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Engendering the Future through Self-reflexive Group Initiatives

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Introduction

This deliberately speculative exploration is based on a set of radical assumptions, namely that:

1. Self-reflexivity is essential to moving beyond the collective initiatives that effectively give rise to "business as usual", especially in cases where their claims to act differently themselves follow a pattern appropriately described as "more of the same". Relevant arguments have been presented elsewhere (*Consciously Self-reflexive Global Initiatives: Renaissance zones, complex adaptive systems, and third order organizations*, 2007).
2. Following Marcus du Sautoy (*Finding Moonshine: a mathematician's journey through symmetry*, 2008) it is assumed that there is a profound truth in the statement by Paul Valéry: *The universe is built on a plan the profound symmetry of which is somehow present in the inner structure of our intellect*.
3. There is a poorly explored degree of cognitive mirroring with an environment conventionally framed as "external", as discussed elsewhere (*Self-reflective Embodiment of Transdisciplinary Integration (SETI): the universal criterion of species maturity?* 2008).
4. It is appropriate to explore a radical "confrontation" between "group theory" as understood in the mathematics of symmetry and "group theory" as understood in the social sciences -- both implying different ways by which humans comprehend complexity -- with the latter form of group theory in potentially desperate need of insights from the former (for the benefit of society) and the former having a responsibility to assist in developing a comprehensible interface, as argued elsewhere (*Dynamics of Symmetry Group Theorizing comprehension of psycho-social implication*, 2008)
5. Information, and its accessibility and comprehension (in a period of exponentially increasing information overload), implies a need to discover radically new cognitive approaches if problematic fragmentation is not to be the primary characteristic of the emerging knowledge society; there is even the possibility that knowledge may be distorted, or rendered incomprehensible, by the surfaces on which it is "de-scribed"
6. There is a fruitful challenge to assumptions regarding the adequacy of articulation and communication through linear text on conventional plane surfaces

7. In a society in which there are many calls for changes in patterns of behaviour, and many initiatives to that end, these tend to be undermined by simplistic understanding of the needs for individual and collective "re-cognition" -- namely the need for their re-patterning in the eyes of others
8. There is a case for greater consideration of the implications of challenges in the moment rather than their conventional projection into a possibly indefinite future -- action being more immediate than an expression of intent or a "pledge" to future action.
9. Some widely used metaphors may well be indicative of intuited comprehension that has not otherwise been conventionally recognized.

The current proposal to organize another State of the World Forum (Washington DC, 2009) -- building on the hopes and momentum associated with the recent political changes in the USA -- is explored (in an Annex) as a case study in the light of the above assumptions (*State of the "World Forum" vs "State of the World" Forum: challenge of reflexivity*, 2009).

Conventional spatial geometry of discourse

Discourse makes frequent reference to:

- points, as in "making a point", "bullet points", "points of view" (in literature or as NPOV in *Wikipedia* parlance) and even "pointlessness"
- line, as in "developing a line of argument", through a series of points, or "crossing the line"
- area, as in "outlining an area of concern", or thematic "area" (possibly also expressed as "area" or "field" of knowledge), with the associated notion of being inside or outside its "boundary", as in "out of bounds" or "crossing the boundary"
- body, as in "body of knowledge" or "sphere of knowledge"

These clearly constitute a geometric progression in dimensionality from point, through line and surface (notably as plane and polygon), to polyhedron (possibly approximating a sphere). These characteristics of discourse have been explored elsewhere (*Geometry of Organizations, Policies and Programmes*, 1992). The progression, and the interfaces, have been delightfully and insightfully explored in *Flatland* (1884), *Sphereland* (1965) or *Flatterland* (2001).

Of particular interest is the manner in which this sense of geometry may be reflected in institutions, their strategies and the underlying value frameworks (*Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors*, 2008; *Polyhedral Empowerment of Networks through Symmetry: psycho-social implications for organization and global governance*, 2008; *Coherent Value Frameworks: pillar-ization, polarization and polyhedral frames of reference*, 2008). The use of the phrase "variable geometry" in that context is not infrequent (*Alternation between Variable Geometries,* 1985).

In the discourse between factions, fundamental to this sense of geometry is the notion of "sides". Each faction is associated with a particular "side", typically opposed to the strategy advocated by other "sides". Truth itself may however be recognized as "multi-sided", justifying the argument made in the earlier explorations that if truth (or the comprehension of it) is indeed multi-sided then governance should necessarily be "polyhedral".

In this discourse context:

- what is the "surface" on which "points" are made and "lines" of argument are developed:
  - do the lines configure to delineate a surface, as with a plane, or a polyhedron, or some more complex structure?
  - is the surface a plane, constituting the side of a polyhedron, or of some more complex structure?
  - what are the different perspectives offered from a particular "point" or from a given "side"?
  - what is the meaning of the "boundary" of that surface (if any), being within it on that surface, or outside it?
- do the "sides" of polyhedral structures appropriately reflect:
  - configurations of (emergent, global) strategies?
  - factional differences of perspective whose configuration is not viable?
- is "closure" of an argument, a proof, or a poem associated with formation of a complete polygon, polyhedron or some other structure?

If differences are inadequately "held" by the surface on which points, lines and sides are distinguished:

- is this inadequacy reflected in **dynamics implicit** between the features of the geometry on which the discourse is effectively mapped -- perhaps in movement over that surface by which its limits are defined?
- is there then a case for using a **more complex surface** to better reflect (map) those differences, to better embed the dynamics in the geometry?

These issues have been helpfully clarified from a mathematical perspective by Ron Atkin (*Multidimensional Man: can man live in three dimensional space?* 1981). They are partially reflected in the architectural philosophy of parliamentary chambers and the archetype of a roundtable, with its possible extension to virtual forms (*Spherical Configuration of Interlocking Roundtables: internet enhancement of global self-organization through patterns of dialogue*, 1998; *Pattern of Meeting Participant Roles: shadowy 'roundtable' hidden within every meeting*, 1993).

Beyond conventional spatial geometry of discourse

Psycho-social relationships are profoundly challenged by differences. People find themselves upholding an extreme pole in a polarized argument (or are so perceived), or seeing themselves on opposite "sides" (or are so perceived). Typically these might be usefully

described in terms of a "line" in the first case and a "plane" in the second. The radical opposition in either case may preclude configuration in some polyhedral construction also involving intermediary and complementary positions. The differences are too extreme.

Debate is typically conducted in (or on) a space which is implicitly understood as "flat" -- whether or not it is understood as "bounded". Most **local experience** of encounters (in physical terms) is necessarily on a space which is more or less flat -- even if a debating chamber is tiered for convenience. This is quite distinct from comprehension regarding **global experience** -- around the planet. This distinction can be fruitfully explored as analogous to that between **local (specialized) thematic experience** and **global (comprehensive / integrative /general) thematic experience** as discussed elsewhere (*Future Generation through Global Conversation -- in quest of collective well-being through conversation in the present moment*, 1997).

As discussed previously (*Comprehension of Requisite Variety for Sustainable Psychosocial Dynamics*, 2006), the question is then whether other kinds of surface would offer richer possibilities. In this exploration it is appropriate to note the discussion there (*Psychosocial relevance of torus-related dynamics*) of the psychoanalytical explorations of Jacques Lacan (*Of Structure as the Inmixing of an Otherness Prerequisite to Any Subject Whatever* 1966/70) into the implications of the torus -- specifically with reference to the individual. The related work on the topology of knots by Ronald Laing (*Knots*, 1970) is also relevant.

Two reasonably comprehensible classical surfaces -- yet with perhaps requisite paradoxical complexity -- merit early consideration in reconciling extreme differences. They are the Mobius strip and the Klein bottle.

- **Mobius strip**: In this case, whilst there are indeed opposite "sides" to hold the experienced sense of difference, proceeding along the strip (on either side) leads seamlessly to the "other side". The Mobius strip has but one side because of the single twist in the strip. The same applies in more complex cases if there were 3, 5, etc twists in the strip. Having only one side, it also has only one continuous edge (or boundary) -- not two, as with any ordinary strip whose ends are connected to form a loop..
- **Klein bottle**: In this case, whilst there is indeed an "inside" and an "outside" to hold the experienced sense of difference, proceeding "into" the Klein bottle eventually leads seamlessly "out" of the bottle, suggesting the cognitive implications explored by Melanie Purcell (*Imperatives for unbiased holistic education: the Klein bottle, a universal structure: an archetypal image*, 1999; *What are The Relationships Between Infinity and Zero?: the diagonally woven single joined thread Klein bottle, and the implications of a cyclic universe*, 1998; *Looking at the Universe through the belly of a Klein bottle*, 1999) -- as discussed elsewhere (*Higher dimensionality necessary for sustainable sharing?* 2006).

The more general point is whether **the challenge of seemingly irreconcilable (incomprehensible) difference arises because the space of discourse commonly assumed is not sufficiently complex to hold (and respect) the sense of difference whilst also providing a topological framework within which the perspectives are reconciled**. It is no longer a case of "either/or" but of "both/and" -- within a more complex space. It is that topology that calls for explication and comprehension.

Topological challenge to comprehension

Flat surface: As indicated above, the assumption is readily made that exchanges take place over a (more or less) flat surface and global communications (around the planet) may be "flattened" to that end as argued by Thomas L Friedman (*The World Is Flat*, 2005) and discussed elsewhere (*Irresponsible Dependence on a Flat Earth Mentality -- in response to global governance challenges*, 2008). Indeed it is always convenient locally to assume that a global surface is flat. This is indeed an excellent approximation -- locally, or if more complex understandings can be reduced to such an understanding ("for local consumption")..

An analogous assumption may be made with regard to textual communications, namely that they are appropriately displayed on the flat surface of a page or a screen. This assumption has been analyzed and challenged by Michael Schiltz (*Form and Medium: a mathematical reconstruction*, *Image [&] Narrative*, 6, 2003) in relation to the calculus of indications of George Spencer-Brown (*Laws of Form*, 1969/1994). The possibility that this "appropriateness" reinforces and obscures a dangerous form of distortion is not widely considered.

Torus: The plane as a surface of representation -- in contrast with the torus -- has become significant to the discussion of the relationship between form and medium in advanced theories of communication. As discussed in greater detail elsewhere (*Beyond the plane: form and medium in terms of the calculus of indications*, 2006), this notably featured in the work of Niklas Luhmann (*Die Gesellschaft der Gesellschaft*, 1997). Schiltz notes for example that form/medium is "the image for systemic connectivity and concatenation", as described by Humberto Maturana and Francesco Varela. He further notes, that the notion of "space" is the key to reflexivity appropriate to any discussion of form and medium, citing Spencer-Brown as follows:

> In all mathematics it becomes apparent, at some stage, that we have for some time been following a rule without being aware of it. This might be described as the use of a *covert convention*. [… Its] use can be considered as the presence of an arrangement in the absence of an agreement. For example, in the statement and theorem.... it is arranged (although not agreed) that we shall write on a plane surface. **If we write on the surface of a torus the theorem is not true** […] The fact that men have for centuries used a plane surface for writing means that, at this point in the text, both author and reader are ready to be conned into the assumption of a plane writing surface without question. But, like any other assumption, it is not unquestionable, and the fact that we can question it here means that we can question it elsewhere […]

Schiltz then comments (**emphasis added**) :

> It was our choice to write in a plane surface that has made that distinctions indeed do cut off an inside from an outside, that 'differences do make a difference' (Gregory Bateson). Covert conventions at a level deeper than the level of form, preceding the level of form, have determined what the form would do. There lies a chance for developing a medium theory here. In this

> concrete case: the medium of the plane surface makes the difference. And in general: the topology of the medium makes the difference between distinctions making a difference and distinctions not making a difference. 'It is now evident that if a different surface is used, what is written on it, although identical in marking may be not identical in meaning"... Spencer-Brown has shown us that the 'medium is the message' (Marshall MacLuhan).....
>
> Hence, **we are writing in a space that connects the level of first-order (operand) and second-order (operator) observations. That space is a torus. If considered operationally, distinctions written on a torus can subvert their boundaries and re-enter the space they distinguish, turning up in their own form.**...
>
> Such conceptualization diverts sharply from an intuitive understanding of a medium. As seen here, a medium is far from a Euclidean container. Rather is it introverted space, it is identical to the *topology of the form*, it is the form's 'deep structure'.

There is at least the possibility that shifting out of planar articulation of any "peace process" in the Middle East, for example, might clarify more coherent options.

Schiltz concludes:

> If the medium of **meaning** is indeed the ultimate medium of psychic and social systems, i.e. if meaning is 'the medium of itself', then what is its 'form', the distinction through which it can be expressed? I perceive only one answer: the medium of meaning must be identical to the difference between form and medium, and the re-entry of that distinction into itself. Its consequent indecidability is the symbol of our dealing with the world. It expresses the fact that all our attempts to get a hold of the world are doomed to frustration.... Meaning as our *phenomenology* of this world can only be partial, as the difference between form/medium can only be actualized as a form. In mathematical terms: meaning is a **lambda-domain** occupied by communications that, by acting on themselves (= being a function of themselves), produce new communications in the same domain which can in turn act on themselves and further expand the domain. [cf Louis H. Kauffman, *The Mathematics of Charles Sanders Peirce*, *Cybernetics and Human Knowing*, 8, 1-2, 2001]

To what extent are the various approaches to sustainable development, and the search for alternative paradigms, to be considered as efforts to achieve new -- and more encompassing -- forms of closure?

Within this context, however, terms like "globalization", "planetary village" and "planetary consciousness" imply questionable understandings of such a "universe" (*Future Generation through Global Conversation: in quest of collective well-being through conversation in the present moment*, 1997).

Shape of the "universe" of discourse: With respect to discourse, the phrase "universe of discourse" is not uncommon -- although typically used with respect to a specific domain. For astrophysicists the shape of the universe is a long-standing preoccupation. Given the use of the metaphor with respect to discourse, there are perhaps some useful insights from that debate -- and especially from the many understandings of the universe that have been formulated, whether by astrophysicists or in cultures past (see table of *Historical descriptions of the cosmos* in *Wikipedia*). For the universe of the astrophysicists, a distinction is made between:

- its local geometry: As noted in *Wikipedia*, under the assumption that the universe is homogeneous and isotropic, the curvature of the observable universe, or the local geometry, is described by one of the three "primitive" geometries (in mathematics these are called the model geometries):
  - 3-dimensional Euclidean geometry, generally notated as *E3*
  - 3-dimensional spherical geometry with a small curvature, often notated as *S3*
  - 3-dimensional hyperbolic geometry with a small curvature, often notated as *H3*

  Even if the universe is not exactly spatially flat, the spatial curvature is close enough to zero to place the radius at approximately the horizon of the observable universe or beyond.
- its global geometry: As noted in *Wikipedia* again, this includes the topology, of the whole universe, both the observable universe and beyond. While the local geometry does not determine the global geometry completely, it does limit the possibilities, particularly a geometry of a constant curvature. A global geometry is also called a topology, as a global geometry is a local geometry plus a topology, but this terminology is misleading because a topology does not give a global geometry: for instance, Euclidean 3-space and hyperbolic 3-space have the same topology but different global geometries.
  Two strongly overlapping investigations within the study of global geometry are whether the universe:
  - is infinite in extent (namely unbounded) or, more generally, is a compact space (namely bounded)
  - has a simply or non-simply connected topology.

Debate continues as to whether the universe is globally flat, spherical, or hyperbolic -- or more appropriately described by more complex models:

- Poincaré dodecahedral space, a positively curved space, colloquially described as "soccer ball shaped", as it is the quotient of the 3-sphere by the binary icosahedral group, which is very close to icosahedral symmetry, the symmetry of a soccer ball.
- Picard horn, a negatively curved space, colloquially described as "funnel-shaped", for the horn geometry.

The question might be asked as to whether the complexities of discourse within a global knowledge society might not benefit from reflection on such models, if only to open reflection to richer possibilities that might better embody the fragmentation currently characteristic of "global debate". The possibilities have been tentatively explored elsewhere (*Towards an Astrophysics of the Knowledge Universe from astronautics to noonautics?* 2006).

"Topology of discourse": Characteristics that may then prove of specific interest to the understanding of discourse include whether it is:

- **finite and bounded**: as would be the case of any surface, typically a flat or curved surface, whose edges did not "join up". Here the implication is that if the discourse, or its participants moved "too far" in any direction they would in some way "fall off" -- as was the understanding of the shape of the world in times past (and in the cult movie, *The Gods Must Be Crazy*). Many meeting agendas might be said to be designed on that assumption. It is then the job of the chairperson to make sure that people do not "fall off" -- or are appropriately "ejected" from the meeting if they go "out of bounds". The surface may of course be a "spacetime" surface, namely one in which if people speak too long, they will simply encounter such an edge and be obliged to stop by time constraints.

- **finite and unbounded**: as would be the case with a sphere, a torus or a Klein bottle. Here the implication in discourse is that there is necessarily a place for all types of participant and all topics of discourse. None can be excluded. There is of course the possibility that the space is organized such that some topics and participants are confined to certain parts of the surface -- effectively reverting to the form of finite and bounded, however overcrowded they locally become.

- **infinite and bounded (or unbounded)**: in the case of discourse, these conditions would clearly imply much more complex topologies. The simplest is perhaps the Mobius strip which is infinite in one direction but bounded in another.

Orientation (and chirality): These are significant properties in topology and its various applications. They refer to the question of whether the mirror image of a shape is indistinguishable from the original. If not, then in three dimensions (for example) they may be understood in terms of chirality as right- or left-handed. In more complex spaces the property is described as orientation. One interesting example is that a Klein bottle may be formed from 2 Mobius strips of distinct chirality. In that sense the Mobius strip is said to be nonorientable in contrast to either the sphere or the torus.

In the case of political discourse such orientation may be implied in the distinctions made between "right" and "left" wings -- where these are not confused as "sides". A sharper distinction is made in theological and esoteric discourse between the "right-hand" or "left-hand" paths. Of course, notably in political discourse, any contrary view ("the other") is typically demonized as representative of the "left-hand path" -- "bent" and of the "shadow". It may be related to psycho-social analogies to the topology of twistedness (*Twistedness in Psycho-social Systems: challenge to logic, morality, leadership and personal development*, 2004).

Embedding fundamental disagreement in topology

The challenges of "territory" in relation to a flat (land) surface are well recognized. They are replicated in games -- as in teams gaining or losing "territory" on a football field -- in pursuit of a "point" simulated by a ball (*Understanding Sustainable Dialogue: the secret within Bucky's Ball?* 1996). It is a clear objective in board games -- notably *go*. This process is less clear in three dimensions although of course replicated in aerial combat situations and "gaining control of airspace". The argument is that the geometry holds the simple disagreement between the parties in each case -- with what is not held overflowing into the dynamics between the parties to gain more control of the territory (or the "point").

The challenge is greater in the case of ideologies or belief systems -- beyond the simple measure of adherent bodycount. In such cases any "territory" might be understood as an assemblage of points and lines constituting a "body of belief", perhaps to be understood as a complex polyhedron or some other topological form. There is a sense in which those adhering to the belief move through that space from position to position. This might be caricatured through analogy by cognitive movement through the branches of a bounded forest -- where boundaries need to be protected -- or more compactly by movement between so-called monkey bars within a caged environment.

The question is whether more complex topological forms (comprehensible, to some degree, to the human mind) might not be understood as defining spaces that could hold the "territorial" relationships between those adhering to distinct perspectives. A tentative radical assumption might be that, to the extent that such forms are indeed comprehensible to the human mind, they imply a pattern of conceptual or behavioural dynamics. Namely, because it can be imagined in mathematics and geometry, there is a probability that it corresponds to an understanding governing behaviour and the organization of belief systems.

Given the understanding of how disagreement is typically held by "polarization" and "sides", the specific question is how the geometry might hold such common judgements as:

- **positive vs negative**: Interesting in this case is the manner in which curvature of a surface, potentially forming a non-planar structure, can be defined as "positive" (convex) or "negative" (concave).
    - **positive**: Thus a sphere has constant positive curvature ensuring that it closes up. "Positive thinking" is arguable frequently associated in symbolic form with a sphere of some kind.
    - **negative**: On a saddle-like surface the curvature is negative; in the form of a pseudosphere of constant negative curvature (known as Dini's Surface); the surface will not close up and is also unbounded. This specific example highlights the possibility of associating unadulterated "negative thinking" with such a surface.

  Despite its positive curvature, in the case of the sphere (as with the planet), it is interesting that the contrast between "positive" and "negative" is associated dynamically with the manner in which part of the surface is enlightened and part endarkened by an external source of light -- the situation changing with rotation of the globe on its axis (essential to to the rhythms of daily life). Potentially of greater significance are surfaces on which there is a mix of positive and negative curvature in order to hold both "positive thinking" and "negative thinking", especially when such a judgement is reciprocated.

  In the case of the "sides" of a plane surface, each may be considered "positive" by those adhering to the views associated with that side, in contrast to their view of the opposite side as "negative". Similarly convex curvature could be labelled "positive" and

concave curvature "negative" since such labels are merely a matter of convention.

- **objective vs subjective**: Convex and concave surface curvature might now be used to hold "objective" and "subjective" perspectives -- given the contrast between them and the controversy to which they give rise (Max Deutscher, *Subjecting and Objecting*, 1983). The properties of convex and concave lenses and mirrors with respect to an "object" and an image might be further explored.

- **agreement vs disagreement**: It is interesting that "positive" curvature (as with a sphere) ensures, from any position on the **outer** surface, a horizon effect such that other more distant positions on the surface are not visible. Essentially they are "out of sight", if not "out of mind" -- avoiding any need to "disagree" with them, thereby sustaining universally an unchallenged "positive" perspective. In the case of "negative" curvature, distant positions on the **inner** surface are typically visible, highlighting potential disagreement with them. The situation is of course reversed from the **inner** surface in the case of "positive" curvature (as with a sphere).

Clearly the subtler points raised by Schiltz (above) regarding the engagement with complex surfaces merit much more consideration regarding how they hold significance and distinct understandings. Of relevance are the pathways of continuity between such positions, notably as might be suggested by the nature of questions in forming the space of discourse and the relation of that formation to the forms recognized by catastrophe theory (*Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness*, 2004; *Conformality of 7 WH-questions to 7 Elementary Catastrophes: an exploration of potential psychosocial implications*, 2006).

Organization of knowledge and discourse space: the repertoire of surfaces

The above arguments point to the merit of a systematic review of the repertoire of surfaces, curved, closed or otherwise defined or presented, as by Xah Lee (*Gallery of Famous Surfaces*, 2004: non-orientable surfaces, pseudospherical surfaces, spherical surfaces, conics, minimal surfaces, etc) or by Wojciech Kocielniak (*Surfaces*). They may be seen as ways of mapping and modelling differences between psycho-social actors. The Java applet in the latter case is highly suggestive of the variety of different configurations that a group of participants in a gathering might form -- possibly successively as modelled by the flocking dynamics of boids (*Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society*, 2004).

As with analogous models offered by topology (as mentioned above) and discussed elsewhere (*Polyhedral Empowerment of Networks through Symmetry: psycho-social implications for organization and global governance*, 2008), the challenge is to recognize the role of dynamics beyond the statics that might readily be embodied by surfaces. The illusion of the explicatory power of static representations was remarkably "modelled" by the learnings of the successful achievement of the Human Genome Project -- as originally understood. The illusion was revealed by the discovery that it was the unexplored dynamics that were essential to any explanation of the variability -- otherwise inadequately described by what mapping was assumed would achieve. Assumption of adequacy of explanation through statics might even be named as the "Genome Syndrome".

Metaphorically it is interesting to think of surfaces as capable of:

- functioning to provide "cognitive lift" (as in aerodynamics)
- functioning dynamically somewhat like "cognitive trampolines" (especially in the case of a polyhedron in which the trampoline effect is from different surfaces with a common focus)
- functioning as a "cognitive antenna", with the contrast between line, polygon, polyhedron, etc (whether sending or receiving)

Such considerations raise the issue of the nature of "surfaces" that might be fruitfully associated with distinct ways of knowing -- if not "forms of knowledge":

- in the case of cultures, as suggested by the mindscapes of Magoroh Maruyma
- in the case of disciplines
- in the case of cognitive fusion (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006)

Forms of requisite complexity

The obvious challenge within that framework has the following characteristics:

- acquiring the ability to "shift" between surfaces, fruitfully understood by the metaphor of a cognitive gearbox
- learning/comprehension time required to acquire competence with any alternative surface
- adequate embodiment of complexity by any given surface
- ability to engage with the set of such surfaces in order to be able to shift meaningfully between them (namely comprehending the "gearbox")
- acquisition of the ability to "sacrifice" one surface for another, as explored in the cognitive "Language of Sacrifice" by Antonio de Nicolas (Meditations through the Rg Veda. Shambhala, 1978)

The comprehensive cognitive "models" (and Theories of Everything), as variously proposed, may then be understood as having characteristics of:

- cognitive "monkey bars"
- cognitive mountain climbing routes (René Daumal, *Mount Analogue: a novel of symbolically authentic non-Euclidean adventures*

in mountain climbing, 1952)
- cognitive vehicles enabling aerobatic routines (reminiscent of *Those Magnificent Men in Their Flying Machines*, 1965), usefully explored by Susan G. Sterrett (*Wittgenstein Flies a Kite: a story of models of wings and models of the world,* 2005) -- suggestive of the behavioural pattern of many "flitting around" knowledge space offering perspectives from within their models

Dimensions: All these characteristics highlight the problem of information overload and comprehension capacity. The nature of the challenge acquires more "dimensions" when the potential relevance of symmetry group theory is taken into consideration, especially given the significance attributed to its complex discoveries (*Dynamics of Symmetry Group Theorizing: comprehension of psycho-social implication*, 2008). These have been the subject of two notable efforts at rendering comprehensible their mathematical significance as fundamental to the organization of the universe:

- Mark Ronan (*Symmetry and the Monster: one of the greatest quests of mathematics,* 2006)
- Marcus du Sautoy (*Finding Moonshine: a mathematician's journey through symmetry*, 2008)

The challenge of their psycho-social significance is another matter (*Potential Psychosocial Significance of Monstrous Moonshine: an exceptional form of symmetry as a Rosetta stone for cognitive frameworks*, 2007), especially given the counter-intuitive connectivity -- hence "moonshine" -- upon which their explanations depend (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007).

People are now called upon to attach credibility to the belief of an elite group of mathematicians in the existence of a "Monster group" -- a "preposterous snowflake" that can only be "faithfully represented" in 196883 "dimensions" and contains more than $8x10^{53}$ "elements" offering 1050 symmetries. It might be suggested that there is a certain simple degree of symmetry between the expectation by Richard Dawkins of people with regard to the "*God Delusion*" (2006) and that of mathematicians with regard to the existence of such a "Monster group" -- **especially when failure to believe in the evidence for either may be judged only in binary terms**.

Of related potential significance, but of more modest dimensionality, is the complex Lie group E8 of complex dimension 248 -- for which a number of visualization tools have been developed. Some mathematicians consider the form to be the most beautiful shape in mathematics. Recently this was used, controversially, as the basis of a theory of everything by Antony Garrett Lisi (*An Exceptionally Simple Theory of Everything*, 2007) -- for which an animation has been provided towards comprehension of that theory and its significance.

Psychosocial significance: Seemingly, perhaps with the honourable exception of Michael Leyton (*Shape as Memory: a geometric theory of architecture*, 2006; *A Generative Theory of Shape*, 2001; *Symmetry, Causality, Mind*, 1992), there is -- perhaps understandably -- very little interest in the psycho-social significance by those capable of comprehending such forms, in a society in desperate need of integrative, comprehensible insights of adequate complexity. Leyton is president of the International Society for Group Theory in Cognitive Science. His work relating curvature, symmetry and cognition of potentially great relevance to the concerns articulated here (Michael Leyton, *Symmetry-Curvature Duality*, 1987).

In Lisi's theory for example each of the 248 symmetries of E8 corresponds to a different elementary particle, which can interact according to the geometry of E8. As Lisi describes it: "The principal bundle connection and its curvature describe how the E8 manifold twists and turns over spacetime, reproducing all known fields and dynamics through pure geometry." The complicated geometry of the E8 Lie group is described graphically using group representation theory. Using this mathematical description, each symmetry of a group -- and so each kind of elementary particle -- can be associated with a point in a diagram.

"Schizoid" group theory: It is perhaps the most supreme form of irony that insights into the highest forms of symmetry -- fundamental to the structure of the universe -- emerge from a "group theory" of mathematics which is considered totally distinct from a "group theory" of the social sciences (as in Mary J. Fambrough, *The Changing Epistemological Assumptions of Group Theory*, *The Journal of Applied Behavioral Science*, 2006). It is the insights of the latter which are supposedly of relevance to the alleviation of the bloody lack of harmony between different perspectives in a global civilization. This confusion is only too evident in web searches. It matches that described with respect to the "correspondences" considered fundamental to the mathematical "moonshine" conjecture (*Theories of Correspondences -- and potential equivalences between them in correlative thinking*, 2007).

Sentient World Simulation: It would be agreeable to believe that some consideration was being given to a reconciliation between Lisi's insights and those of the multiplicity of group perspectives in society -- perhaps to be understood as its "elementary particles". Some such "correspondences" -- necessarily "moonshine" -- might have emerged from the Joint Simulation System initiated in 1995 (Kari Pugh and Collie Johnson, *Building a Simulation World to Match the Real World*; James W. Hollenbach and William L. Alexander, *Executing the DOD Modelling and Simulation Strategy: making simulation systems of systems a reality*, 1997). This has seemingly now morphed, via the Total Information Awareness program, into the Sentient World Simulation (SWS) and will be a "synthetic mirror of the real world with automated continuous calibration with respect to current real-world information" with a node representing with a node representing "every man, woman and child" -- presumably including those responsible for the SWS itself. "Sophisticated physics" were integrated into the simulation in 2007. Regrettably, as might be expected, this is being undertaken entirely in the interests of a US strategic defence strategy on behalf of the US Department of Defense (Mark Baard, *Sentient World: war games on the grandest scale -- Sim Strife*, *The Register*, 23 June 2007).

Understandably SWS will necessarily acquire a bias of defensiveness, as argued with respect to ECHELON with which SWS would presumably be functionally integrated (*From ECHELON to NOLEHCE: enabling a strategic conversion to a faith-based global brain*, 2007). Of interest is how it might be integrated with:

- the strategic methodology of a recent study by the RAND Corporation's National Security Division (Paul K. Davis, *et al.*, *Enhancing Strategic Planning with Massive Scenario Generation Theory and Experiments*, 2007).
- the recognition of the possibilities of "crowdsourcing", community-based design or distributed participatory design

Especially with respect to global strategic development, a fashionable phrase such as "crowdsourcing" -- as derived from "outsourcing" -- suggests a degree of selective exploitation that shares characteristics with the traditional exploitation of developing countries. There are challenges to the viability of such approaches that merit recognition (*Practicalities of Participatory Democracy with International Institutions: attitudinal, quantitative and qualitative challenges*, 2003) -- notably in the light of the BBC phone-in scandals of 2007 as indicative of the manner in which "feedback" of any kind may be handled in practice, in the absence of proof to the contrary.

Bridging forms of group theory: In considering the nature of any "bridge" between the two forms of "group theory", speculation might focus on possibilities such as the following:

- given that it is far from clear what meaning is to be associated with "dimension", as the number of such "dimensions" increases, perhaps it is better understood in terms of the traditional Chinese understanding of "orientation" -- beyond its simpler geographical significance; orientation might then be generalized to including strategic understandings of "way", "pathway" and "direction"

- from such a perspective, the 248 dimensions and symmetries, as they encode "elementary particles", might be understood as the "have-able" views (or "pursuable pathways"); curiously Antony Jay (*Corporation Man*, 1972), identified various levels of size constraint on organizations: "ten group" of 3-12 (work group, project group, task force); "camp" of 20-60 (work group plus those dependent upon their activity or servicing their requirements); "tribe" of 300-1000 (identity group, mutual recognition), arguing for the latter case that some 250 represented a maximum number of personnel personally recognizable by the CEO.

- given the mnemonic constraints on comprehension, it would be interesting to relate Lisi's approach to that of a possible relationship to:
    - the classical Chinese encoding of complexity and change through the binary system of the 64 hexagrams of the *I Ching*
    - the classic Theravada Buddhist text of the *Brahmajala Sutta* (*The Discourse on the All-Embracing Net of Views*) mapping out as a system the complete set of fundamental viewpoints, namely a scheme of 62 cases designed to include all possible views (18 regarding the past and 44 regarding the future) on the central concern of speculative thought, the nature of the self in relation to the world; its patterning principles bear an intriguing relationship to the 4-phase, 8-phase and 16-phase structure of the *I Ching* framework (*Discovering Richer Patterns of Comprehension to Reframe Polarization*, 1998)
    - the classic Mahayana Buddhist metaphor of Indra's Net which might be seen as complementary to the *All Embracing Net* of Theravada, with the special insight into the manner in which all the "views" are mutually reflected within one another. The metaphor has notably been used by Dougals R. Hofstadter (*Gödel, Escher, Bach: : an Eternal Golden Braid*, 1979; *I Am a Strange Loop*, 2007) in arguments relating to self-reflexivity

- from such a perspective, might 248 "have-able" views "resonate" in some way with simpler harmonics -- perhaps as suggested by representation of 8-dimensional polytopes (8-polytope)

- the possibility that there is a significant cognitive relationship between 248 (as 4x62) and 256 (as 4x64) -- potentially of the same order as the curious numerological connectivity, initially labelled "monstrous moonshine" by mathematicians, that led to discovery of the Monster group.

No matter how sophisticated and "global" the simulation, or the multidimensionality of the objects of symmetry group theory, the challenge will always be that of "stepping down" the insights to a degree comprehensible by those who have to relate their relevance to social reality -- and to those who have to judge their understanding to be credible. The constraints on the role and capacity of whomever is called upon to comprehend complexity become fundamental. This is a major merit of the metaphorical allusions of the *I Ching* (*Transformation Metaphors -- derived experimentally from the Chinese Book of Changes (I Ching) for sustainable dialogue, vision, conferencing, policy, network, community and lifestyle*, 1997).

The key question is of course the relevance to new social change initiatives and the variety of perspectives and stakeholders they need to interrelate -- dynamically and in the moment.

Existential position in the moment

Within a context such as articulated above, it seems increasingly appropriate to explore one's own existential position -- in the moment, emerging from the past and facing the future. So many seem to know what should be done and what I should do in support of their agendas. I am variously called upon to meet other standards, in whose formulation I have not participated and which do not inspire me as being adequate to the situation.

Curiously this situation is primarily characterized by the disagreements of the formulators of such agendas with each other -- to the point of mutual demonization -- and the relatively primitive approaches to their reconciliation. The resultant proposals are neither of requisite complexity as a response to the challenge or to the nature of their differences. And yet they are upheld as leaders of social change. And I may be demonized as an unbeliever for my failure to subscribe to some such articulation.

It is then easy to be alienated from the fragmented knowledges such initiatives present, and (re)present, from their respective high grounds. The immense riches of mathematics, to which the above remarks allude, are however seemingly only accessible through what amounts to a cognitive exoskeleton providing the necessary augmentation of intelligence. And yet they are of unrecognizable relevance in practice. Most probably because I am unfamiliar with that language -- but then who is?

Is it a case of:

- what I need to understand may only be expressible in a language that I do not yet know ?

- if I do not understand how I am part of the problem, I cannot understand the nature of the solution required ?

The challenge for many seems to involve a combination of:

- what amounts to some form of epistemological body odour (*Epistemological Challenge of Cognitive Body Odour: exploring the underside of dialogue*, 2006), more euphemistically expressed in terms of a dislike for the styles of selected others and more covertly expressed through efforts to impose a particular style (and resistance to such efforts)
- a form of arrogant "blanket pulling" through which we all effectively seek to position our own worldviews as central
- a sense of information overload and a preference for particular priorities (with which we are "very busy"), which effectively frame the priorities of many others as irrelevant (*Communication with Whom, about What, Where and Why?*, 2008)
- a recognition that a number of significant people one admires increasingly hold the view: "why bother?"

The situation manifests in phenomena such as:

- Donald Rumsfeld's much-publicized assertion regarding the "unknown knowns" and the "unknown unknowns"
- extraordinarily contrasting understandings of right and wrong, best highlighted by suicide bombers
- confusion as to "where" is better or worse
- a sense of one's own:
  - knowing, whatever the apparent degree of knowing/not-knowing of others
  - boredom with repeatedly rehearsed patterns, associated with the challenge of what information to "consume"
- the possibility of suffering from memetic analogues to diseases (*Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008)
- the challenge of what is seemingly incomprehensible
- the nature of commitment, to oneself and to others, in response to the challenge of the times -- especially when so many commitments at the highest level are seemingly pure exercises in tokenism

"Re-cognition" as a basis for fruitful dialogue

Dialogue: Dialogue has been promoted over decades. Unfortunately 9/11 was symptomatic of its inherent inadequacies -- 2001 was in fact the UN Year of Dialogue among Civilizations. Just as those matching a certain physical profile may be seized (or even killed) as suspected militants, the term "dialogue" is used to profile many encounters thereby held to be necessarily fruitful. Clearly they have proven to be less fruitful than the situation demanded, however much they meet the needs of participants and public relations. Inter-faith dialogues offer a "striking" example.

Such inadequacies are not for lack of research on dialogue -- and the emergence of a whole profession of facilitators with a plethora of methods to meet every need. What is missing? What inhibits encounters from being significantly transformative? (*Documents relating to Dialogue and Transformative Conferencing*). **Why is it typically assumed that the next encounter will not be undermined by the same behavioural patterns as the last?**

Is it a case of fulfilling George Santayana's "prophecy": *Those who cannot remember the past, are condemned to repeat it* ? Is collective memory increasingly challenged (*Societal Learning and the Erosion of Collective Memory*, 1980) -- especially since Santayana's insight is seldom remembered in practice?

Or is it a desperate desire to forget the problematic past and "move on" -- aided by hope and "positive thinking"? (*Credibility Crunch engendered by Hope-mongering*, 2008; *Being Positive Avoiding Negativity: Management challenge of positive vs negative*, 2005). Without doubt, can there be any basis for dialogue or the emergence of new perspectives? No doubt, No dialogue?

Has the decade-long quest for an elusive "sustainable development" been undermined by the fact that dialogue itself has proven to be essentially unsustainable, except in a more superficial, "feel-good" sense? If sustainable dialogue is essential for sustainable strategy, what might it involve? (*Sustainable Dialogue as a Necessary Template for Sustainable Global Community*, 1995)

The question has however to be reframed now that "sustainable development" has effectively had to be abandoned -- to be replaced by "change", although presumably implying "sustainable change". But this is itself now challenged by "climate change" as the ultimate crisis facing humanity and the planet -- replacing that so recently formulated as the global challenge of "terrorism" and "extremism" (for centuries to come).

Re-cognition: If the missing factor required to render sustainable dialogue "sustainable" is some form of "re-cognition", how might this be understood? Some indicators include:

- ensuring a degree of doubt, resisting declarative statements, to avoid premature closure, groupthink, silo thinking and tunnel vision, possible focusing in new ways on holding questions rather than avoiding them through simplistic answers (*Conformality of 7 WH-questions to 7 Elementary Catastrophes: an exploration of potential psychosocial implications*, 2006)
- acknowledging the counter-intuitive dimension originally highlighted by the work of Jay W. Forrester (*Counterintuitive Behavior of Social Systems*, *Technology Review*, January 1971; *Designing the Future*. 1998)
- recognizing the tendency to category manipulation (*Category Manipulation in Global Dialogue*, 2000)
- ensuring a requisite variety of incompatible perspectives and "ways of knowing" that are potentially complementary (*Systems of Categories Distinguishing Cultural Biases*, 1993; *Using disagreements for superordinate frame configuration*)
- recognizing the inadequacy of any particular "language" and the need for complementary languages (*12 Complementary Languages for Sustainable Governance*, 2003)
- recognizing that the strategic preference for "vision" may be inadequate for the navigation of a complex future in which other senses are also required (*Strategic Challenge of Polysensorial Knowledge: bringing the "elephant" into "focus"*, 2008)

- recognizing the role of humour and playfullness (*Humour and Play-Fullness: essential integrative processes in governance, religion and transdisciplinarity*, 2005; *Playfully Changing the Prevailing Climate of Opinion: climate change as focal metaphor of effective global governance*, 2005)

Together these pose a challenge of a higher order in recognizing that:

- any such use of complementary "categories", "perspectives", "languages" and "senses" constitutes a real challenge to preferences for simple, intuitive understandings of a "global", "planetary", "unified", "harmonised", "integrative" worldview or "way" forward (*Dynamic Reframing of "Union": implications for the coherence of knowledge, social organization and personal identity*, 2007; *In Quest of "Meta-Union"?* 2007)
- unusual memory aids are required to augment collective intelligence (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007; *A Singable Earth Charter, EU Constitution or Global Ethic?* 2006)
- the paradoxical nature of the challenge in that it calls for a degree of self-reflexivity that is atypical of conventional gatherings (*Consciously Self-reflexive Global Initiatives: Renaissance zones, complex adaptive systems, and third order organizations*, 2007)
- the complexity, and the capacity to render it meaningful, may be such that much of potential relevance is necessarily beyond adequate articulation (*Global Strategic Implications of the "Unsaid": from myth-making towards a "wisdom society"*, 2003: *Being What You Want: problematic kataphatic identity vs. potential of apophatic identity?*, 2008)
- such limitations require whatever attention is possible to vigilance of a higher order (*Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness*, 2004)

Dimensionality and psychoactive engagement

It is within this context that the range of contemporary challenges merits "re-thinking": A case might be made for distinguishing:

- "1st order": conventional approaches to categories as typically presented in strategic initiatives in which no effort is made to question any common understanding of a category, which may in fact locking thinking into the patterns that inhibit any effective change
- "2nd order": typical challenges to get "out-of-the-box" they represent, as implied by arguments of such as Edward de Bono (*I Am Right -- You Are Wrong: From This to the New Renaissance (From Rock Logic to Water Logic*), 1990) with respect to the need for "new thinking" or by Nigel May Barlow (*Re-think: how to think differently*, 2006).
- "3rd order": re-thinking how the category is apprehended and how it entraps (*Metaphoric Entrapment in Time: avoiding the trap of Project Logic*, 2000)

Is it possible that there is a 1-dimensional approach to engagement with categories, a 2-dimensional approach, and the possibility of an n-dimensional approach? A mathematician has provocatively entitled his approach to highlight that concern (Ron Atkin, *Multidimensional Man; can man live in 3-dimensional space?,* 1981). The possibility and need for some form of "psychoactive engagement" with categories has been variously explored elsewhere (*Creative Cognitive Engagement: beyond the limitations of descriptive patterning*, 2006; *En-minding the Extended Body: enactive engagement in conceptual shapeshifting and deep ecology*, 2003)

It would seem that such rethinking is especially vital with respect to well-defined categories fundamental both to intractable strategic challenges and to formal (governmental agencies) concerned with them. The categories include:

- **"job"**: might it be the case that the "employment crisis" is primarily the focus of "1st order" thinking. Is it possible that the frustration that many experience in conventional jobs is precisely due to the sense that they are understood to be "1-dimensional" in some way? What might be a "multi-dimensional" job? Would there be opportunities for jobs of this kind where this is not the case for "1-dimensional" jobs? Even the possibility that this might be the case would suggest that it should be investigated.
- **"remuneration"**: the scandal of the financial crisis, and those who have successfully avoided any responsibility for it (however complicit they may have been in engendering it), suggests that notions of remuneration call for rethinking. It has been made much clearer that "money" has more to do with "confidence" than with any "promises to pay" with which it is purportedly associated. What indeed is the range of ways in which society -- or others -- may express confidence in an individual? What expressions of confidence substitute for "money" and may be more highly valued? Is the monetary form of remuneration an example of "1st order" thinking, namely one by which economists have, to some degree, betrayed society for their own accounting convenience -- complicit as they have been in the processes which resulted in the financial crisis?
- **"shelter"**: does the conventional focus on "shelter" and "housing" encompass the essential challenge? Does this in fact go beyond the "1-dimensional" characteristics of the simplest physical containers, as they are shared by the better-sheltered farm animals -- or in systems of incarceration? What qualities of shelter are vital to a multi-dimensional sense of well-being? Is it possible that it is precisely this multi-dimensionality that offers windows of opportunity for alternative forms of shelter that are not available through "1st order" understanding of the category?
- **"education"**: many environments make it apparent that formal education does not necessarily provide access to the learnings that people value and from which they can benefit -- especially when they need to respond to an uncertain future. To what extent is the preoccupation with the delivery of education focusing on a "1st order" understanding of the challenge rather than on the potential opportunities of a multidimensional understanding of it -- that might well bypass resource and other constraints?
- **"poverty"**: in what ways have measures of "poverty" and "wealth" by economists constituted a "1-dimensional" framing of well-being, obscuring ways of being "wealthy" and "impoverished" that offer insights into alternative strategies that are more viable, given the constraints on conventional understanding of resources?
- **"relationship"**: given the fundamental importance of relationship to any sense of identity and community, to what extent have conventional categories of relationship (as reinforced by legislation) obscured understanding of other forms of relationship long celebrated by the arts?

The possibilities of such an approach, in moving beyond the constraints of what resource-challenged institutional programmes have long failed to deliver, have also been explored elsewhere (*Enminding: environmental challenges as a reflecting mirror*, 2006; *My Reflecting Mirror World making my World Summit on Sustainable Development worthwhile*, 2002; *Being Employed by the Future: reframing the immediate challenge of sustainable community*, 1996).

After a series of Development Decades, and a major revision of the method used to calculate poverty, in December 2008 the World Bank estimated that 1.4 billion people, or 25 percent of the population of the developing world, live below the international poverty line (Justin Yifu Lin, *Straight Talk: Shifting Perceptions of Poverty*, December 2008). For many scientists, the scale of global warming means that remedial action as envisaged is now "too little, too late (David Adam, *Too late? Why scientists say we should expect the worst*. *The Guardian*, 9 December 2008).

Given the complex of crises which the institutional system is failing adequately to address, it would seem that there is a strong case for rethinking the manner in which challenges are framed.

Whole system re-cognition

Global modelling: As implied above, it is curious that many of the supposedly tangible systems, on which **independent** conventional strategic initiatives have focused, are now challenged -- including: resources, food (and its distribution), water (and its distribution), climate, biodiversity, security, housing, energy. There have been numerous such initiatives, with their associated meetings and studies. This situation is even more curious in that the **interrelationship** between a set of such tangible systems was the subject of innovative global modelling publicized by the Club of Rome in 1972.

Especially interesting is the manner in which efforts to analyze the evolution of the world problematique from that time have themselves been undermined in an academic context. As shown by Graham Turner (*A Comparison of the Limits to Growth with Thirty Years of Reality*, CSIRO 2007), the original study provoked many criticisms which falsely stated its conclusions in order to discredit it. Despite the repeated substantiation of its conclusions, including warnings of overshoot and collapse, recommendations of fundamental changes of policy and behaviour for sustainability have not been taken up. One of its principal areas of focus was population.

Curiously, "global modelling" in its original and more general sense -- and as notably focused by the International Institute for Applied Systems Analysis (IIASA) and the Balaton Group -- has been transformed into a variety of specialized, non-interacting modelling initiatives. An exception may ironically prove to be the Sentient World Simulation of the US Department of Defense (as mentioned above).

This process of "undermining" multi-systemic integrative initiatives is evident in many contexts. One example is that relating to the *Encyclopedia of World Problems and Human Potential*, as an alternative approach to global modelling (*Assessment: Global modelling perspective*; *Simulating a Global Brain: using networks of international organizations, world problems, strategies, and values*, 2001).

Problematic dynamics: The challenge is most evident in the problematic dynamics of international institutions, initiatives and the associated meetings, on which useful reporting (other than in anecdotal and journalistic accounts) is rare. Examples of attempts at such analyses include:

- *International Organizations and the Generation of the Will to Change: the information systems required* (1970)
- *Learnings for the Future of Inter-Faith Dialogue: questions arising from the Parliament of the World's Religions (Chicago, 1993)*
- *Transdisciplinarity through Structured Dialogue: beyond sterile dualities in meetings to the challenge of participant impotence* (1994)
- *A Congress that Dared the Unthinkable: report on the First New Age Congress (Florence, 1978)*
- *Gardening Sustainable Psycommunities: recognizing the psycho-social integrities of the future* (1995)

Corresponding to the initial study for the Club of Rome on a world problematique, and its subsequent concern with a corresponding "resolutique", there is therefore arguably a case for a focus on such psychodynamics, as tentatively explored at the time (*World Dynamics and Psychodynamics: a step towards making abstract "world system" dynamic limitations meaningful to the individual*, 1971). This dimension was incorporated into a more recent study (*Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007). This recognized the degree of dysfunctional game-playing associated with any initiative -- as long recognized in anecdotal studies of game-playing in interpersonal relationships, notably by Eric Berne (*Games People Play: the psychology of human relations*, 1964), and in bureaucratic games, the focus of an earlier study by Eric Berne (*The Structures and Dynamics of Organizations and Groups*, 1961).

Although the nature of bureaucratic game-playing has been reviewed by Thomas Preston and Paul 't Hart (*Understanding and Evaluating Bureaucratic Politics: the nexus between political leaders and advisory systems*, *Political Psychology*, 1999), clarity on "academic politics" or "academic game-playing" is another matter -- well-disguised as it is by studies of sport and other games. This is of course understandable, since any attempt at such a study would be academic suicide within a university. It is one reason to acknowledge the achievement of Ron Atkin (1977) in studying the academic committee communication processes within his own university. A half-serious exception -- a "tip of the iceberg" -- is offered by Terrance Boult (*The Tenure Game*). The theme of "tenure games" has become the focus of a number of mathematical studies and role-playing games. Another approach has been that of M. Farrell (*Collaborative Circles: friendship dynamics and creative work*, 2001) and its criticism by Neil McLaughlin (*Collaborative Circles and Their Discontents: revisiting conflict and creativity in Frankfurt School Critical Theory*, *Sociologica*, 2008, 2). These obscure the scope of the problem acknowledged in a widely-cited quote of Henry Kissinger: *"University politics are vicious precisely because the stakes are so small*. It is no wonder that interdisciplinarity is severely inhibited when tokenism will not suffice..

The failure to take account of such problematic processes can usefully be seen in a context in which:

- development programmes have, after decades of denial, recognized the necessity to focus on corruption as a dynamic undermining successful implementation
- psychoanalysts and psychotherapists have recognized the necessity of acknowledging the "shadow" and its importance for integrative development
- ecologists have recognized the need for certain species, previously destroyed as pests, for healthy ecosystems
- gardeners now devote considerable attention to the role of compost -- a recognition enhanced with the development of recycling attitudes
- traditional artists continue a millennial tradition of deliberately ensuring the presence of a notably imperfection in their work
- human relations departments of major institutions carefully analyze the strengths and weaknesses of personnel and those expected to function as a team
- it is now widely predicted, given the combination of economic and other crises, that the situations in which many will have to cope in practice in the future are quite distinct from the idealistic scenarios previously promoted as realistic outcomes of the initiatives envisaged

Shadow denial: It is curious therefore that vital social change initiatives are unable to acknowledge that they are anything less than perfect undertakings by "white knights" untainted in any way that might undermine the dynamics of their collective endeavour. Or that the initiative might require the consciously designed-in presence of checks and balances -- and appropriate monitoring. It is even more curious that those of "new age" persuasion, who reframe any perceptible failure as a valuable source of learning, are seemingly unable to apply such insights in anticipation of the dynamics of the next event in which they gather.

As a complement to the archetypal image of "white knights" gathered at a roundtable, there is therefore a case for recognition of a shadowy dynamic amongst them (*Pattern of Meeting Participant Roles: shadowy 'roundtable' hidden within every meeting*, 1993) -- irrespective of the forces that oppose them (*The "Dark Riders" of Social Change: a challenge for any Fellowship of the Ring*, 2002).

None of this takes account of the insights offered by the contrast between "finite" and "infinite" games, as highlighted by James P Carse (*Finite and Infinite Games: a vision of life as play and possibility*, 1986). Nor does it address the larger challenge of the relationship between the "world problematique" and any collective "shadow of humanity" as suggested elsewhere in commentary on the *Encyclopedia of World Problems and Human Potential* (*Integration of perceived problems*).

From such a perspective, the common tendency to focus on "planetary consciousness", "global village", and other hopeful symbols of intuited integrative possibilities, functions as much to distract and obscure as it does to enlighten. It is essentially "superficial" -- however this may be related to a topological understanding of "surfaces".

Embodying richer understanding: The challenge is to articulate a richer understanding that would embody essential differences in perspective to a greater degree -- consistent with the role they are called upon to play in any psychosocial ecosystem. What is the dynamic that might hold such a variety of relationships to ensure an emergent form of coherence? Put differently, what is the multi-part symphonic music that does not require that everyone sing from the same "global hymn sheet"? Rather than a set of logical relationships, a geometry or topology, how do the expressed value dynamics function as psychoactive attractors (*Human Values as Strange Attractors: coevolution of classes of governance principles*, 1993).

The question is how to "re-think" the possibilities of any such articulation in order to render it as widely meaningful as possible, and to allow for the variety of partial understandings thereof, notably as they may be seen from an emergent future. Some clues would appear to be:

- a conscious recognition of the possibility of shifting beyond the constraints of mono-sensorial understanding ("insight") to a polysensorial approach, as argued elsewhere (*Strategic Challenge of Polysensorial Knowledge: bringing the "elephant" into "focus"*, 2008)
- implications of synaesthesia as acknowledged in the arts and traditional cultures (B. Galeyev, *Synaesthesia is not a psychic anomaly but a form of non-verbal thinking*, 1999).
- a recognition of the cognitive implications of dynamics (*Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement*, 2002)
- unexplored potentials of music and song (*Knowledge Gardening through Music: patterns of coherence for future African management as an alternative to Project Logic*, 2000; *A Singable Earth Charter, EU Constitution or Global Ethic?* 2006; *Participative Development Process for Singable Declarations: applying the Wikipedia-Wikimedia-WikiMusic concept to constitutions*, 2006)
- a recognition of the strategic role of poetry (*Poetry-making and Policy-making Arranging a Marriage between Beauty and the Beast*, 1993), especially given its vital importance in the Islamic tradition its potential for unusual forms of strategic dialogue (*Proposal for an Exploratory International Conference: poetry-making and policy-making*, 1993)
- the possibilities of more integrative comprehension from the resonance between more generic understandings of relationships and associations (logical, kinship, musical, poetic, ball-passing, etc), perhaps as variously represented by the different intelligences of multiple intelligence theory -- and their function with collective intelligence (Mark Tovey, *Collective Intelligence*, 2008).
- ensuring more imaginative emphasis on the cognitive potentials of gatherings (*Dialogue: conceptual weaknesses of conferencing*)

Conclusion

Despite arguments such as those above, or because of their particular style, it is is important to recognize that the "new thinking" that will be applied to global crises in the foreseeable future will be very short on "global" coherence (military initiatives aside), especially at the

grassroots level, and will be in all probability be focused on:

- public relations, social change spin, and promises that "next year will be better"
- isolated initiatives, notably the psychosocial and virtual analogues of gated residential communities and complexes within which various understandings of desirable coherence can be imposed (*Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society*, 2004)
- fire-fighting strategies in response to "unexpected" crises as they emerge -- strategies which can be fruitfully promoted as responding to immediate need

Perhaps the main merit of the arguments presented above is that they point to possibilities and learnings which can be enriched and amended by exposure to the "interesting times" in which people will now be obliged to live.

Given that a fundamental challenge in the current concept of strategic initiatives is the degree of intractable disagreement with which they are faced, externally and internally, of particular interest are the complex frameworks (discussed above) of symmetry group theory, the *I Ching* and the *All Embracing Net of Views*.

Whether any particular initiative, or change "pathway", can be fruitfully seen as an exploration of just one of the 62 "views" of the latter, or one of the 248 "dimensions" of the E8 group, remains to be seen. This would at least recognize the potential complementarity of 61 other "views" or 247 other "dimensions" that may be otherwise explored. Through what topological "forms" or "surfaces" they might be understood as related is another matter -- especially for oneself.

Case study in self-reflexivity: State of the "World Forum" vs "State of the World" Forum

This is the focus of an Annex: *State of the "World Forum" vs "State of the World" Forum: challenge of reflexivity* (2009).

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