



laetus in praesens

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Massive Elicitation of Psychosocial Energy Requisite technology for collective enlightenment

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Insights arising from the multiple disaster of the [Tohoku earthquake and tsunami](#) in Japan (2011)
and from the [massive Arab uprisings](#) in the same period

Introduction

Mass-Energy equivalence

Configurative thinking and metaphor

Equivalence, isomorphism, correspondence and metaphor

Beneficial reframing of fundamental differences

Metaphoric implications of energy, mass and light

Universe of knowledge

Technologies and disasters as metaphors for collective learning

¿ Defining the objective ∞ Refining the subjective ?! Explaining reality ∞ Embodying realization (Annex)

Fukushima, cherry blossom and "mono no aware"

Mass-Energy transformation in psychosocial system containers

Conclusion

References

Introduction

The following discussion is necessarily speculative in an attempt to explore alternative ways of thinking about the "crisis of crises" in all its cognitive complexity -- about which there would appear to be a dearth of the much-sought creative "new thinking". The argument exploits, with only limited apology, the manner in which nuclear technology is framed in society -- upheld as it is as the key to the energy requirements of global civilization.

Basically it could be said that people in their thousands (if not their millions) run the risk of death from inadequately tested technologies that they do not comprehend -- on the advice of experts and authorities in whom respectful confidence is expected. However both experts and authorities have repeatedly demonstrated their capacity to deceive and arrogantly to deny any culpability for the resulting disaster (*Abuse of Faith in Governance: Mystery of the Unasked Question*, 2009). This systemic condition has been highlighted in the case of the Japanese disaster (*Anticipating Future Strategic Triple Whammies: In the light of earthquake-tsunami-nuclear misconceptions*, 2011). Simultaneously, but over a longer period, learnings have been offered by the [massive uprisings in various Arab countries](#).

The argument here is a form of response to the spectrum between truth and myth in the quest for higher orders of integrative thinking and coherence, as previously discussed (*Relevance of Mythopoeic Insights to Global Challenges*, 2009; *Cultivating Global Strategic Fantasies of Choice*, 2010). With respect to "energy" specifically, the argument follows from an earlier exploration (*Reframing Sustainable Sources of Energy for the Future: the vital role of psychosocial variants*, 2006).

The suggestion is made that technology is the art of benefitting from differences. Society is indeed much challenged by fundamental differences and disagreements -- despite vain efforts to claim the contrary through promoting the reality of universal frameworks. **The question is whether there is a form of technology, from which energy can be derived, associated with reframing what is maximally different** -- as distinguishable by human patterning capacity.

In an Annex (*¿ Defining the objective ∞ Refining the subjective ?! Explaining reality ∞ Embodying realization*) the paradox of how knowing might then be fruitfully constrained is explored. The argument exploits the concept of "refining" nuclear fuel, "enriching" it through [isotope separation](#) to the degree required to enable the [critical mass](#) fundamental to the viability of nuclear technology -- as employed at Fukushima and elsewhere. The suggestion is that "defining", as premature or simplistic closure and containment, effectively

"dampens" any possible psychosocial analogue -- in contrast with what might be implied by cultural refinement, notably as understood through a process of "subjective refinement". Simplistic explanations of "reality" (as a form of quenching), or those relatively inaccessible to collective comprehension, then preclude fruitful realization and its effective embodiment.

The argument questions the widespread tendency to promote a particular set of truths as "universal" -- as meriting (if not necessitating) its acceptance by all. Rather it recognizes the naivety of this expectation in a vast and turbulent knowledge society -- in contrast with the tendency to articulate and embody distinct worldviews, whether individual or collective. The latter view -- a complementary form of naivety -- is often more consistent with experiential reality. It is one which may therefore be more practical for individuals and collectives in isolation. It is also consistent with [Article 19](#) of the *Universal Declaration of Human Rights*. To that extent its communication here is rather to be understood as the playful presentation of a cognitive vehicle -- as with any work of art by which one may be transported (*Enacting Transformative Integral Thinking through Playful Elegance*, 2010).

Mass-Energy equivalence

Central to the mystery of the nuclear technology, about which confidence is expected, is a curious relationship identified by Albert Einstein: $e = mc^2$. It is known as the theory of [mass-energy equivalence](#). Some claim to fully understand the significance of this fundamental relationship and its components. Other specialists are however quick to point out that considerable scientific mystery continues to surround the precise meaning of "energy", "mass" and the "speed of light" -- on which the future may offer new insight. Very complex theories, involving up to 26 "dimensions", are advanced to clarify such matters.

How are such dimensions to be understood? Few have any understanding of them -- despite the extensive funding of their research, derived from tax payers called upon to believe in the coherence of such explorations (*Dynamics of Symmetry Group Theorizing*, 2008). Of relevance to the argument here is the variety of views expressed with regard to the articulation of the *Wikipedia* article on the theory ([Talk:Mass-energy equivalence](#)). Particular concern is expressed there with regard to "ignorant people" who misunderstand it and who should be convinced of the correct understanding -- a concern curiously reminiscent of that of religion with respect to its fundamental beliefs. Discussion (with respect to an "essence-energies" distinction) also refers to the original Catholic understanding of mass-energy equivalence in theological terms.

As the most significant implication of the [special theory of relativity](#), emphasis is placed on the clarity of the statement in the *Wikipedia* entry to the effect that:

The theory of relativity allows particles which have rest mass to be converted to other forms of mass which require motion, such as kinetic energy, heat, or light. However, the mass remains. Kinetic energy or light can also be converted to new kinds of particles which have rest mass, but again the energy remains. Both the total mass and the total energy inside a totally closed system remain constant over time, as seen by any single observer in a given inertial frame. In other words, energy cannot be created or destroyed, and energy, in all of its forms, has mass. Mass also cannot be created or destroyed, and in all of its forms, has energy. According to the theory of relativity, mass and energy as commonly understood, are two names for the same thing, and neither one is changed or transformed into the other. Rather, neither one appears without the other. Rather than mass being changed into energy, the view of relativity is that rest mass has been changed to a more mobile form of mass, but remains mass.

Others stress that the relation between mass and energy should be understood as one of "**logical equivalence**". However, given the nature of the belief in that equivalence required on the part of the ignorant, the distinction from a "**theological equivalence**" merits reflection. The focus on mass-energy equivalence also obscures its logical equivalence to $e/m = c^2$ or to $m/e=c^{-2}$. It is of course the case that -- even in the absence of full understanding (whatever that may come to mean in the future) -- the insights deriving from $e = mc^2$ can indeed be used to obtain "energy" in a large number of nuclear reactors.

In the realm of religion and theology, corresponding to an older "technology", there are triune notions to which equivalent fundamental significance was attached (also supported by the general public). These continue to be fundamental to the belief of many individuals in ways to which politicians are necessarily very sensitive. Some claim to have comprehensive insight into these matters, others are content that they should remain a mystery -- and may value them for that reason. Those claiming authoritative spiritual expertise however continue to be variously complicit in forms of collective deception and arrogance.

As "technologies", both that of religion and that of nuclear power may come to be reframed by the future as "stories" which, as "myth", offer a degree of explanatory coherence -- irrespective of the extent to which they are treated as absolute truths by some in calling for their vigorous defence ([Joseph Campbell, *The Inner Reaches of Outer Space: metaphor as myth and religion*, 1986](#)). They might be better understood generically as information complexes. As beliefs, they share a pattern in that respect -- one that calls for self-reflexive explanations embodying the tendencies for such defensiveness. Christian de Quincey (*Radical Nature: rediscovering the soul of matter*, 2002) argues the need for a new cosmology story. His framing of the "new thinking", for which many quest, is stated in a conclusion entitled *Stories Matters, Matter Stories*.

Configurative thinking and metaphor

This speculative reflection may be framed by the question as to what was **not** known about the nature and relationship of energy, mass and light until a century ago?

With what coherence was the significance of those terms disparately experienced in daily life? To whom did the subsequently discovered insights as to their relationship then make a difference? How many now continue to live their lives without significant comprehension of the relationship discovered?

Despite this widespread ignorance and incomprehension, even among the brightest, there is nevertheless an evident capacity to deal with these disparate phenomena in a coherent manner -- without the benefit of recent discoveries. For most there is a kind of fuzzy experiential entanglement with them. This is imbued to a degree with cognitive sophistication -- drawing upon a variety of disciplines and possibly "[multiple intelligences](#)".

Metaphor: A key to the obvious viability of this capacity might be roughly described as figurative thinking, notably recognized in the use of metaphor -- [beyond its role as a simple figure of speech](#). The comment of [Kenneth Boulding](#) is significant in this regard:

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

If $e = mc^2$ is a sophisticated product of collective endeavour, subsidized by the tax payer, why should its potential as a pattern of connectivity not be otherwise explored? Having cited Boulding, it is appropriate to note his role in the instigation of [general systems theory](#). This specifically explored the [isomorphism between apparently disparate systems](#), notably as articulated by [James Grier Miller](#) (*Living Systems*, 1978).

Meta-pattern: If $e = mc^2$ is to be considered a fundamental pattern of great generality, is there then not a case for exploring the extent to which it implies a pattern of even greater generality? This would be consistent with the epistemological argument of [Gregory Bateson](#) (*Mind and Nature; a necessary unity*, 1979):

The pattern which connects is a meta-pattern. It is a pattern of patterns. It is that meta-pattern which defines the vast generalization that, indeed, it is patterns which connect. (p. 8)

And it is from this perspective that he warns:

Break the pattern which connects the items of learning and you necessarily destroy all quality. (p. 11).

On the assumption that the advance of collective knowledge and insight will continue for centuries to come, modesty dictates the recognition that any fundamental pattern like $e = mc^2$ will continue to be mined and reframed beyond the achievements and conclusions of the past century. This is consistent with the argument of [Stephen Hawking](#) and [Leonard Mlodinow](#) (*The Grand Design*, 2010) who emphasize that current understanding is based on the best of human model building in the light of the measurements available.

Future thinking, if it is to have any scope for creative reflection after the achievements of the past century, may offer radically new ways of engaging with the reality experienced. Or is there some implicit assumption that future physics will be framed as "footnotes to 20th century science" -- as has been the case with Western philosophy, famously framed by A. N. Whitehead as a "[series of footnotes to Plato](#)"?

What new, paradoxical and self-reflexive dimensions might be factored into such emergent insights -- perhaps of greater relevance to psychosocial organization and sustainable development? For example, how will new cognitive significance be associated with what are currently named "dimensions"?

Adequacy of abstraction: The nature of what tends to be lost in conventional abstraction -- in the geometry on its own -- has been intimated by such as [Paul Feyerabend](#) (*Against Method: outline of an anarchistic theory of knowledge*, 1975; *Farewell to Reason*, 1987; *Conquest of Abundance: a tale of abstraction versus the richness of being*, 1999; *The Tyranny of Science*, 2011) or, more recently, by [Steven M. Rosen](#) (*The Self-Evolving Cosmos*, 2008; *Topologies of the Flesh: a multidimensional exploration of the lifeworld*, 2006; *Dimensions of Apeiron: a topological phenomenology of space, time, and individuation*, 2004; *Science, Paradox, and the Moebius Principle*, 1994).

Rosen notes the manner in which the richness of psychosocial engagement with the world has been completely undermined -- an "eclipse of the lifeworld" -- through a formal discourse caricatured by [F. H. Bradley](#) as an "unearthly ballet of bloodless categories". Ironically, in a period of sensitivity to the challenges of "resources" and "energy", this view is echoed by other authors, notably arguing for the desirable potential of a participatory encounter with reality:

- [Sallie McFague](#) (*Life Abundant: rethinking theology and economy for a planet in peril*, 2000)
- [David Abram](#) (*The Spell of the Sensuous: perception and language in a more-than-human world*, 1997)
- [Thomas Moore](#) (*The Re-Enchantment of Everyday Life*, 1997)
- [Morris Berman](#) (*Re-enchantment of the World*, 1981)
- [Henry Skolimowski](#) (*The Participatory Mind: a new theory of knowledge and of the universe*, 1995)
- [Theodore Roszak](#) (*The Voice of the Earth; an exploration of ecopsychology*, 1993)

Their concerns might be succinctly expressed in the comment by [Edmund O. Wilson](#): *The natural world is the refuge of the spirit... richer even than human imagination* (*Biophilia*, 1984)

Embodiment: Rather than the worlds of the infinitely large or infinitely small -- from which the role of human cognition and its constraints have effectively been "designed out" -- the 21st century will undoubtedly need to "design in" those funding such research. The challenges are implicit in the work of authors such as [George Lakoff](#) and [Mark Johnson](#) (*Philosophy In The Flesh: the embodied mind and its challenge to Western thought*, 1999) or [Douglas Hofstadter](#) (*I Am a Strange Loop*, 2007). With respect to the role of

physics as considered here, Lakoff usefully asks the question (with Rafael Núñez) as to *Where Mathematics Comes From: how the embodied mind brings mathematics into being* (2000).

Patterning capacity: Such considerations highlight the degree to which the articulation of "explanations", however sophisticated, may fail to address the **constraints on human cognitive capacity in its engagement with what is explained as being "reality"**. They also point to the dangerous assumptions associated with premature assertions and closure -- precluding radical new insights in centuries to come. Ironically **"ex-planation" may be understood as offering a perspective disassociated from the "plane" of reality** -- raising the question as to the nature of the perspective from which it is formulated (as explored by Lakoff and Núñez, 2000). **The detection of patterns such as $e = mc^2$, to which fundamental significance is attached, may (from a future perspective) say more about human patterning capacity than about the nature of fundamental order.** Assuming otherwise is itself a form of potentially premature closure.

This approach suggests the possibility of envisaging frameworks *Beyond the Standard Model of Universal Awareness* (2010).

Of further interest is the possibility that the complexity of the patterns hypothesized and engendered at the frontline of the "advance of human knowledge" may say as much about a subconscious effort at integration -- an extension of "psychological self-healing" to remedy dysfunctional disassociation from a larger reality (*Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2010; *Implication of Personal Despair in Planetary Despair*, 2010, *Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008)

Equivalence, isomorphism, correspondence and metaphor

It is curious that $e = mc^2$ is named as a mass-energy "equivalence". This would appear to neglect the role of the third factor in the relationship through which the equivalence is cognitively "effected". It might therefore be more appropriately and loosely identified as a "correspondence", thereby allowing for the third factor which enables the "re-cognition" of that relationship.

There is an extensive literature on the theory of **equivalence** as it is variously employed. Equivalence also has considerable political implications through the ethical question of **moral equivalence** -- so emphatically denied in relation to the foreign policy of the USA (*Jean Kirkpatrick, The Myth of Moral Equivalence*, Imprimis, January 1986).

There is also an extensive literature on the theories of **correspondences**. These come in two main flavours -- that elaborated notably by the **symbolists** of tradition (and celebrated in the **arts**) and that elaborated by science with surreptitious borrowings from the former (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007). Isomorphism might be considered a stricter form of both equivalence and correspondence -- necessarily emphasizing a notion of form, consistent with the above-mentioned emphasis on pattern. Then there is the extensive literature on **analogy** and **metaphor** as relevant to both the sciences and the arts. These may all be variously understood as **conceptual models**.

The assumption here is that the continuing debate about the relative significance of each, and the reservations considered appropriate regarding their distinctions and use, will continue for decades (if not centuries) to come. Of relevance to the discussion here is how "misunderstanding" should at any stage be related to what is framed by "consensus" as correct understanding -- especially in the light of the difficulties experienced by the scientific community in achieving consensus on issues such as climate change. This is of course relevant to any understanding of (collective) learning.

As currently understood, the "connectivity" between energy and mass in $e = mc^2$, and the nature of the coherence of the relationship, can therefore be legitimately explored through metaphor. It is worth noting that the connectivity fundamental to a major recent discovery in mathematics was so unexpected, and of such an unusual nature, that it gave rise to a literature on **"monstrous moonshine"** (*Potential Psychosocial Significance of Monstrous Moonshine: an exceptional form of symmetry as a Rosetta stone for cognitive frameworks*, 2007). Connectivity of that kind and subtlety might yet be found in new understandings of $e = mc^2$

It remains most curious that despite the unprecedented early insights of Albert Einstein regarding the universe in its entirety, he was much challenged subsequently by their reconciliation with the preoccupations of fundamental physics and the exponents of quantum mechanics. And yet the process of that "disagreement" could not be factored into the models of either. There is a "cosmic" irony to the fact that the two extremes are "reconciled" in practice and experientially in the human being -- effectively an operational bridge at the interface between the infinitely large and the infinitely small (*Living as an Imaginal Bridge between Worlds: Global implications of "betwixt and between" and liminality*, 2011). This recalls the formula that inspired many Renaissance thinkers: *As above, so below*.

Beneficial reframing of fundamental differences

Will the future see it as appropriate that physics should claim an absolute monopoly with regard to adequate insights into phenomena fundamental to the daily experiential reality of everyone? Or is the claim a characteristic of any "model", as implied in many domains (*Issues too Important to be Left to Specialists: Selected web resources*, 2004) ? How can the skills in pattern recognition of the array of disciplines (as understood by Feyerabend) be reappropriated for the common good?

The approach is fruitfully framed by the argument of Susantha Goonatilake (*Toward a Global Science: mining civilizational knowledge*, 1999), notably with respect to the metaphors favoured within the wider spectrum of cultures -- beyond the western cultural realm (*Enhancing the Quality of Knowing through Integration of East-West metaphors*, 2000). The meaning of "mining" might itself be reframed to include a form of personal or collective appropriation, even embodiment -- as recognized in the process of *land nám* ("land claiming or taking"), described by Joseph Campbell (*The Inner Reaches of Outer Space: metaphor as myth and religion*, 1986) as a psychocultural method of acquisition of such territory -- "not by prosaic physical action, but poetically, by intelligence" and by art, as discussed separately (*Reclaiming the Heritage of Misappropriated Collective Endeavour*, 2007)..

Denial of implication: These questions are especially pertinent in that physicists deny responsibility for destructive use of the technologies deriving from their efforts. They frame themselves as quite incapable (by definition) of offering insights into intangible psychosocial processes determining use of those technologies. They even mock and condemn any efforts to derive insights into such processes in the light of the cognitive expertise required for the the tangible processes over which they claim and demonstrate a degree of mastery -- as exemplified by the [Sokal Affair](#) (Alan Sokal, *Beyond the Hoax: science, philosophy, and culture*, 2008).

Differences: The argument here is that **society has an increasingly evident need for new ways of processing radical differences, diversity and disagreement** -- of which the Sokal Affair offers but one high-profile example. Labelling the other as ignorant, misguided or stupid is not sufficient. This is as evident between the disciplines as it is between belief systems and the preoccupation with disruptive fundamentalism of every kind.

Integrative initiatives necessarily endeavour to address such differences. **Integration is about what is different and distinct.** Transdisciplinarity and interfaith endeavours have not yet met the need -- with both disciplines and faiths being distinguished by the elegant manner in which they avoid addressing the challenge effectively. More ironic are the evident differences amongst those acclaimed as integrative thinkers, as noted separately (*Epistemological Challenge of Cognitive Body Odour: exploring the underside of dialogue*, 2006; *Guidelines for Critical Dialogue between Worldviews*, 2006)

Implicit in $e = mc^2$ is its truly fundamental significance as a pattern of relationship between phenomena that could not be more radically different and seemingly unrelated. Physics honours the distinct phenomena represented and rejoices in the sophistication of the insight into physical processes that the relationship represents. It was indeed Einstein who both related the equation to relativity and claimed that it was a "real" relationship: that objects would actually lose mass when they gave off light particles. However it is somewhat ironic that Einstein was not the first to derive the formula. It had previously been used by [Henri Poincaré](#) (*Science and Hypothesis*, 1902) as a heuristic, to treat electrodynamic radiation as a "fluid." **Of greater potential significance therefore is the function of $e = mc^2$ as a cognitive pattern interrelating fundamental differences -- having no evident coherent relationship.**

As a pattern the relationship might be compared to other fundamental triune/triadic relationships, notably as explored by theology and philosophy -- systematically reviewed by [Paris Arnopoulos](#) (*Sociophysics: cosmos and chaos in nature and culture*, 2005). However, although these may be the subject of very extensive discourse, the essential nature of their relationship is typically framed in terms of mystery -- if only from other perspectives.

Physics has gone much further in giving precision to the requisite understanding of three fundamental elements and reframing the nature of the comprehension required -- specifically with respect to what is commonly treated as "obvious", as in the case of energy, mass and light. However physics has seemingly nothing whatsoever to say of significance about their experiential and cognitive implications. For astrophysicists the sun continues to "rise" -- if only as a matter of convenience. The argument here is that these physical forms are usefully to be understood as but a particular instance of what can be experienced as fundamental difference, susceptible to being insightfully understood as interrelated. What greater degrees of difference between three elements could be imagined?

Disagreement: Of further interest is the manner in which difference and disagreement are conflated in comprehending the coherence of their relationship. Beyond the physical preoccupation is the recognition of how disagreement needs to be factored into conception of relationships. As noted, the Sokal Affair exemplifies failure in this respect. Other examples are offered by [Naomi Oreskes](#) and [Erik M. Conway](#) (*Merchants of Doubt*, 2010) in carefully documenting how a handful of eminent physicists (formerly associated with the nuclear weapons programme) was able to obscure the truth on issues from tobacco smoke to global warming. How is "light" to be thrown upon the "matter" when it elicits so much "energetic" debate?

The challenge is further exemplified by how "disagreement" is treated as an externality within physics itself -- as with regard to the "division" in this much-cited comment of Niels Bohr in response to Wolfgang Pauli:

We are all agreed that your theory is crazy. The question which divides us is whether it is crazy enough to have a chance of being correct. My own feeling is that it is not crazy enough.

To that [Freeman Dyson](#) added:

When a great innovation appears, it will almost certainly be in a muddled, incomplete and confusing form. To the discoverer, himself, it will be only half understood; to everyone else, it will be a mystery. For any speculation which does not at first glance look crazy, there is no hope! (Innovation in Physics, *Scientific American*, 199, No. 3, September 1958)

How is this "dimension" to be factored in? This has been explored in the discussion on the nature of [scientific revolutions](#) -- itself challenged by extensive disagreement.

It is therefore most intriguing that technology effectively has the capacity to process difference and diversity fruitfully. It might be said that **technology is the art of deriving benefit from differences**. The same might be said of politics except that its limitations have become only too obvious -- limitations that are differently evident in the case of technology. What other forms of technology could enable "construction" from different elements (*Using Disagreements for Superordinate Frame Configuration*, 1992)? Might this even fruitfully include "contradictions"?

The ironic nature of the cognitive challenge is evident in the contrast between:

- the manner in which energy and light are derived by technology from enhancing the differences between "positive" and "negative" (whether in the case of electrical charge, pressure or temperature)

- the desperate attempt in society to emphasize the "positive" and to avoid (to the extent possible) any reference to the "negative" -- despite recognition of the problematic consequences from a cybernetic systems perspective (*Being Positive and Avoiding Negativity: management challenge of positive vs negative*, 2005). Most notable is the argument of [Barbara Ehrenreich](#) (*Smile Or Die: how positive thinking fooled America and the world*, 2010).

The irony is all the greater when:

- as with the Fukushima nuclear disaster, earlier "negative" feedback regarding potential vulnerabilities had been downplayed or rejected -- in order to continue to benefit from the nuclear technology. Subsequent efforts to cultivate a "positive" spin are indicated by consensus that: *The Japanese government and TEPCO fell automatically into the 'reassurance-at-all-costs' mode after the disaster*, as reported by Andy Coghlan (*TEPCO under fire over handling of Fukushima crisis*, *New Scientist*, 5 April 2011).
- the promotion of strategic "alternatives", notably to the nuclear option, is readily characterized as "negative" in its opposition but is far from coherent in the articulation of what it stands for, as argued by George Monbiot (*We know what to march against on 26 March; here's what to protest for*, *The Guardian*, 6 March 2011). The difficulty is that any strategic manifesto typically takes the form of a "wish list" -- a "laundry list" totally lacking any of the systemic connectivity vital to its sustainability in practice.

Multiplicity: Of further significance to the pattern $e = mc^2$ is that it involves three elements rather than the two so widely characteristic of the unresolved challenges of polarization, dualistic thinking and binary logic (*Us and Them: relating to challenging others*, 2009). Seemingly only the Chinese have addressed polarization in a creative manner through classic endeavours (the *I Ching*, the *Tao Te Ching* and the *T'ai Xuán Jing*), but without apparently being able to use their insights to reframe wider social conflicts (*Discovering richer patterns of comprehension to reframe polarization*, 1998; *Psychosocial Energy from Polarization: within a cyclic pattern of enantiodromia*, 2007). Nuclear technology, based on $e = mc^2$, has clearly emerged as being of fundamental significance as a source of insight into new approaches to energy capable of sustaining civilization -- perhaps as a verb rather than as a noun (as famously advocated by Mahatma Gandhi).

It is even possible that the ongoing "disagreements" in the "energy" debate might be reframed by new understanding of a fundamental **cognitive** relationship between the 3-fold ($e = mc^2$), characteristic of the nuclear option, and the 4-fold, characteristic of the "renewable energy" option (wind, hydro, solar, and geothermal). More generally still, these challenges might be reframed in terms of number theory and its experiential significance (*Representation, Comprehension and Communication of Sets: the Role of Number*, 1978). There is the further possibility that such exploration might highlight the relevance of "zero" in the series (Brian Rotman, *Signifying Nothing: the semiotics of zero*, 1987). This could prove to be an indicator of a form of "cognitive omission" in strategic consideration of energy options (*Lipopblems: developing a strategy omitting a key problem*, 2009). Examples sets ***

Especially intriguing in this respect are the explorations of an **Exceptionally Simple Theory of Everything** (E8 Theory) by [A. Garrett Lisi](#) and James Owen Weatherall (*A Geometric Theory of Everything*, *Scientific American*, December 2010, pp. 30-33). More intriguing potentially are any suggestions of the psychosocial implications of such structures (Luminous, *The Cosmic Mandala: Burning Man Badass Discovers the Shape of the Universe*, 30 December 2009). The particular challenge is their comprehension (*Dynamics of Symmetry Group Theorizing: comprehension of psycho-social implication*, 2008).

Science, like religion, is essentially inept at handling fundamental differences, especially those of opinion vital to the governance of society (*End of Science*, 2008). Any future Theory of Everything (TOE), as with the theological definition of God, will necessarily elicit a variety of interpretations and the conflictual consequences of lack of consensus. An equivalent to the much-cited argument of [Richard Dawkins](#) (*The God Delusion*, 2006) is even predictable -- perhaps the *TOE Delusion* (cf [Russell Standish](#), *Theory of Nothing*, 2006). The necessary complementarity of such contrasts is also evident in that between enthusiasm for an internet-enabled **global brain** (possibly sustaining "planetary consciousness") and the concerns articulated by [Evgeny Morozov](#) (*The Net Delusion: the dark side of internet freedom*, 2011).

Metaphoric implications of energy, mass and light

Prior to Einstein, the relationship of light to mass and energy was confused to say the least -- for the world of science.

As noted below, widespread use is made of metaphors associated with energy, mass and light to describe experiences in the psychosocial realm. This implies a degree of cognitive "fit" or consonance between the **metaphoric tenor and vehicle** -- at least adequate for a degree of valued coherence (*Development of cognitive artefacts from "vehicle" to "tenor"*, 2010). As noted by Mike Johnduff (*On tenor and vehicle*, 21 October 2009):

...the metaphor is the name for the copresence of the two elements in the form of the two sets of ideas being related, and never is reducible to either one.

If this is the case, can the use of those metaphors be explored to clarify further the experiential reality with which they are associated and the degree of consistency with the physical properties of energy, mass and light?

Given the role of technology as a source of metaphor for collective learning (considered further below), **the question is whether it could be fruitful to consider $e = mc^2$ in a more tentative light -- as implying cognitive relationships rather than defining physical relationships**. This would then contrast with what those who claim to know so much about the relationships would prefer and assert to be appropriate. However it is potentially consistent with the above-mentioned perspective offered by Hawking (2010) and with the challenges of society in encompassing differences more creatively..

If Poincaré indeed used $e = mc^2$ as a heuristic device in 1902, and Einstein was obliged in 1905 to perform **thought experiments**

(*gedanken experimenten*), in his early isolation in the patent office from other physicists and their results, there is clearly a degree of scope for imaginative metaphorical exploration.

[The possibility that the intellectual property context may have influenced his understanding in other ways has been separately explored: *Einstein's Implicit Theory of Relativity -- of Cognitive Property? Unexamined influence of patent office procedures* (2007) -- a possibility consistent with the curious influence of kites and sound recording on the thinking of **Ludwig Wittgenstein** as explored by Susan G. Sterrett (*Wittgenstein Flies a Kite: a story of models of wings and models of the world*, 2005; *Pictures of sounds: Wittgenstein on gramophone records and the logic of depiction*, 2005)]

Consider therefore some implications of the following:

- **"energy"**: This term is widely used with respect to psychosocial phenomena. It has recently been argued that it is the "energy" of Japanese society which will contribute most to its recovery from the disaster of 2011, just as it did from World War II (following the destructive use of nuclear energy developed by physicists). Using one manifestation of energy for physicists, namely **resilience**, *The Economist* frames the Japanese recovery as *Testing Resilience* (Hannah Beech, *How Japan Will Reawaken*, 28 March 2011), arguing that *"to make their nation whole after the terrible tsunami, the Japanese will need resilience and fortitude"*. The related question would of course be with regard to the energy of the Arab citizens in the uprisings of 2010-2011 -- despite the evident risks and fatalities.

There is **no clear understanding of what is meant by this "energy"**, even though the argument would elicit widespread agreement regarding its vital role. In conventional scientific terms (even including the social sciences) the argument is however meaningless -- and **yet the recovery of a society is likely to be based on acceptance of that reality and confidence in what it implies**. This concept is used in a period when its relevance is widely recognized with respect to social systems: *Resilience Science: coping with ecological surprise in a human dominated world*.

Such "energy" would appear to be a curious conflation of what is signified by confidence, enthusiasm and motivation (implying will) -- all beyond the scope of conventional science. The case of confidence is of special significance in that it was most frequently cited (with trust) as absolutely fundamental to economic recovery following the recent financial crisis. Without confidence -- strangely intangible as it is -- it would appear that the financial system cannot function. Ironically both the natural sciences and economics pride themselves on their focus on "tangibles".

Value is of course attached to people and groups described in terms of their "high energy", possibly implying creativity or productivity. Reference may be made to "power", as with a "power house" or "empowerment". The importance of "potential" may be recognized. Despite their acknowledged importance, none of these is susceptible to any conventional focus on tangibles.

A case may however be made for recognizing, more systematically, the role of the necessarily intangible forms of psychosocial energy (*Reframing Sustainable Sources of Energy for the Future: the vital role of psychosocial variants*, 2006)

- **"mass"**: This term is of course also widely and variously used to refer to:
 - **general public**, totality of groupings of human beings
 - **common people**, main toiling part of the population
 - **working class**, those working in lower tiered jobs
 - sundry notions relating to physical matter including the **mass** of a material object, bodymass, and biomass
 - metaphorical notions such as mass of information, mass of knowledge, mass of facts, and mass biological extinctions

Subtle distinctions are made between matter, mass and weight in the case of tangible objects -- distinctions which are not necessarily meaningful under other conditions of matter or within other frames of reference. It remains unclear how such distinctions might be of relevance with respect to the mass of information on which human society is so dependent in dealing with serious matters.

Applied with reference to people as is so often the case, is it appropriate to seek analogous distinctions -- perhaps with regard to mass media (*Destructive Weapons of Mass Distraction vs Distractive Weapons of Mass Destruction*, 2003) ? The **states of matter** have been tentatively explored as indicative of distinctions between facts, information, knowledge and wisdom, for example (*Integrative relationship between reality and fantasy?* 2010). However confusing, it remains clear that there is some felt sense of "weight" or "body" in all these cases, whether or not it is usefully related to "matter". The "body of knowledge" is widely recognized. *Gravitas* is of course the original inspiration for gravity. "Weighty" arguments (by those endowed with gravitas) undoubtedly play a significant role in the promotion of unfortunate strategic options on "weighty" matters -- to which "massive" resources are then mistakenly allocated.

Especially intriguing is the manner in which **the "arrogance" of the practitioners of any discipline functions as a form of gravity -- arrogating a particular sense of what is "right"**. With their claims to insight into the nature of the universe and their closure on a Theory of Everything, physicists and astrophysicists might even be recognized as "masters of arrogance" -- especially in the light of their claim to have discovered an intergalactic **great attractor**. This complements their quest at the smallest scale for the so-called **God particle** (Leon Lederman, *The God Particle: If the Universe Is the Answer, What Is the Question?* 1993). The elusiveness of both, beyond ordinary ken, is reminiscent of the claims of religions regarding the "supernatural" -- made with an equivalent degree of "arrogance" and gravitas. It invites speculation regarding the nature of a "great psychosocial attractor" (*El-Attractor -- Timeless Complex Dynamic: Health, Wealth, Stealth / Youth, Couth, Truth*, 2007).

There is recognition of equivalents to "momentum" and "inertia" in the psychosocial realm, particularly in relation to change, as noted (in the Annex) in the work of Arthur M. Young. These are reminiscent of the [inertial frame of reference](#) so fundamental to the theory of relativity.

- **"light"**: Curiously society makes extensive metaphorical use of light, whether with respect to "luminaries" such as Nobel Prize Laureates, the "enlightened" in many domains (including the saintly depicted with halos), celebrity "stars", and the like. The attractive may be qualified as "radiant" -- even with a "sparkle" in their eyes. Many acknowledge a "creative flash" in comprehension or through seeing a pattern of connectivity or coherence: "getting it", "grokking it", etc. [Speculation regarding the latter may even offer a key to human evolution: *Authentic Grokking: emergence of Homo conjugens* (2003)]

Some are upheld as "brilliant", although the adjective is associated with no observable phenomenon -- even in the case of physicists so described, or the theories they articulate. The creative of other disciplines -- including the arts of every kind -- may also be recognized as "brilliant", or merely "bright". It could be argued that such **"brilliance" is acknowledged through recognition of the capacity to communicate patterns of coherence, exemplifying integrative, correlative thinking --** highlighting unsuspected correspondences (as noted above)

Genius is associated with the embodiment of exceptional intellectual ability, creativity, or originality, typically in regard to achievement of unprecedented insight whatever that is held to mean. There is no scientifically precise definition of genius, and indeed the question of whether the notion itself has any real meaning is a subject of current debate -- possibly between some acclaimed as geniuses. This in no way detracts from how it is valued in practice. Similar comments might be made with respect to higher orders of intelligence as measured by IQ tests.

Light is widely used in relation to spiritual insight, as in the work of [Henry Corbin](#) (*The Man of Light in Iranian Sufism*, 1978; *Creative Imagination in the Sufism of Ibn Arabi*, 1981). The "light of the imagination" is recognized in relation to the arts, notably poetry ([George MacDonald](#), *The Imagination: its function and its culture. Dish of Orts*, 1867; R.K. Raval, *Light as a Romantic Positive in Wordsworth and Coleridge*, 2000).

Further understandings of light are associated with its implied function with regard to "transparency" in contrast with its obstruction by what is recognized as "opaque". However its opposite is also occasionally valued in the development of insight (*Enlightening Endarkenment: selected web resources on the challenge to comprehension*, 2005). The use of optical metaphors (reflection, refraction, etc) is considered below.

As metaphors it is intriguing to note the following characteristics:

- the very limited ability to store psychosocial energy -- as is the case with physical energy (unless transformed into mass as with the fly wheel or pumping); the function of symbols and myth is indicative of a valued exception
- the tendency readily to label a mass of people as "dead" unless they are imbued with a degree of dynamics and energy -- hence the excitement of events and "happenings"
- the characteristics of some as "light weight" or even as "nobodies" -- implying a lack of significance
- the fact that those upheld as "brilliant" -- even "stellar" -- by one sector of society may completely lack that quality for another, whether perceived as "dim" or "invisible"

Universe of knowledge

The last example highlights the possibility that the "brilliant" (and those "orbiting" them) may be dispersed across "inter-stellar" space in ways reminiscent of thinking about the physical universe, as separately discussed (*Towards an Astrophysics of the Knowledge Universe? from astronautics to noonautics*, 2006). Assumptions relating to physical proximity are indeed relatively meaningless in terms of communication space. It is well-recognized that it may be easier to commune with someone on the other side of the globe than in the same room. Instantaneous internet communication encourages comparison with the possibility of navigating "wormholes" (*Wormhole to the Rest of the Internet*; Benjamin Hoyé, *Wormholes in Communications: data exchange between networked virtual environments and the real world*, 2007). Scales of brightness are relative to a particular location

More challenging in using the astrophysical metaphor, is the recognition within that discipline of the "existence" of "dark matter" and "dark energy" -- understood to compose together some 96 percent of the universe, but **beyond current understanding. Only 4 percent is held to be known and explicable** -- the rest is currently a measure of human ignorance (Richard Panek, *The 4% Universe: dark matter, dark energy, and the race to discover the rest of reality*, 2011). Irrespective of such earlier considerations, there is now concern at the seeming disappearance of "half the stuff in the Milky Way" (Stuart Clark, *Missing matter: where did half the universe go? New Scientist*, 23 April 2011). Might both such considerations imply, metaphorically at least, that $e = mc^2$ potentially represents only 4% of a comprehensive explanation? **What significance should be attached to the unconscious blindspots of current civilization -- the unknown unknowns** -- as implicit in any possibility of future discovery ([John Ralston Saul](#), *The Unconscious Civilization*, 1995)? Also intriguing is the parallel between the "race to discover the rest of reality" and the archetypal competitive struggle of sperm to be the first to engage with "globality".

The potential significance of the effective global "ignorance", sustained by secret "classification" of documents of unknown extent, has been highlighted in 2010 by the [US diplomatic cables leak](#) via Wikileaks. The possibility that "secret knowledge" (and that held "in confidence") constitutes "96 percent" of what is assumed to be known is an instructive challenge to simplistic assumptions about the

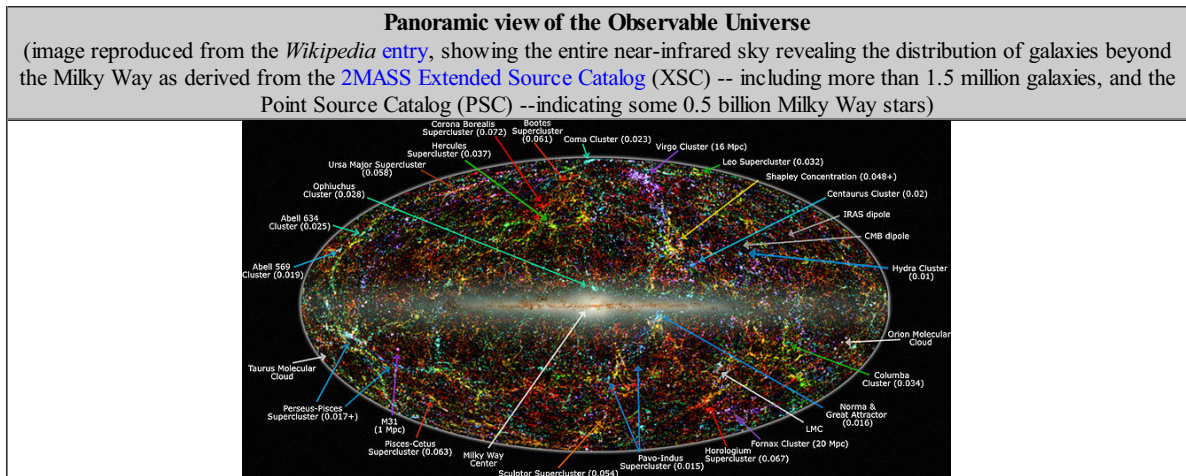
nature of human civilization and the coherence of communication/knowledge space (*Global Strategic Implications of the Unsaid*, 2003; *Engaging with the Inexplicable, the Incomprehensible and the Unexpected*, 2010). Would this be consistent with the suspicions of conspiracy theorists that the major portion of some governance budgets (96%?) escape any form of democratic oversight -- effectively "black budgets" for parallel, shadow government (Noam Chomsky, *1.2 trillion Black Budget USA military dictatorship*, 2 April 2011).

A related possibility of greater concern is that governance (as it is now presented, promoted and practiced) may effectively only be based on "4%" of the knowledge which the future will hold to be relevant to sustainable governance and any ability to navigate the adaptive cycle. Is current governance then to be recognized as a kind of "keyhole governance" without the support offered in the case of "keyhole surgery"?



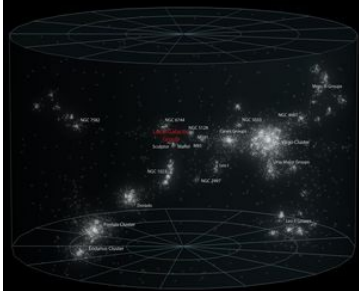
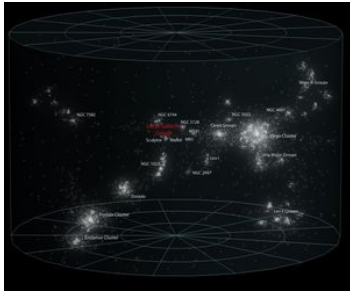
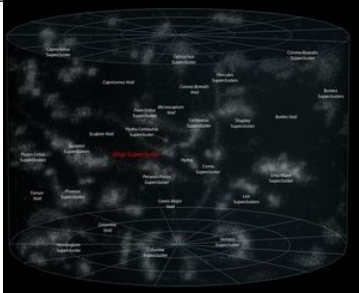

It is from such a perspective that assumptions as to the "flattening" of the globe as a consequence of globalization are cognitively so questionable (*Irresponsible Dependence on a Flat Earth Mentality -- in response to global governance challenges*, 2008). **Does the planar implication of "ex-planation" derive from such preferences for the simplicity of flattening**, as challenged elsewhere (*Geometry of Thinking for Sustainable Global Governance*, 2010). Ironically, at the time of writing, the *New Scientist* cover page (9 April 2011) is tantalizingly entitled: *Dark... anti... strange... three mysteries of nature, one way to solve them all -- Enhanced minds, boosting brains with light, electricity and ultrasound*. If implied, their connectivity is not explained.

Any such assumption does however usefully emphasize **what is thereby hidden through being on the "underside"**, as partially explored by *Elise Boulding* (*The Underside of History: a view of women through time*, 1976) -- also widely evident in meetings around the world (*Women and the Underside of Meetings: symptoms of denial in considering strategic options*, 2009). Such recognition is more elegantly incorporated into the daily experience of darkness on a globe (*Future Generation through Global Conversation: in quest of collective well-being through conversation in the present moment*, 1997). Again, given the role of "ignorance", as the preponderant "dark matter" of the knowledge universe, together with the "dark energy" of the "unconscious civilization" discussed by John Ralston Saul (1995), the question is how fruitfully to embody its "re-cognition". As with Winston Churchill's "black dog", the argument might even be fruitfully extended to include individual and collective boredom as a form of impenetrable "dark matter" (cf Peter Toohey, *Boredom: a lively history*, 2011)

It is within the "container", somehow associated with the "knowledge universe", that fruitful transformation of global civilization is sought -- grounded on appropriate energy resources which the future may reframe in terms of some form of information. A major constraint is necessarily the process of **diffusion of innovation** and consensus thereon -- potentially to be compared metaphorically with the diffusion of light (as "enlightenment") across that knowledge universe.



Known Astrophysical Universe as metaphor for the Potential Knowledge Universe (images derived from a Wikipedia entry -- also offering a much larger version)			
Earth -- "My place" My group My beliefs			Solar system -- "Our neighbourhood" Our community Our discipline
Solar			

interstellar neighbourhood -- Neighbouring disciplines			Milky Way galaxy -- Science
Local galactic group -- ?			Virgo supercluster -- ?
Local superclusters -- ?			Observable universe -- ?

It is from the "Earth" of each, including astrophysics, that the rest of the "Universe" is envisaged -- somewhat presumptuously and arrogantly, as might fruitfully be assumed. Those systems at a great distance are then readily held to be of little significance. They do not matter.

The capacity to envisage "billions" in this way, without any ability to engage with their cognitive significance, recalls concerns regarding the phenomenon of "**psychic numbing**" in response to tragic disaster affecting millions of individuals -- especially when the suffering is shown to be more systemic and more pervasive. The observer experiences a sense of powerlessness and helplessness -- a sense that nothing in the world will change that particularly broad, complex situation (Paul Slovic, "*If I look at the mass I will never act*": *Psychic numbing and genocide, Judgment and Decision Making*, 2007; J. E. Roberston, '*Psychic Numbing*': *Why does mass suffering induce mass indifference?*, 15 August 2010). This is consistent with the distinction between problem assessment and assessment of remedial capacity (*Remedial Capacity Indicators Versus Performance Indicators*, 1981; *Recognizing the Psychosocial Boundaries of Remedial Action*, 2009).

In a global knowledge society in which there are many more stars -- even galaxies -- than scientific papers, it is curious that science can claim so assertively to understand the universe, but without being able to factor into such understanding any recognition of its own probable ignorance in the light of what the future may come to learn.

To what extent will the future compare present day configuration of the "stars" of knowledge society, and the relationships between their insights, with early attempts at attributing significance to **constellations** -- as the perceived patterns formed by prominent stars within apparent proximity to one another? Is the set of citations of any published contribution to the body of knowledge to be understood as such a constellation of significance -- from a particular perspective in knowledge space? Appropriate to this argument, constellations are now defined by international convention -- as with the disciplines of the knowledge universe.

Technologies and disasters as metaphors for collective learning

Technology: There would appear to be a curious relationship between technological options -- whether nuclear, GM, geoengineering, or the like -- and their potential metaphorical role as a source of collective learning. This recalls the argument occasionally advanced regarding individual career and relationship choices, namely that these are unconsciously made such as to maximize the most fruitful learning for personal growth. As implied above, **it may well be the case that collectively choices are made to maximize the maturation of society -- rather than simply its economic "growth"**.

The typically unconscious component in such choices follows from the argument of John Ralston Saul (*The Unconscious Civilization*, 1995). They are also to be recognized as implicit in the strategic "poem" of Donald Rumsfeld regarding **unknown unknowns** (*Unknown Undoing: challenge of incomprehensibility of systemic neglect*, 2008). Crises may call for "appreciation" in that light (*Celebrating the Value of Deadly Problems Worldwide*, 2008). Opting for geoengineering solutions to global warming might well offer remarkable "benefits" in that respect (*Geo-engineering Oversight Agency for Thermal Stabilization (GOATS)*, 2008).

Aspects of this argument are developed by George Monbiot (*Let's face it: none of our environmental fixes break the planet-wrecking project*, *The Guardian*, 3 May 2011):

You think you're discussing technologies, you quickly discover that you're discussing belief systems. The battle among environmentalists over how or whether our future energy is supplied is a cipher for something much bigger: who we are, who we want to be, how we want society to evolve. Beside these concerns, technical matters... carry little weight. We choose our technology - or absence of technology - according to a set of deep beliefs; beliefs which in some cases remain unexamined.

The technology chosen then offers a valuable metaphorical mirror for that learning process. Authors variously addressing this theme include:

- Erik Davis (*Techgnosis: myth, magic and mysticism in the Age of Information*, 2005)
- Robert D. Romanyshyn (*Technology as Symptom and Dream*, 1989)
- Theodore Roszak (*Person/Planet: the creative disintegration of industrial society*, 1978)
- Stephanie Mills (*Turning Away from Technology: a new vision for the 21st Century*, 1997).
- Larry Rosen (*The Psychology of Technology: commentary on the impact of media and social networking on children, adolescents, and young adults*. 2010)
- M. M. Weil, and L. D. Rosen. *The Psychological Impact of Technology From a Global Perspective: a study of technological sophistication and technophobia in university students from 23 countries*. *Computers in Human Behavior*, 1995)
- Sherry Turkle (*Life on the Screen: identity in the Age of the Internet*, 1997; *The Second Self: computers and the human spirit*, 2005; *Evocative Objects: things we think with*, 2007; *Falling for Science: objects in mind*, 2008)
- Nicholas Carr (*The Shallows: what the Internet is doing to our brains*, 2010)

For the purpose of this argument it is therefore assumed that the complexity (and sophistication) of emerging technology on which society chooses to be dependent embodies the requisite variety through which the complexity of psychosocial processes might be comprehended and managed. In a sense such **technological innovation entrains cognitive capacity when used and understood through metaphor**.

Disaster: The collective choice is then of the kind explored by Jared Diamond (*Collapse: How Societies Choose to Fail or Succeed*, 2005). Any disasters are then of a kind which merits interpretation as a metaphor conducive to such learning. This suggests a reinterpretation of the much-quoted saying of George Santayana: *Those who cannot remember the past are condemned to repeat it*. Reinterpreted: ***If humanity fails to learn from a disaster then -- as with any student -- the cycle is repeated until the insight is effectively internalized.***

Hence the value of identifying vicious cycles (*Dysfunctional Cycles and Spirals: web resources on "breaking the cycle"*, 2002). This is consistent with the argument for embracing error (Donald Michael, *On the requirement for embracing error*. In: *On Learning to Plan and Planning to Learn*, 1973; John O'Brien, *Embracing Ignorance, Error, and Fallibility: competencies for leadership of effective services*, 1987).

Disasters, when they occur, may then be explored as keys to the learnings required, as separately discussed (*Systemic Crises as Keys to Systemic Remedies: a metaphorical Rosetta Stone for future strategy?* 2008). The Japanese disaster of 2011 then offers:

- **earthquake:** This highlights the vulnerability of society to totally unexpected shifts in the "social tectonic plates" on which society is constructed, associated with a "groundswell" of public opinion and various kinds of "uprising" -- readily conflated with conventional framings of revolution (Catherine Schittecatte, *Globalization/anti-globalization and World Orders as Tectonic Plates*, International Studies Association, 2005; Charlene Li and Josh Bernoff, *Groundswell: winning in a world transformed by social technologies*, 2008). There are many references to shifting political "tectonic plates".
- **tsunami:** This highlights the vulnerability of society to "floods" of immigrants -- currently of dramatic concern in Europe. Cheap credit has been described in such terms (Paul Tustain, *Gold and the Flood of Cheap Government*, 8 October, 2008). More might be anticipated in the event of wider social collapse (Catherine Samary, *Capitalist Crisis: Towards a Western/Eastern Europe Banking and Social Tsunami*, *International Viewpoint*, May 2009; *Christian Aid warns of social tsunami*, *Ekklesia*, 7 January 2005; Terry Turner, *Social Tsunami Warning*, *Watching Washington*, 3 January 2008). Also of concern are "floods" of information and their exacerbation of information overload (James Gleick, *The Information: a history, a theory, a flood*, 2011). This jeopardizes the possibility of informed collective intelligence (*Enabling Collective Intelligence in Response to Emergencies*, 2010).
- **nuclear reactor explosion:** This could be used to highlight the central role that "containers" and "containment" are called upon to play in collective cognitive processes vital to the "motivation" of society (as discussed below). The role of the container metaphor has been the subject of extensive commentary by George Lakoff and Mark Johnson (*Metaphors We Live By*, 1980). The containment failure in the case of the Fukushima disaster then offers a remarkable model for any psychosocial equivalent to the escape of "dangerous ideas" and the panic which they might also cause.
- **air borne dissemination of radioactivity:** This highlights concerns with the exposure of societies to "dangerous ideas" through the media -- possibly framed as "spiritual pollution". It evokes various forms of censorship, now most clearly evident in efforts to provide a "kill switch" to control the internet. Curiously both commentators and citizens regretted how little information was disseminated at each stage of the Japanese nuclear disaster -- presumably since excessive truth would indeed engender dangerous panic. This suggests fruitful recognition of the dangerously "radioactive" nature of truth and the necessity for its containment to protect an immature population.

∞ Defining the objective ∞ Refining the subjective ?! Explaining reality ∞ Embodying realization

Discussed in an [Annex](#)

- Requisite complexification of knowing
- Learning as "seeing-squared"?
- Configuring modes of "seeing"
- "Seeing" as implied by the Fibonacci spiral
- Configuring learning-action cycles
- Constrained comprehension
- Planning and the "infinite plane"
- Cognitive containers
- Toroidal cognitive container?
- Embodying realization through waveforms

Fukushima, cherry blossom and "mono no aware"

The introductory references to the "energy" of Japanese society, and its resilient capacity to overcome the setbacks of Fukushima, offer few clues as to how that energy is sustained and enabled within that culture -- as demonstrated following the bombing of Hiroshima and Nagasaki. The media are however now tracking the grassroot manifestation of that spirit (*Soy sauce company symbolises Japan's determination after the tsunami*, *The Guardian*, 18 April 2011).

Cherry blossom: Ironically the tragic disaster occurred at [cherry blossom](#) time -- an aesthetic moment highlighting finer cognitive subtleties much valued within the Japanese worldview, notably through the popular process of *hanami* and through *haiku* poetry. As might be expected, *haiku* have already been elaborated with respect to the disaster -- offering an indicator of emergent resilience (*Ensuring Strategic Resilience through Haiku Patterns: reframing the scope of the "martial arts" in response to strategic threats*, 2006).

Ranked among Japan's "three greatest cherry trees", the [Takizakura](#) ("waterfall cherry tree") is one of the most popular single (cherry) trees in the country, if not the most popular one. The wonderfully shaped weeping cherry tree in the hills of [Miharu Town](#) is said to be over 1000 years old. Located in the Fukushima prefecture, the site is close to [Koriyama City](#) -- significantly affected by the [earthquake of March-April 2011](#).

The cherry trees blossomed immediately thereafter -- presumably with the blossom falling as the radiation threat became apparent -- offering a surrealistic contrast between the meteorological reporting of the advance of the "cherry blossom front" and that of the "radiation front". Radioactive fallout vs. Cherry blossom fallout!? The Takizakura now stands just outside the radiation exclusion zone -- a symbolically appropriate marker. Thus far and no further? (*Symbol of Hope: 1000-year-old Cherry Tree Blooms in Fukushima*, *Japan Probe*, 23 April 2011).

"Mono no aware": The nuclear technology at Fukushima offers a problematic cognitive combination of **"de-fining"** energy technology and **"re-fining"** the means of enabling it (through the isolation of radioactive isotopes). The narrow **objective** of that technology can provide a template to refine the subtler **subjective** modality from which alternative energy options creatively emerge and are considered.

Etymologically English offers the curious "eschatological" associations between **fine**, **finite** and, **infinite** -- between material finality in the moment and the subtlest qualitative refinement beyond space-time.

With respect to such subtle refinement, the fall of the cherry blossoms is specifically associated with the Japanese concept of *mono no aware* -- with the transience of the blossoms, extreme beauty and quick death, thus indicative of mortality in Buddhist terms (Joan Stambaugh, *Impermanence is Buddha-nature*, 1990). Understood as "the pathos of things", "an empathy toward things", or "a sensitivity to ephemera", the phrase is used to describe the awareness of [impermanence](#), or the transience of things, and a gentle sadness (or wistfulness) at their passing. These characteristics might well be compared with the (terrible) "beauty" of nuclear technology -- and the half-lives of radioactive isotopes fatal to life.

A strong case can be made for recognition of the function of cherry blossom within that culture as an experiential container -- effectively the container for an "aesthetic technology" for refinement as argued here. **Is such aesthetic connectivity the vital factor in enabling the remedial transformation of massive destruction?**

"Poly mo aware": As a fruitful mnemonic, "mono no aware" (read as a phrase in simplistic English) offers a convenient reminder of the cognitive limitations noted above -- comparable with a "cyclopean" approach (*Cyclopean Vision vs Poly-sensual Engagement*, 2006). These are evident in the criticism of simplistic "mono-factor" thinking by [Edgar Morin](#) (*Pour Sortir du XXe Siecle*, 1981), as used in attempting to deal with complexity.

In the light of the cybernetic [Law of Requisite Variety](#), **such thinking does not embody the subtle awareness essential to resilient survival in the adaptive cycle** (*Adaptive Hypercycle of Sustainable Psychosocial Self-organization*, 2010). This is consistent with the argument for a "polyocular" modality -- an enhanced stereoscopic capacity -- as articulated by the Japanese-American scholar [Magoroh Maruyama](#) (*Polyocular Vision or Subunderstanding? Organization Studies*, 2004). An appropriate alternative (in English urban slang again) could then be "poly mo aware" -- or even "poly k((no)w aware", thereby embodying the self-reflexive [Delphic injunction](#) -- the enduring inspiration of futures studies. A tonal analogue is discussed with respect to [polytonality](#).

Pattern language: Expressed succinctly in the aesthetic terms most highly valued in Japanese culture, the harmony in a complex pattern of imperfections is exemplified by a Japanese vase (Ernest Kurtz and Katherine Ketcham, *The Spirituality of Imperfection*, 1992). This is

fruitfully contrasted with the prevailing worldwide quest for the simple perfection of a classical Greek vase -- or its strategic equivalent in the "silver bullet". In Western terms, enabling the quality of thinking and being of the former through design has perhaps been most fruitfully articulated through the pattern language of [Christopher Alexander](#) (*A Pattern Language*, 1977) in describing:

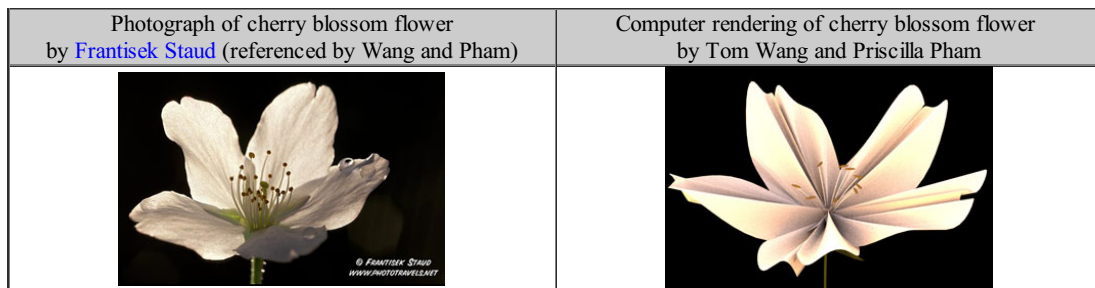
The specific patterns out of which a building or a town is made may be alive or dead. To the extent they are alive, they let our inner forces loose, and set us free: but when they are dead, they keep us locked in inner conflict. The more living patterns there are in a place...the more it comes to life as an entirety, the more it glows, the more it has that self-maintaining force which is the quality without a name (*Timeless Way of Building*, 1979).

It is interesting that by defining the central quality as nameless, Alexander frees it from the problems of the essential inadequacy of any particular language. The quality is "defined" as not comprehensible through any one such language -- appropriately consistent with the concerns of [apophatic discourse](#) (*Being What You Want: problematic kataphatic identity vs. potential of apophatic identity?* 2008). Alexander's approach can serve as a template for more specific articulations, as separately discussed (*5-fold Pattern Language*, 1984; *Harmony-Comprehension and Wholeness-Extending*, 2010).

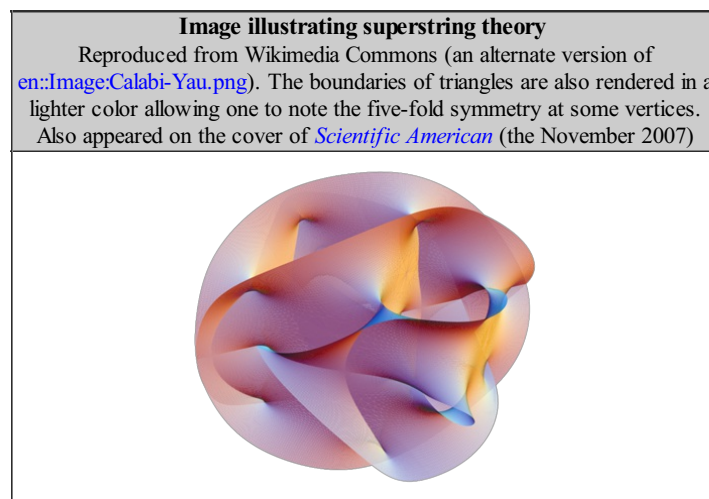
5-element philosophy and coaction cardioid: A further mnemonic is offered by the form of the flower of the Japanese cherry tree (*Prunus serrulata*). The five-fold petal arrangement is readily associated with the [five-element philosophy of Japan](#). These include the *gogyo* variant -- echoing the [five-element philosophy of China](#) -- and the *godai* variant deriving from Buddhism and Hinduism. The latter is the basis of the widely cited text on strategy of [Miyamoto Musashi](#) (*Gorin-no-sho -- The Book of Five Rings*) in which different skills essential to swordsmanship are associated with each of the five elements -- an exemplification of "poly mo aware"!

The flowers have been the focus of a remarkable computer simulation and rendering exercise by Tom Wang and Priscilla Pham (*Project Writeup: Sakura -- "Cherry Blossom"*, 2007). They acknowledge that cherry blossom trees (Sakura trees), as among the most beautiful trees in nature, present a worthwhile rendering challenge. They procedurally model blossom petals by using an adaptation of the rose curve, noting that the shapes of the five petals resemble cardioids. They use subsurface scattering on the petals to capture the realistic details of softness and faint translucency.

The reference to cardioids suggests further mnemonic possibilities, especially in relation to the leadership challenges made evident in the handling of the Fukushima crisis (*Cardioid Attractor Fundamental to Sustainability: 8 transactional games forming the heart of sustainable relationship*, 2005; *Framing the Interplay of Leadership and Misleadership: in the light of the coaction cardioid and the Mandelbrot set*, 2007).



Meta-pattern: from threads to strings? In the light of the ordering insights which might be derived from the capacity of [M-theory](#) to integrate the five disparate [superstring theories](#) of physics, there is the delightful possibility that the pattern might enable greater insight into the challenging problem of connecting such strategic threads -- as expressed in threaded discourse (as mentioned in the Annex).



The contrast between the five-fold pattern of categories and the eight-fold (as discussed in the Annex with respect to the [BaGua pattern](#) of Taoism), highlights a fundamental cognitive challenge in exploring their fruitful reconciliation for strategic purposes. Whereas the two patterns are typically presented on a plane -- effectively as an "ex-planation" -- their reconciliation is more readily explored in three dimensions through the 5-fold and 8-fold symmetries of centro-symmetrical polyhedral forms (*Spherical Configuration of Categories to*

Reflect Systemic Patterns of Environmental Checks and Balances, 1994; *Coherent Value Frameworks: Pillar-ization, Polarization and Polyhedral frames of reference*, 2008; *Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors*, 2008). These offer an implicit central focus in terms of which the superficial planes are related.

Mass-Energy transformation in psychosocial system containers

"Working explanation": What remains mysterious is how the container "works" when cognitive processes are confined in a particular way:

- to engender new ideas in the presence of a mass of ideas
- to maintain the heat of interactivity
- to enable the cross-fertilization through which new patterns are detected and by which those present are excited

The pertinence of such a question is evident with the manner in which social media have facilitated both social uprisings (as in the Arab world in 2011) and mobilization of resources (in response to humanitarian disasters). It is increasingly apparent that social media, acting beyond the conventions of formal organizations, are enabling possibilities to which international governmental and nongovernmental bodies have long aspired. It is extraordinary that social media like, Twitter and YouTube, should have proven to be more significant to such events than the United Nations.

Avoidance of inappropriate explanatory closure: The attitude appropriate to avoidance of closure on how the technology "works" may be variously recognized:

- **apophysis:** Explored most notably by theology, this is the process of unsaying and undefining in that context -- specifically with respect to the nature of a superordinate deity. It necessarily has other implications (*Being What You Want: problematic kataphatic identity vs. potential of apophatic identity?* 2008).
- **indirection:** this is exemplified in the argument for reframing made by George Lakoff (*Don't Think of an Elephant!: know your values and frame the debate* 2004) as an "essential guide for progressives". A complementary argument, recalling the traditional tale of the **blind men and an elephant**, endeavouring to envision the elephant underlying the conventionally divisive relationships between science and spirituality (Paul Bailey, *Think of an Elephant: combining science and spirituality for a better life*, 2007). This cognitive challenge of "seeing" the elephant has strategic implications (*Climate Change and the Elephant in the Living Room*, 2008; *Strategic Challenge of Polysensorial Knowledge bringing the "elephant" into "focus"*, 2008)
- **humour:** This can be explored as vital to integrative insight (*Humour and Play-Fullness: Essential integrative processes in governance, religion and transdisciplinarity*, 2005). However it is also recognized that the need to "explain" a joke may inhibit understanding of the way in which it "works".
- **paradox:** Closure as a form of entrapment **within** a container is appropriately challenged by convoluted surfaces constituting a paradox for comprehension as an act of encompassing. Such surfaces are notable in the case of catastrophe theory. Evident examples are provided by the Mobius strip and the Klein bottle. In the latter case inside and outside are not effectively distinguished.
- **action research:** This methodology emphasizes the necessity of learning through doing rather than via explanation alone. A valuable fictional account of the paradoxes involved in psychosocial "construction" is provided by M. A. Foster (*The Gameplayers of Zan*, 1977) with regard to construction of a space-time ship hidden within a mountain -- the "game" from the title being based on **cellular automata**, a more intricate version of *Conway's Game of Life*:

Let me build a dynamic identification-series for you: consider vehicles. You make a cart, a wagon, hitch it to a pony, and off you go. Its purpose is to go, but it can be stopped, and it doesn't change, or stop being a cart. ...Now consider a bicycle, which must be in balance to go...Now an aircraft; it can only be stopped when it is finished being a functional airplane...You can't stop it just anywhere, and never in the air...Just so the leap to the Ship. It is a quantum leap into a new concept in machines, if indeed that is the proper word. Before, we had machines that could be turned off. The more complex they became, the harder to turn off. With the Ship we enter the concept-world of machines that can't be turned off -- at all. They must be on to exist. Once you reach a certain stage in the assembly of it, it's on and that's all there is to it.... It must be manually flown to hold it in place...Its position at a specific place upon the Earth is not held by gravity and momentum...that it stays in that place, it must be flown there. As we sit here, we move in many ways, but are held fast in a matrix of local forces. The Earth rotates...And if we do not compensate, then the Ship would drift off on its own. (p. 369-373)

In considering the future *Geometry of Thinking for Sustainable Global Governance* (2009), the last of the **three laws** of Arthur Clarke was cited: *Any sufficiently advanced technology is indistinguishable from magic*. The "technologies" of the future are as likely to be cognitive as what is now conventionally recognized as technology -- as already implied by Robert Romanyshyn (*Technology as Symptom and Dream*, 1989). What might be the nature of the cognitive technology that would constitute a "magical" breakthrough in global governance -- given the optimistic dependence on future human ingenuity to circumvent foreseen and unforeseen crises (Thomas Homer-Dixon, *The Ingenuity Gap: how can we solve the problems of the future?* 2000).

In that light, how might the sustaining "magic" be vulnerable -- even destroyed? The internet as modern "magic" offers an example, especially since it is currently the subject of US Senate proposals for what has been described as an "internet **kill switch**", incidentally affirming US control of cyberspace (*Protecting Cyberspace as a National Asset Act of 2010*).

Cognitive quenching through explanation: The very question of **how such processes "work" as a "psychosocial technology" -- and why -- may reflect a mindset which is inadequate to comprehension of those processes**. They imply reliance on a form of

cognitive reification notably challenged in the complex title of a book by [Edward de Bono](#) (*I Am Right, You Are Wrong: From This to the New Renaissance: From Rock Logic to Water Logic*, 1990). Conventional bodies are effectively locked into "rock logic" -- possibly intimately related to understandings of "convention".

[Magnetic quenching](#) occurs in superconducting magnets as the abnormal termination of magnet operation when part of the superconducting coil enters the normal ([resistive](#)) state. This happened unexpectedly during the startup of the [CERN Large Hadron Collider](#) in 2008, necessitating a replacement of a number of magnets. The related phenomenon of plasma quenching is the reason for the careful design of nuclear fission reactors to ensure that the superconducting plasma does not come into contact with the walls of the container -- functioning as magnets to prevent such contact.

A process of "quenching" has been recognized as fundamental in "quenching enthusiasm" and "quenching creativity" in psychosocial processes and contexts. Less evident is how "explanation" may function to reduce the dimensionality associated with enthusiasm and creativity. Such explanation may be presented as realism when the creativity required by the future may call for an imaginative sense of [hyperrealism](#) in some form (*Hyperaction through Hypercomprehension and Hyperdrive: necessary complement to hypertext proliferation in hypersociety*, 2006). Understood pathologically as the inability of consciousness to distinguish reality from fantasy, the question is how the exploration of multidimensionality (by physics) and myth (in politics) are to be distinguished from dysfunctional fantasy (*Cultivating Global Strategic Fantasies of Choice*, 2010; *Imaginal education: Game playing, science fiction, language, art and world-making*, 2003).

Cognitive fluidity: There is an irony to the above-mentioned use of $e = mc^2$ by Henri Poincaré -- as a heuristic, to treat electrodynamic radiation as a "fluid". Pointers to an understanding of psychosocial "fluidity" are offered by:

- Work by Douglas Hofstadter and other members of the Fluid Analogies Research Group exploring the mechanisms of intelligence through computer modeling (*Fluid Concepts and Creative Analogies: computer models of the fundamental mechanisms of thought*, 1995). This focuses on the role of analogy and [cognitive fluidity](#) as fundamental to understanding of how the human mind solves problems.
- Viktor Schauberger (*The Water Wizard: the extraordinary properties of natural water*, 1999; *Energy Evolution: harnessing free energy from nature*, 2000)
- Andreas Wilkens, Michael Jacobi and Wolfram Schwenk (*Understanding Water: developments from the work of Theodor Schwenk*, 2005)
- Hans Kronberger and Siegbert Lattacher (*On the Track of Water's Secret: from Viktor Schauberger to Johann Grander*, 1995)
- Kent A. Bowker (*Albert Einstein and Meandering Rivers. Earth Science History*, 1988)
- [Mihaly Csikszentmihalyi](#) (*Finding Flow: the psychology of engagement with everyday life*, 1998; *Flow: the psychology of optimal experience*, 1990)

The implications of a "fluid" perspective are discussed separately (*Enabling Governance through the Dynamics of Nature: exemplified by cognitive implication of vortices and helicoidal flow*, 2010). The discussion can be extended to challenge the static assumptions inherent in the use of nouns rather than verbs in framing reality (*Freedom, Democracy, Justice: Isolated Nouns or Interwoven Verbs? Illusory quest for qualities and principles dynamically disguised*, 2011). The argument of Csikszentmihalyi highlights the manner in which "being in the flow" reframes conventional experiential dependence on explanation (*Being in the Flow on Strategic Highways and Byways: enabling sustainable self-governance through traffic signage*, 2011).

The argument of David Deutsch (2011) for an infinity of "explanations" (as discussed in the Annex) could then be usefully reframed. to some degree, to emphasize the [process reality](#) (following [A. N. Whitehead](#)) associated with "explaining" -- namely with the verb rather than the noun. As with the particle/wave complementarity in the [Uncertainty Principle](#) of physics, this patterning constraint -- "rock logic" vs "water logic" -- may be of greater generality (Garrison Sposito, *Does a generalized Heisenberg Principle operate in the social sciences? Inquiry*, 1969).

As discussed in the Annex, any implied criticism of the "blip culture" may obscure a **process of transition from the conventional, static "rock logic" modality to a dynamic "water logic" modality**. Such a reframing might offer a more fruitful way of [engaging with the dynamic of the "netherworld"](#) -- so widely evident through terms ranging from "under the table", "with a nod and a wink", "in the black", to "commissions" and "corruption" (*Designing Global Self-governance for the Future: patterns of dynamic integration of the netherworld*, 2010).

The most striking possibility is that the dynamic of social media interaction may come to resemble (or be understood as) that of [animal flocking behaviour](#) and its simulation by [boids](#), as separately discussed (*Dynamically Gated Conceptual Communities*, 2004; *Re-Emergence of the Language of the Birds through Twitter?* 2010).

Currency: Fluidity is of special relevance when it takes the form of a circulatory process. This is most evident on a global scale in the case of the [thermohaline circulation of the oceans](#) around the world between the continents. That circulation is vital to life on the planet as currently known and is one of the processes vulnerable to disruption by global warming.

The global nature of such a circulatory process can be fruitfully related, systemically and metaphorically, to other processes of circulation, as separately discussed:

- religion: *Potential Misuse of the Conveyor Metaphor: recognition of the circular dynamic essential to its appropriate operation* (2007)
- finance: *Primary Global Reserve Currency: the Con? Cognitive implications of a prefix for sustainable confidentiality* (2011)
- morality: *Enabling Moral Currency Circulation* (2010)
- insight: *Circulation of the Light: essential metaphor of global sustainability?* (2010)

Cognitive fusion: In an effort to move beyond the limitations of nuclear fission reactors, a major international research project has been

initiated to design viable nuclear fusion reactors ([ITER - International Thermonuclear Experimental Reactor](#)). Construction started in 2008 and results are expected in 2018. In the light of the above argument, the question here is whether the design considerations of this technology offer insights of relevance to engendering of psychosocial energy in a form of value to society. Of particular relevance is the recognition that for the fusion process to be viable the container must be such as to prevent the circulating plasma from coming into contact with the walls of that container. To this end a toroidal ([tokamak](#)) design is used.

The question is whether this toroidal form is a key to the appropriate containment and circulation of the kind of cognitive fluidity discussed above (and in the Annex). What might be the nature and relevance of "cognitive fusion" -- beyond the use of the term to label a pathological condition? To that end, research on the ITER design may be used as a form of template to explore possibilities in the psychosocial case, as discussed separately ([Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing \(ITER-8\)](#), 2006). That document was supplemented by discussion of the following themes:

- [Complementarity and Self-Reflexivity: between nuclear fusion and cognitive fusion](#)
- [Dematerialization and Virtualization: comparison of nuclear fusion and cognitive fusion](#)
- [Coactive Contextual Relationships: necessary underdefinition and resonant associations of ITER-8](#)
- [Cognitive Fusion through Myth and Symbol Making: archetypal dimensions](#)

Rather than the tangibility of the nuclear reactor as a container, the concern is with the design and "construction" of an intangible container for which various indications are offered in the Annex, including conference and organizational contexts. Also of concern is some degree of scalability, in contrast with the nature of the investment required in the case of ITER. On the other hand it is intriguing the degree to which promotion of "globalization" may be understood as the articulation of a global container -- enabling a particular kind of focus through which a "spark" is sustained. With respect to scalability, this might be fruitfully contrasted with what could be understood as a group or "personalized" variant -- a personal "cognitive fusion reactor" ([Personal Globalization](#), 2001; [Embodying the Sphere of Change](#), 2001).

Understood otherwise, constructing such a container might be compared with a cognitive variant of the process of [cocooning](#), through weaving (or "spinning") an enclosure of relevance -- curiously reminiscent of the "conceptual gerrymandering" basic to defining any system and enabling "silo thinking" within it. The construction may also be compared to the design of "magic carpets" and "wizdomes", as separately discussed ([Magic Carpets as Psychoactive Systems Diagrams](#), 2010; [Transforming Static Websites into Mobile "Wizdomes": enabling change through intertwining dynamic and configurative metaphors](#), 2007).

A key to further exploration of the metaphor must necessarily lie in the interrelationships in psychosocial systems between what is experienced as (inertial) "mass", "energy" and "matter". It would seem that experience of ("bloodless") categories accords with an inertial frame of reference -- as implied by Edward de Bono's "rock logic". The refinement of nuclear fuel would seem to accord with refinement of subjective engagement with a category (as one characteristic of meditative practice, for example). This acts such as to isolate "psychoactive isotopes" (equivalent to radioactive isotopes). It is the critical mass of these which constitutes the transformational source of energy -- hence metaphorical references to a "critical mass" of appropriately creative ideas and insights. It is tempting to recognize in them a degree of cognitive isomorphism offered by metaphor.

The manner in which categories may be defined by "convention", as with both constellations and disciplines, is of course a theme considered in the [social construction of reality](#) (Peter L. Berger and Thomas Luckmann, [The Social Construction of Reality: a treatise in the sociology of knowledge](#), 1967; Paul Watzlawick, [The Invented Reality: how do we know what we believe we know?](#) 1984). The argument above for cognitive fluidity and (global) circulation offers a further possible clue if convention is also understood dynamically -- as implied by the dynamics of financial currency and the manner in which convention may be sustained as "standing waves" in movements of opinion. It is tempting to see a form of complementarity between currencies as metaphoric "liquids" and a "gaseous" equivalent -- reminiscent of intercontinental trade winds and jet streams.

Perhaps the most fruitful clues may be the cognitive parallels to the dematerialization and virtualization mentioned above with respect to cognitive fusion. Despite the criticism of optical metaphors, it remains possible that the operation of [optical computers](#) and displays may enable new forms of "cognitive fusion" -- hopefully augmented by the polysensorial [synaesthesia](#) of multimedia as a catalyst for "seeing". It is the psychoactive engagement with this technology which is likely to offer "unforeseen" potential.

Conclusion

This speculative argument makes no claim to any conclusion in suggesting that in $e = mc^2$ there may be metaphorical clues to a vital relationship to be discovered by the future. Recalling again the "mystery" of religion on which many do not seek complete closure, there may be a tentative pattern of relevance to current challenges -- as has been the case with religion, despite claims to the contrary. The strong argument is that it is possible to use Einstein's relationship here to suggest **a relationship between "phenomena" widely recognized as fundamental to social processes -- but which are not otherwise coherently interrelated.**

The failure to explore systematically the cognitive implications of technologies on which civilization is held to be dependent is fundamentally irresolvable. This is especially the case with nuclear technology and its acclaimed alternatives.

Metaphoric vehicles: For the purpose of this argument it has been assumed that the complexity (and sophistication) of emerging technology on which society chooses to be dependent embodies the requisite variety through which the complexity of psychosocial processes might be comprehended and managed. In a sense such **technological innovation entrains cognitive capacity when used and understood through metaphor.** Technological innovation with respect to the tangible defines a (metaphoric) language within which subtle distinctions can be refined and interrelated. It is through metaphor that the cognitive significance for psychosocial systems can be reappropriated. It is regrettable that society may be trapped in use of metaphors which are essentially impoverished ([In Quest of Uncommon Ground: beyond impoverished metaphor and the impotence of words of power](#), 1997).

Metaphors as used in this argument can be understood as "vehicles" (*Metaphors as Transdisciplinary Vehicles of the Future*, 1991). In that case, how best to understand and enable their "design", their "motive power", as well as enabling them to be "driven" by all?

- *Entering Alternative Realities -- Astronautics vs Noonautics: isomorphism between launching aerospace vehicles and launching vehicles of awareness*, (2002)
- *Noonautics: four modes of travelling and navigating the knowledge universe?* (2002)
- *Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement* (2002)

Whilst appreciating their necessity, appropriate reservations with regard to the use of metaphors, specifically with regard to internet technology, are offered by Evgeny Morozov (*The Net Delusion: the dark side of internet freedom*, 2011):

The world of foreign policy is simply too complex to be understood without borrowing concepts and ideas that originate elsewhere; it's inevitable that decision makers will use metaphors explaining or justifying their actions. That said, it's important to ensure that the chosen metaphors actually introduce -- rather than reduce -- conceptual clarity. Otherwise, they are not metaphors but highly deceptive sound bits.

All metaphors come with costs, for the only way in which they can help us grasp a complex issue is by downplaying some other, seemingly less important, aspects of that issue.... One major problem with metaphors, no matter how creative they are, is that once they enter into wider circulation, few people pay attention to other aspects of the problem that were not captured by the original metaphor. (p. 43)

Technology -- our own metaphor: The Annex noted the argument of Gregory Bateson, in concluding a conference on the effects of conscious purpose on human adaptation, that: *We are our own metaphor* (1972, p.304). This argument could be reframed to include the sense in which humanity is in a particular sense the metaphor implied by the technology on which it is dependent. The reference to "material structures" in the above-cited argument of Kenneth Boulding is similarly relevant to the reframing of identity through technology:

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

Such arguments make a case for "*Re-reading patterns of concepts*" (1995) reminiscent of the argument of Susantha Goonatilake (*Toward a Global Science: mining civilizational knowledge*, 1999).

Rather than focus on how "true" any conceptual pattern may be, the question (as with religion) is whether it offers a degree of coherence valuable for certain purposes. A core criterion is the capacity to comprehend higher orders of complexity. Rather than being trapped in the constraints of a true-or-false debate, it may be more fruitful to consider a probabilistic approach to such truth as suggested by mathematician Vasily Nalimov (*Realms of the Unconscious: the enchanted frontier*, 1982). This could be a more realistic approach to the "truth" of political and corporate statements and assertions in response to strategic crises and initiatives -- and even including those of science. From a theological perspective, this would be to some degree in the spirit of apophysis or unsaying (*Being What You Want: problematic kataphatic identity vs. potential of apophatic identity?* 2008).

Planet as container: The Earth is necessarily to be recognized as a container -- finite but unbounded. The container is clearly the locus of a form of mass-energy transformation. Understood in terms of its cognitive and symbolic significance, it necessarily also functions as a psychosocial container. The nature of the "mass-energy" transformation, articulated through metaphor, is then necessarily more elusive since it is effectively a "play" on defining the objective and refining the subjective -- as celebrated in the arts, and notably poetry.

The dynamics of the Earth within the solar system offer a variety of insights into the role of enlightenment and endarkenment as fundamental to the sustainability of biological life. This emphasizes the sense in which neither is a one-way process but rather a cycle passing through dawn and dusk. This suggests that the quest for psychosocial enlightenment is inadequately understood as a one-way process -- a one-way conveyor -- rather than a cycle, as separately argued (*Potential Misuse of the Conveyor Metaphor: Recognition of the circular dynamic essential to its appropriate operation*, 2007; *Enlightening Endarkenment: selected web resources on the challenge to comprehension*, 2005).

Perceived differences: This argument highlights the challenge of integrating the variety of typically incommensurable explanations upheld by different constituencies and disciplines with "rock-like" faith. Any such effort further highlights what is then variously recognized as ignorance -- and typically condemned as such. There is then a case for extending notions of "technology" -- as the art of deriving benefit from differences -- to engender and channel energy from such differences.

How might psychosocial containers -- most notably the planet -- be understood as "difference engines"? In a world of increasingly evident "spin", this is characterized to a degree by the cultivated play between illusion and its clarification, celebrated through the skills of the magician -- if not elsewhere. What then is the nature of the "technology" which derives energy from a cyclic process characterized by phases in which:

That which is, is not
That which is not, is

Especially intriguing is the sense in which the distinction between energy and mass -- between E and M -- is effectively an illusion. As discussed in the Annex, this is more appropriately understood as $E \infty M$, highlighting the mutual transformation. The point made there is

"re-cognition" of that cyclic mutuality in psychosocial systems is enabled and sustained by "seeing" (c^2). It is through that cycle -- evident in the planetary diurnal cycle -- that perception/illusion/recognition passes via the logical distinctions of the quadrilemma: A, not-A, A and not-A, neither A nor not-A, as highlighted by Kinhide Mushakoji (*Global Issues and Interparadigmatic Dialogue*, 1988).

Matter, mass and energy: The unforeseen [Arab uprisings](#) at the time of writing highlight the strange implication of the "energy" elicited by "mass" protest regarding a variety of fundamental "matters". This implies both a sense of "reality", the possibility of "realization" of elusive values, and a degree of "illusion" -- typically subsequent disillusionment. The latter is partly due to defining an objective in terms of "nouns" (freedom, etc) whilst ignoring the process of refining their subjective embodiment, as separately discussed ([Freedom, Democracy, Justice: Isolated Nouns or Interwoven Verbs?](#) 2011). The process is as yet inadequately framed in cyclic terms.

In their metaphorical significance for psychosocial systems, the cognitive transformation cycle might then imply phases successively highlighting:

M, not-M, M and not-M, neither M nor not-M
E, not-E, E and not-E, neither E nor not-E

Clearly there is as yet a disconnect between the objective articulation of "mass" by physics and the psychosocial analogue by which "masses" are engaged in "massive" initiatives calling for "massive" resources. Curiously there is widespread concern with the extent to which nothing "matters" -- notably to alienated voters wanting "everything" "now". The cognitive paradoxes can be explored to a degree in the light of insights from physics ([Import of Nothingness and Emptiness through Happening and Mattering](#), 2008).

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