position the experience of risk, fake news, and surrealism which is so characteristic of the times and the learnings offered.

"Tuning", "weaving" and "enrolling": The order of the three columns (on the left of the table above) can of course be challenged. Should the first be last, for example? In musical terms, the 12-fold pattern could be understood as calling for a form of "tuning", as argued for a similar case (*Tuning a Periodic Table of Religions, Epistemologies and Spirituality -- including the sciences and other belief systems*, 2007). With a different metaphor, the rows and columns can also be suggestively imagined to be woven together (*Warp and Weft of Future Governance*, 2010).

There is a potentially intriguing relationship between the first row and the fourth in that the concrete "solidity" of the first is echoed by a far subtler "solidity" of the fourth -- more readily recognized in terms of cognitive coherence. In this sense the first and fourth rows can be understood as potentially contiguous (if not paradoxically so), suggesting a form of wrapping into a cylindrical form ("*Enrolling" the matrix*, 2010; *From matrix to torus*, 2006).

Dynamics: Especially questionable is the meaning to be associated with the cells of the table through the words provisionally associated with them -- which may be far from encompassing the sense that cell is intended to indicate (and may even be completely misleading). Such words can of course be variously interpreted and challenged with respect to their position and relevance. The table as a whole is then better understood as definitive only in the sense implied by the first row -- provisionally. Its substantive nature is variously called into question by the other rows as suggested by the right-hand column: its relative credibility, its momentary nature, and as an act of imagination.

So framed the table contents could be usefully understood as dynamic in some way -- lacking any fixed meaning, even implying a cycle of interpretations. More intriguing is that each can be understood as a puzzle or a riddle -- a challenge to comprehension -- to be variously perceived in terms of credibility, aesthetics and implication.

Another possible image would be that of the **Rubik Cube** in which rows and columns could be variously "twisted" in relation to one another, as argued in relation to the UN's **Sustainable Development Goals** (*Interplay of Sustainable Development Goals through Rubik Cube Variations: engaging otherwise with what people find meaningful*, 2017). In that sense the cells might be understood as **strange attractors** (*Refining the Value of Sustainable Development Goals: in quest of the systemic coherence of global attractors*, 2017; *Human Values as Strange Attractors*, 1993). As such their configuration may pose a challenge analogous to the coherence of so-called **magic squares**.

Cognitive implication in contrasting modalities

Feedback loops and cybernetic orders: The sense of a learning cycle is fundamental to the articulation of Young. In discussing the sufficiency of the fourfold pattern, Young relates this to the necessity of feedback (in the light of piloting a helicopter):

1. To know the position of a body in space, we need *one* instantaneous observation...
2. To know its velocity, which is computed from the difference in position of the body and the difference in time between the *two* observations, we need two such observations
3. To know its acceleration, we need *three* observations
4. To know that a body... is under control, and to distinguish it from one in which the controls are stuck, we need at least *four* observations...
5. To know the destination, provided the operator does not change his mind or try to fool us, we need *five* observations
6. To know the operator has changed his mind or is trying to fool us, we need *six* observations

Note that the fifth observation is to establish a position... and the sixth a change of position. Thus categories five and six repeat the cycle, the fifth falling into the position category and the sixth into the velocity category... the sufficiency of four categories is demonstrated. (p. 18)

The shift, through learning, from observing to "knowing one knows" suggests exploring the fourfold distinction in terms of different orders of cybernetics, as discussed separately (*Cybernetics of cybernetics: complex adaptive systems?* 2007; *Relevance to change, learning and creativity*, 2014):

- first order cybernetics: characterized by simple feedback loops
- second order cybernetics: understood as the cybernetics of cybernetics
- third order cybernetics: in which the observer is understood to be part of a coevolving system
- fourth order cybernetics: as may be variously understood, possibly with how multiple realities are shaped by, and impinge upon, power relationships within society. As proposed, for example, by M. Zangeneh and E. Haydon (*The Psycho-Structural Cybernetic Model, Feedback, and Problem Gambling: a new theoretical approach*, *International Journal of Mental Health and Addiction*, 1, 2, 2004)

Given her iconic role with respect to the origins of the [cybernetic of cybernetics](#), the most recent reflections of [Mary Catherine Bateson](#), merit consideration:

You guys need to look at what you're doing. What is the cybernetics of cybernetics? ... Stop and look at your own process and understand it..... The tragedy of the cybernetic revolution, which had two phases, the computer science side and the systems theory side, has been the neglect of the systems theory side of it. We chose marketable gadgets in preference to a deeper understanding of the world we live in. (*How To Be a Systems Thinker*, Edge, 17 April 2018)

The distinction between the "orders" of cybernetics is currently a matter of controversy, most recently addressed by [Maurice Yolles](#) and [Gerhard Fink](#) (*Generic Agency Theory, Cybernetic Orders and New Paradigms*, 2014) in the light of their earlier reflections. Russell Clemens (*The Cybernetics of Foresight: futures thinking for the 21st Century*, Asia-Pacific Foresight Conference, 2012) discusses the merits of relating the approach of cybernetics (including the implications of the icosahedron and enneagram) to the [causal layered analysis methodology](#) of [Sohail Inayatullah](#) (*Causal Layered Analysis: poststructuralism as method*, *Futures*, 30, 1998, pp. 815-829).

There is a case for recognizing that the cybernetic "orders" above could be associated with distinct topological surfaces whether for representation, mapping or symbolic purposes:

- first order cybernetics with the circle (as suggested by the interlocking loops depicted on systems diagrams)
- second order with the sphere (as suggested by integrative global interlocking of [great circles](#) around a sphere)
- third order with paradoxical forms (as with the [Klein bottle](#))
- fourth order with yet more complex forms. The relevance of Klein bottle geometry is notably argued by [Steven M. Rosen](#) (*Topologies of the Flesh: a multidimensional exploration of the lifeworld*, 2006; *Dreams, Death, Rebirth: a topological odyssey into alchemy's hidden dimensions*, 2014).

Observer imbrication: A valuable interpretation of related distinctions is provided in the discussion of [Cadell Last](#) (*Towards a Big Historical Understanding of the Symbolic-Imaginary*, 2017):

- externally observed objects are modelled with an observer's noumenal view and voice that is systematically excluded from the "objective" model of the world to create the effect that the "true natural world" in-itself is looking and speaking at the subject [eg science]
- observer's noumenal view and voice of externally observed objects is included in the model thus creatively relativizing the observer's "objective" world model to the subjective locus producing it in order to study its effects in the ideational field structuring the motion of subject-object [eg deconstruction]
- observer of externally observed objects reflectively incorporates its own and subjective-multiplicities as a (virtual, extimatc) object of analysis structured by an a priori frame of desire that unconsciously filters orientation, intervention, and understanding of subject-object entanglement [eg psychoanalysis]
- observer reflectively incorporates noumenal view and voice model(s) structured by a priori frames of desire as capable of overdetermining the virtually narrated images of externally observed objects ("the world") through transcendental reflection and creation [eg historical subjectivity]
- observer identifies the virtual ideational field composed of a multiplicity of self-relating and desiring world views and voice models as a universal agency ("semiosphere") in-itself with asymmetrical and irreversible reflective and creative autonomy structuring the motion of subject-object entanglement [eg history itself]

Dimensional compactification: There is a degree of metaphorical irony to any progression down the rows of Young's table to the extent that this is paralleled by a form of [compactification of dimensionality](#) when represented (as argued in fundamental physics). The uppermost row (in "substantive" text form) is typically verbose in encompassing one or more themes(as with this text). The second is more experiential and with greater dimensionality, as with "one image is worth a thousand words" -- or "skimming a text to gain an impression". In characterizing the third row in terms of an idea or conceptualization. however multifaceted, this tends to be even more compact, however held or grasped. The excitement characteristic of the fourth row is even more experientially succinct -- whatever the potential it embodies.

There is a further irony to the progression in relation to what might be termed the "**trilemma of compactification**":

- greater succinctness potentially facilitates comprehension -- but may preclude it -- whilst increasing the probability of incommunicability
- greater (verbose) articulation potentially enables greater comprehension (especially of any part), but may well increase incomprehension and alienation (and especially from the whole)
- greater emphasis on communicability of the whole may inhibit comprehension of its subtlety and complexity

With respect to compactification, Young's tabular presentation highlights a progression in temporal [reciprocation](#) (or inversion) which features in an appropriately titled subsequent study (*Nested Time*, 2004). Thus the first row, as production capacity, is effectively timeless as a product of $1/T^0$, the second identifies change over time as a product of $1/T^1$ (or T^{-1}), the third identifies rate of change as a product of $1/T^2$ (or T^{-2}), whilst the fourth is a measure of control as a product of $1/T^3$ (or T^{-3}).

A commentary with respect to this recognition by Young features in the work of [Paris Arnopoulos](#) (*Sociophysics: Cosmos and Chaos in Nature and Culture*, 1993):

Since power is the rate of applying force, controlling this rate is of utmost importance. Control has been identified as the capacity to modify the rate of change, ie to speed it up or slow it down. Therefore, power control is a necessary ingredient of any orderly

social change. The mathematical definition of power, and its algebraic equivalents show that:

$$P = W/t = Fv = ma(s/t) = m(s/t^2)(s/t) = ms(s/t^3) = msc$$

This last parenthesis (s/t^3) has been defined by Young as control (c), and translates as the rate of change of acceleration. It will be recalled that since $v=s/t$ and $a=s/t^2$, control becomes the third derivative of velocity....

Since power is directly proportional to the rate of energy conversion or information flow, dynamic systems require a great degree of control. As people become more energetic or informed, they tend to get out of control; so in order to avoid that, dynamic societies must become more regulated. It may therefore be said that the kind of government that a system has depends on the amount of power it disposes. (p. 82)

He develops the argument otherwise as a means of engaging with the Triple Helix thesis, discussed below (*Braiding the Triadic Codex and Triple Helix: the sociophysics of nature-culture-nurture and academy-industry-polity*, 2000). There he notes:

... this short paper interfaces with the triple helix paradigm by weaving its triadic social focus-locus with the power-wealth-data flows among its state-market-school centers. In this way we can concentrate on the most significant influence-finance-science transactions of the polity-industry-academy triangle.... In doing any job, force performs work: $W = Fs = mas = mv^2$. This means that some work must be done in order to bring about social change. If that change is needed fast then one must exert a lot of power: $P = W/t = mav = Fv$. By this mathematical transformation, we have arrived at this crucial notion of power politics as well as physics. Social power however, unlike physical power, does not move inanimate objects but human masses to act far and fast.... Informative societies are negentropic because they increase systemic organization and decrease environmental degradation. Accumulating human knowledge also improves social control ($C = a/t$), since it regulates social change in a more enlightened manner. For that reason the exercise of responsible social power requires strict political control ($P = msC$)....

Unusually Arnopoulos presents a synoptic overview in schematic form (p. 84) of the interrelationship between 15 fundamental concepts deriving from a triadic hypothesis (space-time-existence) correlating space curvature, material density and universal time (p. 5). These suggest an interesting relationship to Young's Rosetta stone (especially if 3 are omitted). Otherwise it would take the form of three pentagons, thereby suggestive of arguments in relation to the Chinese understanding of the 5-fold *Wu Xing* (*Cycles of enstoring forming mnemonic pentagrams: Hygieia and Wu Xing*, 2012) and to the 15 transformations of Christopher Alexander, as discussed separately (*Tentative adaptation of Alexander's 15 transformations to the psychosocial realm*, 2010). Of relevance to the triadic hypothesis articulated by Arnopoulos is the subsequent argument of T.N. Palmer (*The Invariant Set Hypothesis: a new geometric framework for the foundations of quantum theory and the role played by gravity*, *Electronic Notes in Theoretical Computer Science*, 2011).

Given the possibility of a coherent mapping of the 12-fold pattern onto an icosahedron or its dual, it is intriguing that a relation to the 15-fold can be found through different mappings onto the same polyhedra (*Geometrical configuration of Alexander's 15 transformations*, 2010).

Questioning otherwise: Irrespective of the academic controversy, learning can be suggestively understood as associated with higher orders of questioning -- increasing degrees of self-reflexivity, implication in what is observed, and forms of cognitive embodiment. This is argued by various authors (Henryk Skolimowski, *The Participatory Mind: a new theory of knowledge and of the universe*, 1995) and discussed separately, notably with respect to constructivism and enaction (*Existential Embodiment of Externalities: radical cognitive engagement with environmental categories and disciplines*, 2009; David Abram, *The Spell of the Sensuous: perception and language in a more-than-human world*, 1997; George Lakoff and Mark Johnson, *Philosophy In The Flesh: the embodied mind and its challenge to western thought*, 1999).

Symbolism, mythology and correspondences

Twelfold pattern? Patterns of categories (as partially noted as a consequence of their multiplicity) are characteristic of the current wreckage. There are thousands of them -- undocumented and unclassified -- with hundreds scattered around my yard. They are the mark of academic endeavour as well as being monuments to it -- if their significance has not already been forgotten.

There is therefore a case for recognizing the extent to which a 12-fold pattern has been widely valued over centuries in many domains for reasons which remain obscure (*Checklist of 12-fold Principles, Plans, Symbols and Concepts: web resources*, 2011). Especially intriguing have been the mythological invocations of a 12-fold pattern of deities, most notably:

- 12 Olympian deities (Greece): Zeus, Hera, Poseidon, Demeter, Athena, Dionysus, Apollo, Artemis, Ares, Aphrodite, Hephaestus and Hermes.
- 12 Dii Consentes (Rome): Juno, Vesta, Minerva, Ceres, Diana, Venus, Mars, Mercury, Jupiter, Neptune, Vulcan, Apollo

Other archetypal variants -- typically valued beyond any reasonable challenge -- include:

- 12 Apostles: Peter, Andrew, James the Greater, James the Lesser, John, Philip, Bartholomew, Matthew, Thomas, Thaddeus, Simon, and Judas Iscariot (or, subsequently, Matthias)
- 12 Imams in Shi'a Islam: divinely ordained leaders which are a focus of the mystical belief of the Twelvers
- 12 Knights of the Round Table: Lancelot du Lac, Bors de Ganis, Gawaine, Bedivere, Geraint, Kay, Gareth, Lamorak, Galahad,

Percivale, Tristan, Gaheris (George Trevelyan, *Twelve Seats At The Round Table*, 1976)

- 12 Zodiacal signs according to different traditions (Chinese, Indian, Western)
- 12 Labours of Hercules
- 12 Tribes of Israel, notably as speculatively discussed separately (*Generic Reframing of the 12 Tribes of "Israel"*, 2009), and the 12 sons of the biblical Jacob, as their progenitors
- 12 Jyotirlingas (epitome of God Shiva) in Hindu Shaivism
- 12 sons of Odin, as the principal Norse god

Systemic relations: It should however be stressed that **12-fold patterns are typically only "checklists" and do not venture to indicate the systemic relationships and interactions between the elements of the list.** This notably applies to their use in the many 12-fold strategic plans (as noted in that [collection of web resources](#)).

Missing is any recognized procedure for confronting such sets in terms of their implied significance. In principle this would both elicit what was common (however subtle) and enable identification of distinctive nuances enriching any overly simplistic interpretation of commonality. The possibility is discussed separately (*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).

In that light, the 12-fold patterns can be understood as "holding patterns" for disparate insights into cultural coherence, as separately discussed (*Eliciting a 12-fold Pattern of Generic Operational Insights: recognition of memory constraints on collective strategic comprehension*, 2011). The latter notably evoked the challenge of *Engaging with the symmetry of "bloodless categories"* and *Collective comprehension and communication of a 12-fold set*.

In an effort to enable comprehension of 12-fold categories otherwise -- through their "geometry" -- the fourfold sets distinguished by Arthur Young are presented separately in spherical animations (*Spherical mapping of conditions traditionally associated with the zodiac*, 2014).

Process phases and quantum consciousness? Any emphasis on the distinctiveness of the elements in a 12-fold set (for example) may well inhibit recognition of their condition as phases in a pattern of processes. As suggested by the learning process emphasis of Young, this is a complex of cycles in which each "element" functions as a particular nexus.

This recalls the [uncertainty principle](#) of quantum mechanics in that, to the extent that the element is perceived as distinct, recognition of the process in which it is embedded is inhibited. Conversely, to the extent that the process is recognized, any recognition of the distinctiveness of the processes composing it is inhibited.

The possible implications may be taken further in the light of the challenges to conventional understandings of identity emerging from considerations of quantum reality as articulated by Alexander Wendt (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015; [video](#); [interview](#)). He argues that quantum consciousness theory is speculative, but compared to the alternative its simplicity is hard to beat (p. 292). He concludes with a bold claim: "whatever their current force as explanatory virtues, the coherence, breadth, and simplicity of the quantum hypothesis make it *too elegant not to be true*". (p. 293).

Wendt argues for a contrasting perspective, variously stressing that humans are effectively **walking wave functions**, as discussed separately (*On being "walking wave functions" in terms of quantum consciousness?* 2017). As he notes:

In this book I explore the possibility that this foundational assumption of social science is a mistake, by re-reading social science "through the quantum". More specifically, I argue that human beings and therefore social life exhibit quantum coherence -- in effect, that we are walking wave functions. (p. 16)

Wendt develops this argument from various perspectives in response to existing schools of thought:

Quantum consciousness theory suggests that human beings are literally walking wave functions. Most quantum decision theorists would not go that far, and indeed -- perhaps wary of controversy -- they generally barely mention quantum consciousness, and then only to emphasize that they are making no claims about what is going on deep inside the brain (much less about consciousness), but are only interested in behavior. (p. 164)

With respect to how humans exist over time, beyond any patterned slice in the moment, Wendt argues:

If we are walking wave functions, then even though our experiences at each moment are actualities, at the quantum level of the unconscious, "there are many histories that are there as potentialities". (p. 211)

Correspondences? The connectivity between seemingly disparate cognitive modalities, and its credibility, can be explored through understandings of "correspondences". In a period of fragmentation of knowledge and disciplines, correspondences acquire notable significance where unsubstantiated conjectures within the dominant mindset are given serious consideration, despite being deprecated as "moonshine" and being comprehensible (if at all) to only the very few.

A striking example highlighting the cognitive challenges is offered by an abstruse branch of mathematics which has given rise to so-called [moonshine theory](#). Its exploration would seem to have surreptitiously called upon processes characteristic of a deprecated theory of correspondences (*Potential Psychosocial Significance of Monstrous Moonshine: an exceptional form of symmetry as a Rosetta stone for cognitive frameworks*, 2007).

As discussed separately, the challenge of comprehending the connectivity of "moonshine" is well-illustrated by use of any web search for "theory of correspondences" (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007). Two contrasting sets of references emerge from some 9,400 hits (at that time):

- **"algebraic" theory of correspondences:** This is summarized in a standard work (E. Klein and A. C. Thompson, *Theory of Correspondences*, 1984) but has a long history in relation to group theory (cf Joseph Edmund Wright, *Correspondences and the Theory of Groups. Transactions of the American Mathematical Society*, 7, 3 1906, pp. 391-400). It is curious that the challenge of algebraic correspondences is associated in category theory with what is termed the **theory of motives**. A commonly applied technique in mathematics is to study objects carrying a particular structure by introducing a category whose morphisms preserve this structure. When two given objects are isomorphic, a "particularly nice" representative may be selected in each isomorphism class. A current problem in this approach is that of having 'enough' morphisms. An as yet unfulfilled hope is that development of the category of motives would lead to a universal **Weil cohomology**.
- **"symbolist" theory of correspondences:** As indicated by J. E. Cirlot (*A Dictionary of Symbols*, Dover Publications, 2002), this is founded on the assumption that: "all cosmic phenomena are limited and serial and that they appear as scales or series on separate planes; but this condition is neither chaotic nor neutral, for the components of one series are linked with those of another in their essence and in their ultimate significance. It is possible to marshal correspondences by forcing the components of any given scale or scales into a common numerical pattern: for example, it is not difficult to adapt the colour-scale from seven to eight colours, should one wish to equate it with the scale of temperaments laid down by modern character-study..."

In the surreal real world of today, the two variants are notably distinguished in that the authors of one set would find the content of the other to be quite meaningless, if not dangerously so, as separately argued (*Transcending mechano-linearity versus fruit-loopery*, 2015; *Knowledge Processes Neglected by Science: insights from the crisis of science and belief*, 2012). Will such extremes come to be recognized as collective learning phases in their own right?

For science in general, and mathematics in particular, progress in knowledge -- of which the algebraic variant is a generic feature -- has involved the progressive construction of a model for understanding the world that specifically disproved the validity of the premises of previous eras and notably the symbolist theory of correspondences central to those worldviews. Curiously it can be argued that **the prevailing algebraic approach to understanding the world (by the few) has failed significantly to offer the coherence and comprehensibility traditionally offered (to the many) by the symbolist approach**. Comprehensibility is not a factor in the algebraic modality, whereas it is a central feature of the symbolist modality.

It is in this sense that Young's **use of dimensions from the 12-fold astrological pattern is indeed a "cheat" -- except to the extent that it evokes some form of mythological coherence which offers greater experiential engagement with a pattern and -- through metaphor -- with an environment threatened with collapse**. To what degree this is illusory may be irrelevant if it seems to "work" -- unlike many other patterns (with which I have sought to fix my "automobile" !). Ironically it can be readily assumed to "work" for many -- at least to some degree -- given the widespread reference to this pattern of symbols, in contrast to others such as the UN's Sustainable Development Goals (for example).

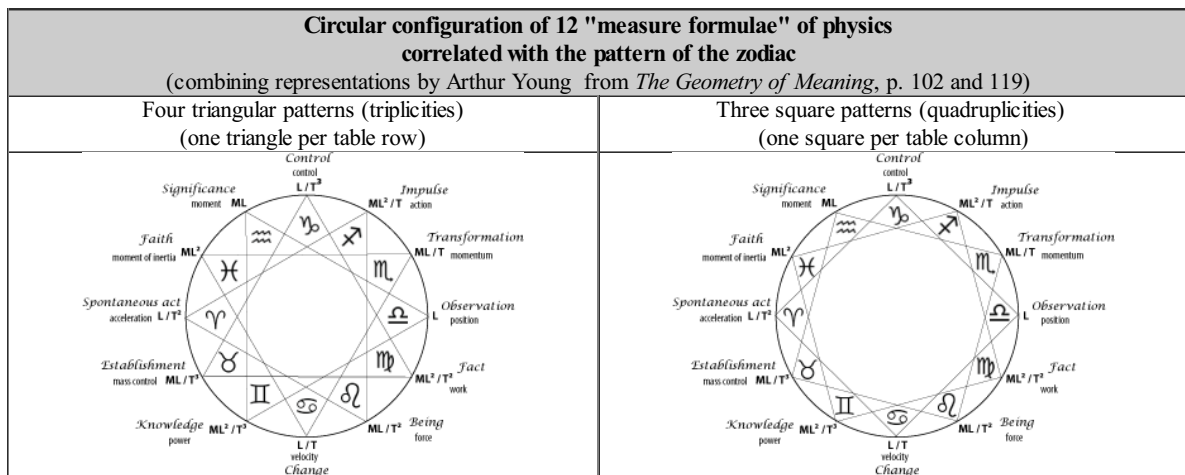
Mining myth? The tales of the relationships between the iconic entities within each mythical pattern (to the extent the tales exist) presumably offer pointers or frames which could enable greater insight between any static pattern of 12-categories. Metaphorical use of "mining", as with **data mining**, highlights the need for special processing of texts to extract valuable meaning for subsequent refinement.

More intriguing therefore are the cognitive developmental insights which might be offered by the "linear" succession of the mythical **12 Labours of Hercules**, (Stephen A. Diamond, *Why Myths Still Matter: Hercules and his twelve healing labors*, *Psychology Today*, 25 October 2009; *Learn the classics? It's all Greek to me*, *Financial Times*). However questionable -- in terms of credibility (second row of Young's table) -- especially intriguing are efforts to recognize the correspondences between them and those of the "non-linear" astrological pattern. Recognizing any degree of correspondence is of course rendered problematic in the light of probable biases, agendas and worldviews of those who venture to do so, especially given the **extreme difficulties of balancing succinctness and minimal ambiguity**. Such interpretations of the sequence of "labours" could be usefully challenged by equivalents from the Indian and Chinese Zodiacs. Examples include:

Indication of complementary insights into the sequence of 12 Labour of Hercules		
	<i>The Labours of Hercules: an astrological interpretation</i> (Alice Bailey, Lucis Trust, 1974)	<i>Zodiac and Twelve Labors of Hercules:</i> <i>do the myths have a deeper meaning?</i> (Julie Loar, <i>Atlantis Rising</i> , 2016)
Aries	undefined spiritual urge to righteousness and world salvation	taming the mind, and the uncontrollable "war horses" of thought, thereby controlling the resulting actions
Taurus	strong urge, and the potency of attraction, producing the great illusion, eventually to become the cause of illumination	learning to move consciously from a position of "holding the ground" in strength and from becoming too fixated
Gemini	achieving knowledge as a personality, controlling opposites, thereby subordinating the physical body, the desire-feeling nature and the mind.	recognizing dual nature of spirit and matter, whereby instinct is overcome by intuition
Cancer	transmuting intellect into intuition thereby developing and using the higher correspondences of the lower powers	controlling the emotions and the instinctual parts of the psyche, otherwise driven unconsciously
Leo	labour such that the lower can be subordinated to the higher, thereby providing a guarantee of strength of purpose	overcoming wild and destructive aspects of personality, thereby "killing" the beasts of ego and pride
Virgo	nurturing both the form and the spirit thereby enabling renewal	understanding the true nature of service and inner worth and beauty
Libra	balancing opposites and demonstrates, thereby proving that poise and equilibrium are now achieved	highlighting extremes and the balanced and sound judgment to be attained
Scorpio	achievement of one-pointedness beyond the distraction of appearances	recognizing the corrupting force of power
Sagittarius	cessation of tendencies to use thought destructively, thereby enabling aspiration	controlling thought towards realization of the transcendent goal
Capricorn	demonstration of the inclusiveness of consciousness and the range of methods employed when unconstrained by personal preoccupation	learning how to recognize the inner world and the attainment it offers
Aquarius	transmutation of individual consciousness into group consciousness	breaking down mental barriers and structures of limitation, thereby enabling inclusivity.
Pisces	redemption and transcendence of animality	transforming sensitivity and suffering into compassion and service

Rosetta stone of meaningful cycles?

For Arthur Young, the correspondence between the measure formulae of physics and learning cycles can be significantly presented mnemonically in terms of the signs of the zodiac. For him, this cyclic pattern then constitutes a form of **Rosetta stone** (*Geometry of meaning: an alchemical Rosetta Stone?* 2013).



As noted above, adaptations of the tabular pattern have been variously explored (*Typology of 12 complementary strategies essential to sustainable development*, 1998; *Characteristics of phases in 12-phase learning / action cycles*, 1995; *Typology of 12 complementary dialogue modes essential to sustainable dialogue*, 1998). They suggest both more extensive interpretations of the contrasting modalities and offer other insights into the complementarity between the threefold and fourfold patterns.

Rather than seeking to interpret the above schematics via the formulae or the very approximate labels, a potentially more fruitful cognitive approach is to consider the labels as metaphors. Alternative labels for each of the 12 cognitive modalities would then emphasize the aesthetic connotations of each -- through which the distinctive meaning might be better intuited. The dynamics within the patterns in the schematic could then be explored in terms of juggling "metaphoric balls" -- reinforced by references in the literature to "semantic juggling" and the aesthetics of juggling (Arthur Chandler, *On the Symbolism of Juggling: the moral and aesthetic implications of the mastery of falling objects*, *The Journal of Popular Culture*, Winter 1991; Daniel Rancour-Laferriere, *Juggling Poetics, Semiotics and Psychoanalysis*, 1978).

Juggling as a practice is of considerable interest to cognitive development and neuroscience, notably in terms of a "juggling paradigm" (Petra Jansen, et al, *The influence of juggling on mental rotation performance*, *Biomedical Human Kinetics*, 3, 2011; U. Wolfensteller, *Juggling with the brain: thought and action in the human motor system*, *Progress in Brain Brain Research*, 174, 2009; Edson Filho, et al, *The Juggling Paradigm*, *Frontiers in Psychology* 6, 2015). There are several **juggling notations**, notably **Siteswap**. As indicated by Burkard Polster (*The Mathematics of Juggling*, 2003), the trajectories of juggling 3 balls in the basic 3-ball pattern form the most basic **braid**. Braids are recognized as important mathematical objects. It has been shown that every braid can be juggled in that sense. The implications have been further discussed separately (*Potential cognitive implications of toroidal helical movement*, 2016; *Category juggling reframed through visualization dynamics*, 2016). [This line of argument is developed further in a subsequent document: *Governance as "juggling" -- Juggling as "governance": Dynamics of braiding incommensurable insights for sustainable governance*, 2018].

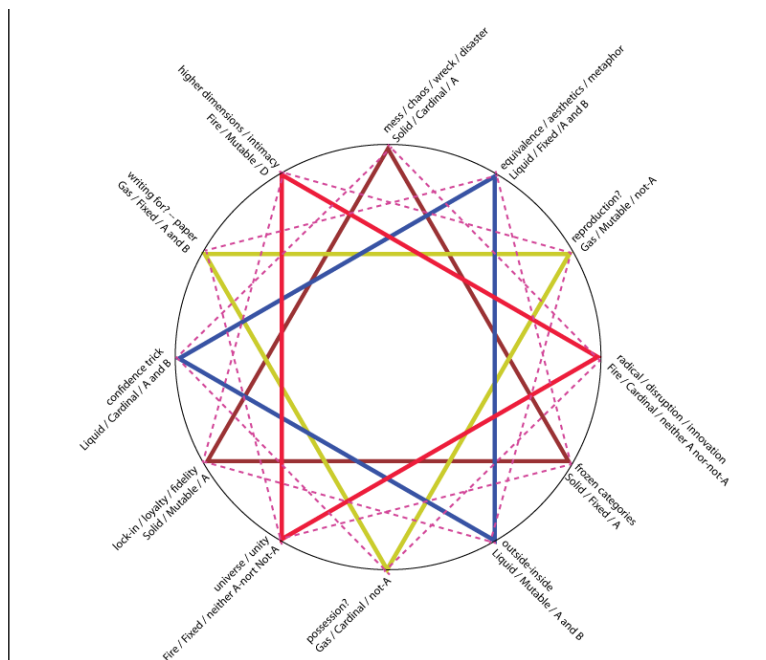
With all the appropriate reservations regarding the tricky cognitive nature inherent in the creativity of the alchemical process, there is a case for reviewing the 12 phases of the process as they have been traditionally associated with the signs of the zodiac (although other patterns of phases are also identified). The names for these **alchemical processes** (as indicated by *Wikipedia*) have been added to the circular representation in the schematic below. This combines the triangular and square patterns of connectivity of the schematics above

The animation on the right usefully calls into question any sense that a linear progression through the signs is a life-long process -- possibly understood as extending over lifetimes in some traditions. Rather the animation suggests that cycling through the phases may be a daily, hourly or momentary process characteristic of phases in the cognitive process. The strange forms of the signs of the zodiac are also indicative of the probability that the cognitive modality in each case may elude simplistic definition of the meaning it implies.

Given the framing of my cognitive challenge in terms of the wreck of my "automobile" -- if not my "helicopter" -- there is a nice irony to the implication that the necessary cognitive "wheels" could take an unsuspected form as learning cycles. The schematics above suggest four 3-fold cycles and three 4-fold cycles, with the latter recalling arguments regarding "square wheels" (*Reframing the Square Wheels of Global Governance: transcending vain hopes of squaring the circle in global decision-making*, 2017). To those seven cycles might be added a further six 2-fold cycles between the opposite functions -- as suggested by Young (*Purposive intelligence and the twofold operator*, 1976, pp. 75-93).

*** helix (*Embedding twelve-fold, eleven-fold, nine-fold and seven-fold helices in appropriately encircled polyhedra*, 2017)

Exploitation of Young's Rosetta stone pattern as a mapping template (tentative)
Empty space for content



Ultimate self-reflexive irony of cyclic cognitive processes

Self-reflexivity: As a seemingly definitive articulation, Arthur Young's table as a whole (however adapted) can be understood as corresponding to its first row. It only too evidently "is" -- however problematically so in that the processes suggested by the other rows necessarily call that explanation into question. Those of the second raise the question as to whether it is believable as presented.

As an exercise in self-reflexivity and expression, presentation of the table can be understood as consistent with the third row. The question there is why bother? What is its articulation seeking to engender? What dubious closure can it achieve? The table may however offer a form of container for the radical imagination which could be associated with the fourth row -- as presented later below.

There is a sense in which the interpretation of any given cell can be explored recursively by applying the dimensions of the other columns and rows to it.

Intellectual copyright: This exploration draws heavily on Young's process insights presented in a 12-fold cyclic framework. The argument notably highlights the manner in which a "solid" substantive product emerges through phases in that process. Missing from Young's argument, although implied therein, is the sense in which the Rosetta stone of meaning -- that his creativity has engendered -- is a substantive product in its own right -- metaphorically "written in stone". As with his book which describes it, this is of course the case with my adaptations of these insights (in the form of text and images) towards enabling me to fix my "automobile".

This "observation" (itself a feature of his table) is far from trivial in that Young's book is subject to intellectual copyright -- as with related insights featuring in the publications, videos and website which have inherited responsibility for them. This commodification of Young's insights is clearly a constraint on their exploration by others who, for whatever reason, lack the resources to access them .

Understood in this way, intellectual copyright is an aspect of my problem in endeavouring to fix my "automobile". The rigidity associated with this constraint is indeed to be recognized as an outcome of the creative process Young endeavours variously to render comprehensible. As with Young's Rosetta stone, the phenomenon can be recognized in related products deriving from the initiatives of others: "**syntegration**" ([Stafford Beer](#), *Beyond Dispute: the invention of team syntegrity*, 1994); "**synergetics**" ([Buckminster Fuller](#), *Synergetics: Explorations in the Geometry of Thinking*, 1975); "**Myers-Briggs Type Indicator**"; etc., as discussed separately (*Future Coping Strategies: beyond the constraints of proprietary metaphors*, 1993).

There is a strange sense in which the many products of this kind are fated by the collective learning process to resemble those of more tangible form which accumulate to a scandalous degree in scrap heaps, as marine debris, or as orbiting space junk -- effectively polluting the cognitive environment. Framed more optimistically otherwise, they resemble monuments, having been effectively "enstoned" (*Transforming and Interweaving the Ways of Being Stoned: imagination, promise, rocks, memorials, petrification*, 2012).

A provocative metaphor is offered in the Arthurian fantasy by [T. H. White](#) (*The Once and Future King*, 1958) regarding the interminable search by various knights for the **Questing Beast**. The legendary creature has the head and neck of a serpent, the body of a leopard, the haunches of a lion and the feet of a hart. Its name comes from the great noise it emits from its belly, a barking like "thirty couple hounds questing" (reminiscent of the numerology of [Stafford Beer](#)'s "syntegration" and of the tale of the *Conference of the Birds*). Appropriately, in the fantasy, the trail is only indicated to its pursuers by the Beast's excreted **fewmets** -- also vital to the determination of its health by its hunters. The objective products of any creative process can then be fruitfully compared with fewmets -- the producers thereof, as "questing beasts". having moved elsewhere.

Sentence formation? Young himself acknowledges an aspect of this challenge, but without applying it to his own intellectual process in producing the substantive product:

Sentence structure involving subject, verb, and object could be studied as an example of the threefold. The verb, of course, would supply the activity -- but only a verb in the present tense; the other tenses are not active. This is offered not as an

illustration, but an area for further thought, and warns us of the subtleties of this pre-analytic stage (1976, p. 31).

The subtlety is all the greater in that such grammatical distinctions may be made [otherwise in other languages](#), notably in artificial languages. The very process of objective articulation -- trapping in words -- would then itself appear to resemble a trap -- in the sense indicated by [Geoffrey Vickers](#): *A trap is a function of the nature of the trapped* (*Freedom in a Rocking Boat: changing values in an unstable society*, 1972) and separately discussed (*Metaphoric Entrapment in Time: avoiding the trap of Project Logic*, 2000).

Products and productivity? The significance attributed to productivity is only too evident at this time. It is considered central to the obsessive quest for economic growth at any cost (*Evaluating the Grossness of Gross Domestic Product*, 2016). Understood as a phase in a learning cycle -- with consequences readily neglected -- there is every possibility that the nature of the trap it may constitute can be usefully reframed in cognitive terms. Will obsession with personal growth come to be similarly deprecated?

Especially intriguing is the recognition of the dependence of productivity on other phases in a learning cycle. Young highlights the liquidity valued by economics, but subtler dimensions are evident in terms of calls for innovation to ensure survival in a highly competitive environment. This is subtly related to the experience of creativity, the associated excitement, and the attraction that these may engender. Ironically success in those processes is typically measured by the patents engendered by innovators -- products constraining their fruitful use by others.

The subtlety in question is usefully highlighted by the [Triple Helix thesis](#) (as a focus of the Triple Helix Research Group of Stanford University) regarding the potential for innovation and economic development in a knowledge society. This is framed in terms of a more prominent role for the university and in the hybridisation of elements from university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge. It is in this sense that the triadic thinking underlying the activities promoted by the [Triple Helix Association](#) merits particular attention, as instigated by [Henry Etzkowitz](#) (*Triple Helix: a new model of innovation*, 2005).

In contrast to an earlier study for the Club of Rome (*The Double Helix of Learning and Work*, 2003), the requisite subtlety of a triadic approach can be evoked in critiquing the limitation of a [more recent report](#) for that Club organized in triadic form (*Towards a higher order of coherent global strategic organization?* 2018).

"Existence"? Curiously the substantive nature of a range of collective constructs can be readily called into question -- as "products" -- most notably as argued in relation to the so-called [international community](#) (*International Community as God or Sorcerer's Apprentice?* 2015). Surprisingly the same may be said of nation states as argued by Alexander Wendt and more specifically by Stephen Clarkson (*Does North America Exist? Governing the Continent after NAFTA and 9/11*, Woodrow Wilson Center, 2008). The question with respect to the USA is currently of great relevance in the light of the ongoing debate regarding the [right to exist](#) of Palestine -- recognized as it is by the vast majority of countries ([John V. Whitbeck](#), *The State of Palestine Exists*, *The Huffington Post*, 1 September 2013). To what extent can USA be held to exist, or to have a right to exist?

There is great irony to the fact that current controversy regarding arguments with respect to the existence of God can be understood to be as questionable as those with respect to the existence of the "United States" or "Israel" -- whether framed in scientific, legal, historical or theological terms. Within each of these frames, the issue is the nature of "concrete proof" and the manner in which its status and credibility is determined, as with [fiat currency](#). Hence the concern regarding adherence to so-called "fiat beliefs". The current massive exercise in "printing money" is therefore of relevance (*ECB launches 1 trillion euro rescue plan to revive euro economy*, *Reuters*, 22 January 2015). Given such an example, the more general question is whether there are other instances in which demands for concrete proof could be appropriately and rightfully made (*10 Demands for Concrete Proof by We the Peoples of the World*, 2012).

Attitudinal posture? Faced as I am by a junkyard of parts and manuals for fixing my "automobile", various postures could be appropriately adopted. I can appeal to the international community as so many now do, however questionable the results. My appeal could take the form of begging, as is the case for many, also with questionable results (*Confusion in Exchanging "Something" for "Nothing": cognitive implication in the asymmetrical processes of begging and its surrogates*, 2015). Possibly I could reframe my attitude to external authorities in terms of the famous tales of *The Emperor's New Clothes* and *The Boy Who Cried Wolf*, as discussed separately (*Entangled Tales of Memetic Disaster: mutual implication of the Emperor and the Little Boy*, 2009).

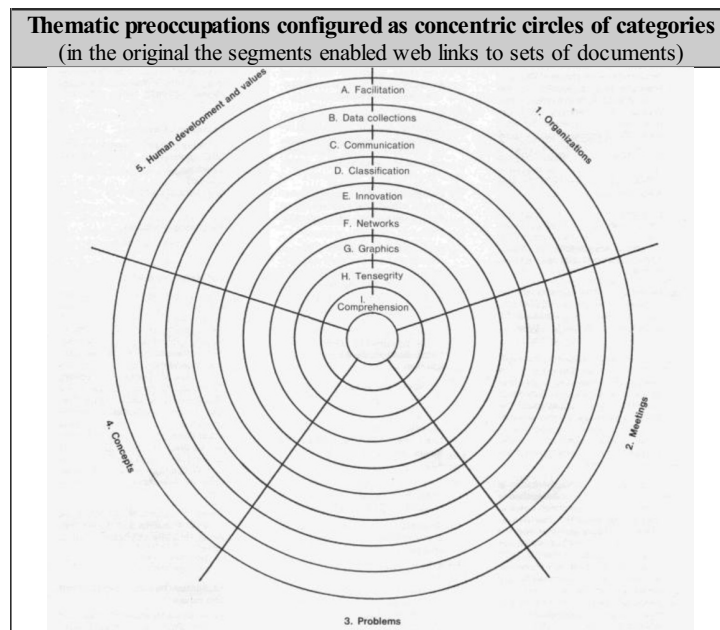
I could recognize the imminence of disaster through even more pointed metaphors (*Resource Insights from Plus or Minus 12 People on a Liferaft: thought experiment to highlight global dilemmas in a comprehensible context*, 2014). Inspired by the work of Kathleen Forsythe (*Cathedrals in the Mind: the architecture of metaphor in understanding learning. Cybernetics and Systems '86*, pp 285-292), I could indeed engage in an intangible equivalent to the heroic initiative of [Justo Galego Martinez](#) (*Don Justo's Self-Built Cathedral: metaphoric learnings for contemporary alternative initiatives*, 2003).

As noted above, potentially more intriguing, since I am necessarily exposed to the vagaries of the weather in my junkyard, is to appreciate the learning embodied in its processes in offering me a sense of direction (*Weather Metaphors as Whether Metaphors: transcending solar illusion via a Galilean-style cognitive revolution?* 2015).

Aesthetic embodiment? The limitations of any analytic approach to self-reflexivity can be usefully highlighted and reframed by aesthetic and experiential considerations, as suggested above. However, rather than reframing comprehension of my "automobile" in such terms, it is "my automobile" which could then be fruitfully reframed -- namely "my" possession or ownership of the "automobile" as a product of my various cognitive endeavours. One necessarily questionable example is discussed separately (*Being a Poem in the Making: engendering a multiverse through musing*, 2012). This recalls more conventional appreciation of being "self-made". In a period in which emphasis is placed on the individual quest for "freedom", there is then some irony to the internet adage to the effect that ["if it free, then you are the product"](#).

Preceding approaches to thematic organization

This initiative follows from previous attempts to make "global" sense of the production of a set of papers over decades -- as an exercise in [global sensemaking](#). The first attempt to configure the papers explored use of concentric circles divided into sectors (*In Search of Transformational Pathways: bibliography of studies conducted from 1962 to 1981 under the auspices of the UIA and Mankind 2000*, 1981).



As a preliminary to the later exercise, the papers from 1962-2004 were separately ordered by the following set of value polarities which they may implicitly address (see *Distinguishing Emergent Conceptual Polarities: experimental ordering of a collection of research papers*, 2004).

Diversity -- Unity	Future -- Present
Agreement -- Disagreement	Global -- Personal
Organization -- Chaos	Information systems -- Communication
Configuration -- Relationships	Comprehension -- Incomprehension
Strategy -- Lifestyle	Facts -- Aesthetics
Static -- Dynamic	Balance -- Imbalance
Conventional -- Radical	Problems -- Potential

This was used to trigger reflection on thinking about thinking in terms of a variety of metaphors in an effort to identify a higher degree of order (*Configuring Conceptual Polarities in Questing: metaphoric pointers to self-reflexive coherence*, 2004), as partially explored beforehand (*Self-reflexive Learnings from Writing*, 2004). Through the set of complementary metaphors, the set of polarities identified, as a challenge to comprehension, was understood as potentially pointing to the nature of that higher order. The metaphors were then used to clarify the nature and intent of the writing process itself.

Productivity: Substantive ("Solid")

NB: This section, and the three which follow, are an attempt to articulate ways seemingly open to me for engaging with my "automobile" -- in the light of the fourfold framework adapted above from Arthur Young. Given the greater subtlety he acknowledges with respect to the threefold articulation of a 12-fold pattern, no systematic effort is made to explore those nuances here, although allusions to them may be variously made. As indicated above in the light of Rubik's Cube, arguments might well be more appropriately moved between these four sections, as with any allusions in terms of the threefold pattern.

Little needs to be said about the many concrete issues with which getting my "automobile" to work is now faced. These are systematically profiled in the online [problems database](#) of the *Encyclopedia of World Problems and Human Potential*. The same could be said of the multiplicity of remedial strategies, profiled in the related [strategies database](#), that are recommended by a wide variety of constituencies as "concrete" or as "approaches that work -- at least separately, if not together.

So many define themselves as unquestionably "right" in identifying the problems of my "automobile" and what is required to fix it. Their understanding necessarily extends to recognizing that those who disagree with them are unquestionably wrong and have been unfortunately misled, as can be speculatively argued (*If Writers are Necessarily Right... Who are the "rongers", so necessarily wrong?* 2015).

The set of problems which can be defined therefore includes those "meta-problems" which recognize the unrelated nature of the categories by which the problems are so definitively distinguished beyond question -- and the manner in which this reinforces the fragmented nature of the essentially incoherent strategic responses to them. Many have argued the catastrophic nature of the current condition of my "automobile" -- from a variety of perspectives (*Slavoj Zizek, Living in the End Times*, 2011). A speculative caricature is also readily elaborated (*Earth as a Shithole Planet -- from a Universal Perspective? Understanding why there are no extraterrestrial*

visitors, 2018). My concern with my wreckage of an "automobile", accords with the concern of environmentalist, George Monbiot (*Out of the Wreckage: a new politics for an Age of Crisis*, 2017).

It is easy to argue that relevant knowledge is effectively imprisoned by various processes (*Inhibition of creativity through incarceration of knowledge*, 2018). As implied above, the very process of "classification" of knowledge can be explored in such terms. Despite the definitional and cognitive rigidity, is the erosion of any integrative understanding of my "automobile" somehow a reflection of the so-called "half-life" of facts. This challenge to conventional thinking is usefully made in a book review included in the special issue of the *Scientific American* focusing on the *State of the World's Science* (October 2012). The review of *The Half-Life of Facts: why everything we know has an expiration date* (2012) by Samuel Arbesman is introduced with the phrase:

Many medical schools tell their students that half of what they've been taught will be wrong within five years -- the teachers just don't know which half.

That said, in my relative ignorance I may well be obliged (unwittingly) to make use of obsolete knowledge in dealing tentatively with the challenge currently posed by my "automobile". However, essentially my sense is that I am "stuck" in determining how to do anything fruitful about that wreck.

Faced with multiple suggestions regarding my "automobile", many made quite forcefully by processes of advertising and propaganda (of which I may only be slightly aware), I recognize the pressure on me for "buy-in" -- an expectation that I be faithful to one remedial process rather than to another. Any vacillation in this respect may even endanger my reputation and career, if not my life. It is also of course the case that my own sense of identity may be intimately associated with one such strategy or another -- and with the categories which they so clearly highlight. They form and inform my reality as I experience it -- effectively my cognitive "real estate" in which I tend possessively to cultivate a degree of pride in ownership.

Liquidity: Both substantive and non-substantive ("Fluid")

As noted by Arthur Young, the concrete reality may be reframed through a "fluid" modality -- as with his reference to liquidity -- calling into question the definitiveness of what is otherwise held to be "solid" by economics. This modality is especially cultivated in the arts through aesthetic considerations: play/games, humour, dance, music, poetry, and the like. As noted earlier, I could engage with my "automobile" through that modality. As with "extreme gardeners", I could sing to my "automobile", or sing to the land as do Australian Aborigines (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006).

Arguably it is in this mode that I can explore the pattern of correspondences highlighted by symbolism. Metaphor and analogy can be similarly used to establish relationships between what are otherwise held to be distinctively rigid categories (Douglas Hofstadter and Emmanuel Sander, *Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013; Douglas Hofstadter, *Fluid Concepts and Creative Analogies: computer models of the fundamental mechanisms of thought* 1995).

There is the possibility that such engagement can be considered in terms of the use of a pattern language (Christopher Alexander, *A Pattern Language*, 1977) or its adaption (*5-fold Pattern Language*, 1984). Rather than language in its formal sense, more relevant to such understanding may be the arguments developed by Jeremy Lent (*The Patterning Instinct: a cultural history of humanity's search for meaning*, 2017).

As implied by the liquidity example, understanding of this modality is best recognized through the metaphors popularly chosen -- offering (faint) intimations of its nature in generic terms. It is in this sense that the increasingly frequent reference to "narrative" merits exploration -- as a complement to the traditional enthusiasm for stories and to the currently expressed need for a "new story" or "changing the story" (*From Changing the Strategic Game to Changing the Strategic Frame: missing cognitive possibility in changing the system not the planet*, 2010). Readily neglected is the sense of learning from past failures and insights embodied in the stories of the past. The *Jataka Tales*, *Aesop's Fables* and the stories of Nasreddin Hodja are designed to serve simultaneously as children's stories and as carriers of deeper systemic insights for those who can distinguish them (*Reframing connectivity through metaphor*, 2011). How best to engage with the compilation of V. S. M. de Guinzbourg (*Wit and Wisdom of the United Nations: proverbs and apothegms on diplomacy*, 1961)?

The fluidity is admirably visualized by patterns of flocking behaviour of birds, locusts or fish -- readily understood as echoing those of trending movements of opinion in social media (as simulated by "boids").

As indicated by the title of this product, perhaps the most curious feature in assessing my relation to my "automobile" is the sense in which I have conned myself in an unforeseen way. I have indulged in a "big lie" of unknown origin (*Existential Challenge of Detecting Today's Big Lie: mysterious black hole conditioning global civilization?* 2016). Seemingly, I have indeed bought into acquiring ownership of a wreck -- unwittingly but voluntarily, however much I can frame others as ill-intentioned, complicit or blameworthy. Otherwise expressed, I have bought a "pig-in-a-poke", as it is widely and variously described in different languages. I have transformed myself into a "sucker" -- a "mark". One variant of this confidence trick is the green goods scam. My condition bears a strange resemblance to that which led to the sale of junk bonds and toxic assets -- and thereby to the most recent global financial crisis. Somehow I seem personally to have embodied the global crisis of confidence for which I have found it only too convenient to consider others to be responsible.

Recognizing my framing as a "mark" opens the possibility of reflection in terms of the fundamental role of "marks" (*Markings: ?? Question 8 Answer ?!* 2013) -- most notably in the seminal work of George Spencer-Brown (*Laws of Form*, 1969). The result of Spencer Brown's formal exercise to separate what are known as algebras of logic from the subject of logic, and to re-align them with mathematics is the explicit, and extremely elegant logical re-integration of the observer. His final chapter, entitled "reentry into the form" commences with:

The conception of the form lies in the desire to distinguish. Granted this desire, we cannot escape the form, although we can see it any way we please (p. 69).

It ends with:

An observer, since he distinguishes the space he occupies, is also a mark ... In this conception a distinction drawn in any space is a mark distinguishing the space. Equally and conversely, any mark in a space draws a distinction. We see now that the first distinction, the mark, and the observer are not only interchangeable, but, in the form, identical. (p. 76)

Whether framed in the financial terms, through which liquidity is appreciated, or in terms of the confidence on which they are based, I am clearly confronted by a paradoxical situation. Is the problem of my "automobile" external to me -- objectively dissociated from me (and safely so)? Or is it somehow internal and intimately related to my subjectivity and sense of identity? Is it indeed a case of "outside inside" as I can variously explore (*World Introversion through Paracycling: global potential for living sustainably "outside-inside"*, 2013; *En-minding the Extended Body: enactive engagement in conceptual shapeshifting and deep ecology*, 2003; *Existential Embodiment of Externalities: radical cognitive engagement with environmental categories and disciplines*, 2009; *Cognitive Osmosis in a Knowledge-based Civilization: interface challenge of inside-outside, insight-outsight, information-outformation*, 2017)?

There is a strange irony to any such preoccupation with "insight" at the time of writing, given the launch of NASA's robotic Mars lander -- named *InSight*. This is designed to derive insight from the core of Mars -- effectively a magic mirror enabling speculation on the [future geological evolution of Earth](#) millions of years hence. How should I relate my cognitive engagement with this initiative (and its product) to the concern I have with regard to fixing my "automobile" -- threatened as it is with total collapse in the next few years, or sooner? Could I reframe otherwise that quest for insight, as separately argued (*Challenges More Difficult for Science than Going to Mars -- or exploring the origins of the Universe or of Life on Earth*, 2014)?

Most curiously, the earliest possibility of self-reflection was enabled by water in the form of a pond or lake. Technology now encourages widespread enthusiasm for "selfies". The mysterious appeal of such images reinforces the case for exploring the cognitive implications of mirroring (*Stepping into, or through, the Mirror: embodying alternative scenario patterns*, 2008; *Geometry as a metaphorical magic mirror of thinking*, 2009). What can I learn from insight into Mars to fix my "automobile" asap?

As noted in the documents cited, others ("outside") seem to have offered pointers in this respect ([Henryk Skolimowski, *The Participatory Mind: a new theory of knowledge and of the universe*](#), 1995; [George Lakoff and Mark Johnson, *Philosophy In The Flesh: the embodied mind and its challenge to western thought*](#), 1999). Is there a case for [Subjectifying the Universe](#) (*Brain Pickings*, April 2018) as argued by [Ursula Le Guin](#) with respect to the complementarity between science and poetry in comprehending the natural world and tending to it? Is there an ultimate cognitive challenge to be recognized (*Being the Universe: a metaphoric frontier*, 1999)?

Could I but do so, is there a case for alternating my comprehension between an explicit "automobile" and an implicit "automobile" -- in a holomovement -- as might be interpreted from the insights of quantum physicist [David Bohm](#) (*Wholeness and the Implicate Order*, 1980)?

One implication could then be that the array of issues with which I am faced in endeavouring to fix my "automobile" -- food, housing, education, health, jobs and the like -- then merit consideration as being features of my internal cognitive challenges, as can be variously articulated (*Degrees of Cognitive Engagement with Interrelated Global Categories*, 2009). Should I be deriving insights from the most dubious icons a reflections of myself (*Looking in the Mirror -- at Josef Fritzl ? Global conditions on reflection*, 2009; *Gruesome but Necessary: Global Governance in the 21st Century?* 2011).

Especially intriguing are the issues relating to the natural environment and the many species which sustain its biodiversity. Is the manner in which they are currently endangered and at risk an external issue (as so many argue) or are these indeed all features of my own psyche in ways I can barely comprehend and credit? Irrespective of the many arguments for recycling, given the argument framed above in terms of learning cycles, have I somehow failed to "encycle" my own environment (*Encycling Problematic Wickedness for Potential Humanity*, 2014; *Psychology of Sustainability: embodying cyclic environmental processes*, 2002)?

Imagination: Non-substantive ("Air")

In this mode I am "free as the wind" to imagine my "automobile" otherwise -- to reconceptualize it as seems appropriate, together with my relation to it. However, on the occasion of worldwide celebration of the [200th anniversary of the birth of Karl Marx](#), there is a case for reframing his adage (inscribed on his grave): *The philosophers have only interpreted the world, in various ways. The point, however, is to change it*. Rather than changing it for others however, potentially more challenging is how to change it -- my "automobile" -- for myself, especially to the extent that I am an aspect of it as the designer, constructor and driver. Presumably I am called upon to "re-cognize" it otherwise. Is there an unexplored illusory quality to the preoccupations of Marxism with externalities at a time when it is their internal implications which merit attention? In relation to my efforts with respect to my "automobile", who indeed are the "workers" and who are the "capitalists"?

Therefore rather than engaging with the strategic preoccupation of the Club of Rome ([2052: a Global Forecast for the Next Forty Years](#), 2012), is it instead a case of engaging otherwise with the present, as argued in a critique of that report ([Engendering 2052 through Re-imagining the Present](#), 2012)?

Part of the challenge lies in assumptions I have tended to make about communication in an information society in which all are seemingly confronted with information overload -- with anything more time consuming than a headline, a tweet or an image being perceived as

excessive. What is who to comprehend in that context -- and why? Who is it assumed will engage with strategic reports like those of the Club of Rome -- other than tokenistically (*Uptake, influence and readership -- self-reflective impact analysis*, 2018)? Is anyone "really" out there?

The challenge can of course be explored in terms of *fake-news* in a *post-truth society* -- one that is increasingly experienced as surreal. The substantive has itself become elusive -- as with my "automobile" -- especially under conditions of planned obsolescence. To what extent does it really "exist", other than as an artefact of my imagination? This question can be explored in relation to the existence of nation states and the international community, as noted above.

Curiously, at the time of writing the point is made by the credibility which continues to be associated by some with *Flat Earth* theories (Michael Marshall, *The universe is an egg and the moon isn't real: notes from a Flat Earth conference*, *The Guardian*, 2 May 2018; Harry Dyer, *I watched an entire Flat Earth Convention for my research -- here's what I learnt*, *The Conversation*, 2 May 2018). However much I may choose to consider these perspectives ridiculous, in a supposedly global civilization, I am obliged to recognize how hard put I would myself be to prove scientifically that the Earth is round. Dyer makes the point that:

Flat earthers are not the first group to be sceptical of existing power structures and their tight grasps on knowledge. This viewpoint is somewhat typified by the work of *Michel Foucault*... He is well known.. for looking at the close relationship *between power and knowledge*. He suggested that knowledge is created and used in a way that reinforces the claims to legitimacy of those in power. At the same time, those in power control what is considered to be correct and incorrect knowledge. According to Foucault, there is therefore an intimate and interlinked relationship between power and knowledge.

At the same time, as widely noted, the social media have now framed communication in a totally new way -- variously enabling movements of opinion in ways unforeseen when the sense of the "*winds of change*" was originally recognized in 1960. However, paradoxically, the dependent focus on such media is increasingly recognized as contributing to new levels of individual isolation. Associated with this tendency is the preoccupation with "selfies". Is that tendency signalling a desperate quest for "re-cognition", as yet to be understood otherwise? When "re-cognized" -- by whomever -- by what am I then to be rewarded? By some kind of transformation of myself in relation to my "automobile"?

As suggested above, so framed, this raises the question of "why bother" -- in a period of *psychic numbing* and "care fatigue". Is this the "deadly question" to be raised with respect to consideration of the future -- to the extent that it "exists" (*World Futures Conference as Catastrophic Question: from performance to morphogenesis and transformation*, 2013)?

This consideration reinforces the argument of Gregory Bateson for self-reflexivity in concluding a conference on the effects of conscious purpose on human adaptation, as indicated above: *We are our own metaphor* (cited by *Mary Catherine Bateson*, *Our Own Metaphor*, 1972, p. 304). But rather than "we", is it more a case of "I" -- in my engagement with my "automobile"?

Especially intriguing is how it may now be appropriate to understand reproduction. How are "seeds" to be planted for the future -- now that extraplanetary travel is framed by some as vital to the survival of humanity? How is preservation of a legacy to be ensured? Will the shift to *genetic use restriction technology* ("terminator seeds") herald what amounts to "memetic use restriction technology" -- "terminator concepts"?

What indeed is the deep-seated commitment to possession and to framing somewhere as "home"? The latter has been insightfully framed by *Christopher Alexander* as the "quality without a name" within well-designed environments -- as a place where it is "good to be" (*The Timeless Way of Building*, 1979). Seemingly a container of some kind.

Excitement: Neither substantive nor non-substantive ("Fire")

Most elusive, and perhaps most attractive for that reason, is the modality associated with "excitement", however that is to be understood. Clearly every effort is made to commodify it as a product in entertainment, recreation, games, tourism, and the like. There is some irony to the preoccupation that "heat" is now engendering in relation to my "automobile" -- in terms of global warming.

As "fire", cognitive excitement has however been carefully explored by *Douglas Hofstadter* and Emmanuel Sander (*Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013). Arguably its elusive nature can be understood to a degree as an intuitive appreciation of higher dimensionality and quantum consciousness, as argued above by *Alexander Wendt* (*Quantum Mind and Social Science: unifying physical and social ontology*, 2015).

There is of course the strange exemplification of "fire" and "excitement" that is associated with the "firing" of weapons, especially missiles and bombs. This is both a major feature of entertainment and of military activity. Fire in all its forms has long been a primary focus of individual and collective attention. Ironically, in the case of my "automobile", I would of course be delighted if I could get it to "fire up" as an indication that it is finally working.

Just as with global warming, there is now a challenge of how best to contain fire-excitement "globally" -- as with any engine. Curiously, considerable investment is being made in the design of an unusual container for nuclear fusion by *ITER* -- effectively an engine which is the hope for energy in the future. The toroidal design offers multiple metaphors of relevance to the issues I have with my "automobile" as a container of a kind -- if only I could get it together (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006).

Understood as a system, what can be fruitfully recognized as circulating within such a container (*Circulation of the Light: essential metaphor of global sustainability*, 2010)? There the suggestion was made that a primary candidate was attention, possibly of a particular quality and focus. As appropriately contained, this can be recognized in terms of the confidence it engenders.

Most intriguing, as the primary paradoxical requirement for the toroidal design of ITER, is the manner in which the [plasma](#), as the fiery state of matter, has to be confidently contained -- by a container with whose walls it cannot be allowed to come in contact. This resembles the paradoxical alchemical quest for a container for [alkahest](#) -- a hypothetical universal solvent, having the power to dissolve every other substance of which a container could be made. Understood otherwise, if attention is appropriately "contained", without producing a conventional substantive product, it could then be understood as constituting an inexhaustible energy resource. This would seem to be the insight associated with Taoist understanding of [neidan](#). Is this what I need to get my "automobile" moving?

Curiously it is the psychosocial dynamics within arena and stadia which offer a degree of insights into the containment of attention -- an intuitive recognition potentially prefiguring some more complex and subtler design, of which ITER is another precursor. The emphasis of the Roman Empire on the construction of stadia is a clear indication of some such intuitive understanding -- succinctly, if cynically, expressed as [panem et circenses](#). Arguably equivalents are now to be recognized in TV programs and online gaming.

The challenge of containing attention when excited can be variously discussed ([Con-taining significance in the con-quest of the moment](#), 2016; [Cognitive significance of a con-tainer](#), 2016). The latter notes the arguments of [Alexander Klose](#), inspired by shipping containers as the primary symbol of globalization and a container world ([The Container Principle: how a box changes the way we think](#), 2009). In a critical comment Klose notes:

Containers represent the impressive dynamics of modern capitalism and its fundamental optimism in the face of every crisis. At the same time, they represent the fears and objections to these dynamics when logistic are organized purely for optimization, forcibly converging and aligning formerly remote parts of the world through an exponential increase in transport and communications processes. The basic materiality of containers, the fact that they can be emptied just as easily as they can be filled, also seems to reveal an effect on the semantic level of stories and images. (p. ix)

Klose argues that:

Today the transport container has become ... a key image, a global [visiotype](#) that professes to make further explanations superfluous. The success of the metacontainer has brought about a metareality in which containers and globalization have always formed a firm and fast tautological unity... This metareality consists of a bastion of belief in progress and the apotheosis of rationality, regardless of whether this process is interpreted as philanthropic or branded as misanthropic. The reality is based on a mythical foundation that attributes technical and social development to ominous powers of the economy and the market. (pp. 74-75)

The argument is appropriately extended by Klose to include the cognitive preoccupations of [George Lakoff](#) and [Mark Johnson](#) ([Metaphors We Live By](#), 1980) with the container as the primary subspecies in the genus of the ontological metaphor:

Each of us is a container, with a bounding surface and an in-out orientation. We project our own in-out orientation onto other physical objects that are bounded by surfaces. Thus we also view them as containers with an inside and an outside. (p. 25)

To the extent that the shipping container is such a substantive product -- potentially alienating to the highest degree -- the ambiguously paradoxical relation between container and contained becomes especially evident. With respect to psychosocial change and transformation, it is potentially more fruitful to understand the container as taking dynamic rather than substantive form -- indicated by the argument above with respect to "power control" and the "third derivative of velocity". In alchemical terms, this can be framed in relation to the [ouroboros](#) as the embodiment of [eternal return](#), as variously comprehended ([Complementary visual patterns: Ouroboros, Möbius strip, Klein bottle](#), 2018; [Experimental animations in 3D of the ouroboros pattern](#), 2018).

Missing from such "description" is the essence of excitement and any associated risk. Strangely this is evident in the controversy associated with the ambiguous appreciation of "radical" and "radicalization". On the one hand these are promoted as characteristic of the most innovative forms of creativity in every domain; on the other hand they are deeply feared as characteristic of instigation of social change by revolutionaries, anarchists and "terrorists" of every colour.

Whatever form it takes, excitement of this kind is potentially a source of terror -- strangely appreciated in the attraction of "terrific" experiences and "terrific" personalities ([Coming Out as a Radical -- or Coming In?](#) 2015; [Radical Innovators Beware -- in the arts, sciences and philosophy](#), 2016; [Identifying the Root Cause Focus of Radical Identity](#), 2016; [Radicalisation of Existence and Identity](#), 2015). Do such consideration suggest that I need a "radical" approach to my "automobile" if ever I am to get it to work? Does "radical" then imply a higher cognitive dimensionality -- one clearly a challenge to comprehension given its "intimacy"?

With respect to the dynamics of attention in relation to excitement, it is appropriate to recognize the understanding of [duende](#) -- loosely translated as "having soul", a heightened state of emotion, expression and [authenticity](#), often connected with flamenco dancing ([Daimon, Djinn, Muse and Duende: variations on a timeless experience](#), 2007). It is associated with [saudade](#), as engendered by a related art form ([Duende and saudade as transformative animation of intercourse](#), 2015). Both terms elude conventional communication (Tom Schnabel, [Saudade and Duende: two elusive words that defy translation](#), *KCRW Rhythm Planet*, 11 June 2013). The subtlety of the associated experience might be fruitfully compared with the Chinese understanding of [wu wei](#) as indicating, with appropriate ambiguity, both :

- an attitude of genuine non-action, motivated by a lack of desire to participate in human affairs and
- a technique by means of which the practitioner may gain enhanced control of human affairs

With appropriate excitement framed as "having soul", there is a case for framing the fourfold pattern above (product, liquidity,

imagination and excitement) in relation to the common experience of "soulless" dining. The "deliverables" then contrast with the "dreamables", as determined by the "deniables" (*Dreamables, Deniables, Deliverables and Duende: global dynamics "at the table" inspired by dining and wining in practice*, 2015).

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