



# *laetus in praesens*

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## **Evoking Authenticity** **through polyhedral global configuration of local paradoxes**

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### **Introduction**

Society is highly stressed by a range of amazing paradoxes, contradictions or intractable inequalities. Most frequently cited, for example, is the fact that the top 20 percent of society worldwide owns or controls 86 percent of resources, and the bottom 20 percent owns or controls 1 percent of resources. This situation is most forcefully exemplified by the income disparity between employees of a corporation and the disproportionate financial rewards accorded to their CEOs.

A second example might be the explicit [constitutional right of citizens to bear arms](#) in the world's exemplar of democracy (a major trader in such arms) -- which officially supports the "decommissioning" of weapons of opposing factions in Northern Ireland, but fails to promote that constitutional right amongst its coalition partners and as a key factor in its efforts to export democracy to other countries. Is a heavily armed citizenry to be considered essential to the checks and balances of such a democratic system -- and to its comprehension and successful uptake by others?

Individuals have to deal with such "irrational" situations, whether in their personal capacity or through the organizations in which they work. They have to explain them to their children. The track record of national and international institutions in responding to these situations is far from encouraging. In the example cited, the gap is known to be increasing between rich and poor.

Following the dramatic shift towards a monopolar world system as a result of the new new strategic policy of the USA, this paper explores the fruitful implications of the challenges highlighted in an earlier paper ([America as Eve-ill Empire: Evocation of Authenticity Elsewhere](#), 2003)

The exploration which follows focuses on the possibility that by both recognizing the range of these paradoxes, as well as configuring them appropriately together, a much healthier way forward will emerge. This approach is distinct from that employed in global modelling (based on systems analysis), or in identifying the elaborate networks of relationships between [problems](#) or [strategies](#). The concern here is with how the configuration of paradoxes is comprehended as a whole, especially by an individual who is in many ways torn apart by

them -- for example: longing to be richer (evoking envy) and feeling guilty compassion for the poorer (associated with a degree of disdain).

The specific focus is on whether the range of paradoxes can be represented and comprehended as a spherically symmetrical polyhedral structure. Of particular interest is whether such a "global" structure could be endowed with the mnemonic properties which, through their pattern of interference, could evoke another way of being in the world. The question is whether, appropriately configured, a pattern of paradoxical disparities could constitute a form of "gateway" -- through which a more authentic and integrated mode of being becomes viable, whether for society or for the individual.

## Paradoxes

Paradoxes and contradictions are here considered to be dissonant opposites whose existence undermines the coherence of behaviour ordered by rational principles. This can form the basis of an alternative approach to aesthetics, as in [Paradoxism](#) initiated by [Florentin Smarandache](#) [more]. The concern of this paper, however, is that they force people to act in ways with which they are not comfortable and that are troubling to their consciences. This may be accompanied by complex exercises of rationalization and denial. It may be difficult to reconcile such differences, especially in response to the pointed questions of innocent children.

As discussed elsewhere ([Antagonistic Dualities: Polarization and Paradox](#), 1983), one approach to the logical discontinuity between contradictory "answers" is through the study of paradoxes. For Solomon Marcus (1982): "Paradoxes occur when two different levels of knowledge, of language, of communication, of reality, of human behaviour, etc. are seen as one level, are mixed, are superposed, are combined, or are confused." He gives 18 pairs of levels which demonstrate a variety of paradoxes of which some are well-known to specialists.

To clarify the semiotic difficulties involved, Marcus groups them into four types:

- a. *Semiparadox*: A **against** B, but not necessarily B against A (e.g. "Mary gave birth to a child and got married")
- b. *Paradox*: A **against** B, and B **against** A. If "against" is a logical negation, for example, this results in a logical paradox (e.g. when something is simultaneously good and bad)
- c. *Semiantinomy*: A **against** B, and A **for** B, where "for" is a binary relation which is inverse with respect to the relation "against" (e.g. the well-known claim of Epimenides the Cretan that "All Cretans are always liars")
- d. *Antinomy*: where (A, B) and (B, A) are both semiantinomies, such that the first term of a dichotomy both opposes and needs the second term, with the terms attracting and rejecting each other.

Solomon Marcus and Monica Tataram have applied these distinctions in the analysis of 60 interacting global trends noted by the Goals, Processes and Indicators of Development Project (*Paradoxical and antinomic aspects of the global trends in the world today*, 1982). They argue:

"When dealing with the contemporary world, a basic step is to learn how to progress from a descriptive to an evaluative analysis, from what is directly perceived to what is scientifically understood, although such an understanding may sometimes surprise the intuitive perception... Many such trends are organized in opposite pairs, but their contradictory nature is much more richer and perfidious than what these binary oppositions reflect."

The difficulty with any such approach is that the very logic of the method employed disguises the full force of the paradox and of the hiatus it engenders in any univocal communication. It effectively prevents the insertion of the engendering elements into the same framework, unless they are denatured and converted into symbolic entities, as in the case of the Marcus initiative.

A particular concern here is with the way in which such unresolved differences get internalized as tensions that undermine individual and collective health and any feeling of well-being. In a sense exposure to a paradox is to place oneself "in the line of fire". This may be used to advantage or may, through stress, be a direct cause of ill-health.

Colin Talbot (*How the Public Sector Got its Contradictions*, 2003) makes a useful comment on choice of terminology:

I use the word 'paradox' to denote apparently mutually exclusive and contradictory elements of a situation or system that nevertheless do co-exist. As I will explain later, I prefer the term 'paradox' to that of 'contradiction' because in the Marxist and Hegelian traditions, which have largely appropriated the term contradiction, it has become inextricably linked to the idea of synthesis - that is resolution of contradictions. My emphasis is on irresolvable, permanent, contradictions and the notion of 'paradox' captures this more accurately and strongly.

Talbot distinguishes three types of contradictions:

- Dilemmas are contradictions that can be resolved by simply making a choice between two incompatible alternatives. This is the most often adopted approach when examining contradictory aspects of public institutions.
- The second approach - and type of contradiction -- comes from the Marxist/Hegelian tradition and involves the dialectical synthesis of the (contradictory) aspects of two phenomena to produce a third -- new -- 'thing'. In the Marxist/Hegelian tradition synthesis is always positive, that is it moves in a 'progressive' direction.
- There is however a third approach to contradictions which sees them (or at least some of them) as permanent -- that is they will not go away. They cannot be resolved either through choice (as with dilemmas) or by synthesis. If choice is exercised in favour of one 'pole' of the contradiction the other pole will not be suppressed, it will simply resurface later, or in a slightly different guise.

[[more](#)]

It is the latter which is the prime focus of what follows. Talbot introduces the valuable question: Why is it that paradoxical political, organisational or managerial behaviour seems to be not merely possible but actually beneficial, in certain circumstances?

Such paradoxes may be particular to an individual and may be fundamentally disruptive of the harmonious flow of daily life (as notably identified in Chinese as \*\*\* or in Japanese as \*\*\*). The disturbing paradoxes for some may be of little significance to others.

A suggestive preliminary checklist for consideration in this process might include:

<ul style="list-style-type: none"><li>• rich/poor</li><li>• healthy/unhealthy</li><li>• starvation/obesity (eating disorders, bulimia, anorexia)</li><li>• educated/uneducated</li><li>• security/insecurity -- violence</li><li>• tolerance/intolerance</li><li>• strong/weak</li><li>• polluted/unpolluted</li><li>• degraded/undegraded (ecosystems)</li><li>• truth/misinformation</li><li>• youth/age</li><li>• life/death</li><li>• comprehensible / incomprehensible</li><li>• fast / slow (pace, food, stress)</li><li>• dense / sparse</li><li>• noise / silence</li><li>• intellect/emotion (head / heart)</li></ul>	<ul style="list-style-type: none"><li>• abundance / austerity (waste, profligacy)</li><li>• ugliness / beauty</li><li>• belief / unbelief</li><li>• caring indifference</li><li>• complexity / simplicity</li><li>• value-laden / value-free</li><li>• light / dark -- skin pigmentation (tanning)</li><li>• fragrant / putrid</li><li>• able / handicapped</li><li>• solitary / gregarious</li><li>• individual / community</li><li>• substance abuse / temperance</li><li>• armed / disarmed</li><li>• longing / contentment ("distant fields")</li><li>• transparent / secretive</li><li>• rudeness / courtesy</li></ul>
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Such a random selection may be seen intellectually as simply a list of antonyms. The emphasis here however is on the experiential response to such antonyms as they are used to categorize and order phenomena of daily life. An extensive study of these antonyms has been made in the context of a project on [Human Values](#) [[more](#)]. A comprehensive list of some 3,000 value concepts was ordered and clustered in terms of 230 [value polarities](#), like those above. The study pointed to the possibility of globally configuring all such value polarities together [[more](#)]. Some steps were taken in this direction in the [online version](#) of this database, but were handicapped by constraints of mathematical algorithms and computer graphics technology [[more](#)].

At this stage, without denying the possibility and desirability of more complex and comprehensive configuration, the focus here is on any individual's personal choice of the more limited (say 4-12) active paradoxes that "torture" their own daily life.

## Bridging a paradox: opening a new space

Faced with a paradox, an individual has effectively to deal with the coexistence of two incommensurable world views that manifest as a form of dissonance. This dissonance may be stated in dry factual terms, as in the opening paragraph of this paper. Doing so ensures a distance from their experiential reality. In the case of the first example above, however, coming face to face with an impoverished child in the gutters of Calcutta, whilst carrying a wallet of money that could feed the child for a lifetime, is another matter. The paradox is rendered more acute when the gutter is outside the house of a person richer than most could every hope to be in the West. Variants of this situation exist in every country.

The individual in such situations is faced with a dynamic that can be handled in various ways -- none of which take away the nature of the paradox. Dysfunctionally this is best seen in the dynamics associated with substance abuse in a family setting (as notably explored by [Transactional Analysis](#)). But, potentially, it is the individual that can simultaneously attach meaningful value separately to both of the incompatible world views. It is the individual that may see both situations in a form of "value stereoscopy" through which a curious form of integrative aesthetic "perspective" is obtained. Failure to acquire such a "stereoscopic" view renders the individual vulnerable to being sucked uncontrollably into the chaotic dynamics to which he is then exposed.

The linear polar relation is bridged by the individual who introduces a third pole -- the awareness from which the polarity is experienced. The individual becomes the "bridge" through which the dissonance is reconciled -- but only by participating in that dissonance as in a piece of avant garde music. It is in this bridging that we are shifted out of linearity and binary thinking. We construct or constitute the bridge across the paradoxes (polarities) that we perceive.

Such issues have notably been explored from a theological perspective by John Robinson's analysis (*Truth is Two-eyed*, 1979). In arguing for a heterogeneity of epistemologies, Magoroh Maruyama (*Paradigmatology and its Applications*, 1974, p. 84) offers a beautiful metaphor in response to the (homogenistic) question "but which one is correct?" Maruyama's argument for "poly-ocular vision" calls for the use of different mind-sets together in order to transcend the limitations of each -- as in binocular vision. It is irrelevant to ask which eye has the "correct" picture and which the "wrong" one. For him: "Binocular vision works, not because two eyes see different sides of the same object, but because the differential between the two images enables the brain to compute the invisible dimension". The brain computes a third dimension which cannot be directly perceived. And if we live in a multidimensional space even more epistemological "eyes" are required. Reducing such vision to the parts in common provides much less than monocular vision. The co-presence of distinct perspectives ensures that from their differential an individual can envisage a more fundamental insight.

The difficulty with Maruyama's presentation however, is that he often appears to associate such "poly-ocular" vision with the heterogeneity characteristic of Japanese culture, although this may not be his intention. This would then preclude the use of a

homogenistic epistemological "eye" in any such poly-ocular configuration. Each "eye" has its inherent limitations and strengths, and the homogenistic "eye" presumably has its own vital contribution to make to the process of encompassing (or responding to) the complexity of our collective condition. In terms of his metaphor, this paper is about the design of such poly-ocular configurations and how they may be comprehended through any given "eye". His work, with J O Harvey's (*Experience, Structure and Adaptability*, 1966), demonstrates that a minimum of four such "eyes" are required to describe the variety of perceptions of our collective reality (see also *Four Complementary Languages Required for Global Governance*, 1998).

For Vladimir Dimitrov and David Russell (*The Fuzziness of Communication: a catalyst for seeking consensus*, 1994):

Paradoxically, it is the ubiquitous fuzziness of language through which we clarify what is meaningful for us in every day communication. We communicate not to exchange accurate information, nor to look for a single comprehension of meaning, but to interact using the largest possible variety of fuzzy linguistic facets co-existing in parallel and complementing one another. The fuzziness of our 'linguaging' (Maturana and Varela 1988) imposes complementarity and serves to foster our interactions. It makes categorical oppositions in human communication lose their strength and even dissolve in favour of a never completely finished process of production of meaning. [more]

A cautionary note in relation to this issue is provided by George Orwell's classic identification of "doublethink" in his novel *Nineteen Eighty-four* (1949; Plume, 2003). In Thomas Pynchon's introduction to a new edition of that novel (extracted in *The road to 1984*, *Guardian* 3 May 2003), describing society today:

...there has arisen a sort of schizophrenic manner of thinking in which words like 'democracy' can bear two irreconcilable meanings, and such things as concentration camps and mass deportation can be right and wrong simultaneously. We recognise this 'sort of schizophrenic manner of thinking' as a source for one of the great achievements of this novel, one which has entered the everyday language of political discourse -- the identification and analysis of doublethink.... doublethink is a form of mental discipline whose goal, desirable and necessary to all party members, is to be able to believe two contradictory truths at the same time. This is nothing new, of course. We all do it. In social psychology it has long been known as "cognitive dissonance". Others like to call it "compartmentalisation". Some...have considered it evidence of genius...for American aphorist Yogi Berra it was coming to a fork in the road and taking it, for Schrödinger's cat, it was the quantum paradox of being alive and dead at the same time....We believe and doubt at the same time -- it seems a condition of political thought in a modern superstate to be permanently of at least two minds on most issues.

## Non-viability of a meta-stable space

The bridging place that the individual then occupies in this triangulation is an unstable, uncomfortable place. The experience is fundamentally jarring. It is this that augments the person's own level of stress. Such stress can of course be reduced by rationalization and denial, or simple indifference. The impoverished can be labelled disparagingly as "losers" or "trash". The focus can be placed on aspiring to the wealth of the rich seen as exemplars. This might be seen as a healthy pragmatic response for the individual -- and as *realpolitik* for a nation.

More intriguing is the context of questioning opened up by a paradox when facile rationalization is felt to be inadequate. It is a cognitive space in which the simpler realities no longer hold so well -- if at all. The departure of the young Buddha from his father's carefully constructed protective palace -- after encountering the suffering of others -- makes this point. The extensive use of koans in Zen makes it in another way.

The questioning space opened by a paradox, whilst exciting as a philosophical challenge full of promise, is not a stable one. There is no satisfactory reconciliation or resolution within the framework troubled by the paradox -- except through rationalization and denial. This may appear extremely viable in the short term -- as with the US use of binary thinking ("you are either with us or against us") -- but such paradoxes do not disappear. They might be seen to be eternally patient.

## Stability through configuration

As indicated above, there are many such paradoxes, whether or not many are actively problematic for a given individual. Rather than offering attention to paradoxes separately and in arbitrary succession, there is a case for exploring the consequences of considering them together -- at least those experienced as significant in a given period.

The question is what might then be understood experientially by "together"? How can two or more paradoxes be held within a common framework? What exactly is a "common framework"? The question is especially relevant given the frequent appeals to "common values" and the search for a comprehensible, viable, universal framework for them -- with no concern regarding the paradoxical relationship in practice between many values and their polar opposites. Whether obvious or not, "positive" values (such as peace and freedom) have their "negative" aspects, just as "negative" values may have their "positive" aspects. Clarifying the nature of such "value polarities" was a particular concern of the above-mentioned [Human Values](#) project.

What might be the characteristics of such a framework, given that its paradoxical components are significant primarily because they "break out of" rational cognitive frameworks? In the bridging situation described above, the individual provides the framework holding the single paradoxical relationship together. This might be termed a **1-dimensional** configuration.

If such a single paradox is represented by a line (or rod), consider the possibility of being able to dispose several such rods on a flat surface (**2 dimensions**). If the individual is to respond to them collectively, then the individual can be understood as placed at the centre

of the configuration. So 3 paradoxes might be laid out to form a triangle with the individual at the centre. Similarly 4 might be laid out as a square, 5 as a pentagon, or 6 as a hexagon, etc.

Setting aside for the moment whether (or how) the ends of the rods are linked in such a configuration, the question is how it impacts on a person's awareness -- "handling" 3 paradoxes simultaneously, for example. Whereas with the single paradox, the person could "evade" the destabilizing dynamic by "moving away" from the polarity in many directions, now the ability to do so is constrained. Such movement is effectively "barred".

The individual can indeed step out of the configuration -- effectively denying its existential challenge and "moving out of the line of fire". Or the individual can move "up" and "away" from the configuration -- perhaps diminishing its existential weight. Or the individual can "move into" the plane of the configuration -- embodying the set of paradoxes in some way. In this case the configuration provides a kind of stable place for instability. To some degree the individual's awareness is dynamically held in that space more firmly than in the case of a single paradox. Any shift "towards" or "away" from a particular paradox in the plane is corrected by the pull of the others.

In such a situation the individual's awareness is effectively "stressed" -- or inductively "heated" -- at the common focus of the dynamic set up by each paradox. In this sense the configuration functions as a kind of door or gateway that is opened by the transformation processes associated with the "heating". Rather than "heating", the process might be understood as a form of "transportation" -- perhaps somewhat modelled by the operation of a linear magnet. The "co-operation" of the paradoxes serves then to shift awareness "through" the configuration in a somewhat controlled manner. However if "through" is simply considered like going through a door into a new space -- this implies that in this new space the paradoxes will somehow magically no longer apply. Whilst such "irrational" spaces may well exist, as in fantasy and fiction, they are not the focus of this exploration.

Again a failure to configure in some way results in the individual being sucked uncontrollably into the chaotic dynamics to which he or she is exposed -- the dynamics around a strange attractor.

## Containment and authenticity

Rather than disposing the paradoxes as rods on a flat surface, suppose now that they are arranged in **3 dimensions** -- again with the individual at the centre. In this case 6 such paradoxes could form a tetrahedron, 8 an octahedron, 12 a cube, etc. Again the individual's awareness is dynamically held by the pull-push relations between the various paradoxes. However the hold is now even firmer, and the individual can no longer be "transported" in the same way. In a sense, any "transportation" is now into the fourth dimension, whatever that might be considered to mean.

A cooking metaphor is helpful at this point, namely the suggestion that the individual's awareness is "transformed" rather than "transported" -- through the inductive "heat" associated with simultaneous exposure to the set of paradoxes. The individual is then forced to shift the dimensionality of awareness to discover a "space within" in which the paradoxes are reconciled according to unforeseen criteria. In this sense the configuration of paradoxes may be understood as evoking authenticity -- as with the use of a koan in Zen. The "fire without" is then somehow embodied as a "fire within":

warmth ("heat") << "material" resistance >> light ("enlightenment")

Of course, the configuration of paradoxes can also be experienced like the bars of a cage that prevent movement in any direction. This may well be a fruitful way of describing the situation of many individuals, of many groups, and of society as a whole. In this sense lack of freedom is a prime characteristic of society -- and many experience it in those terms. They may indeed engage in patterns of activities that appear to amount to freedom. But to what extent are such freedoms equivalent to those of a beast endlessly pacing the perimeter of its cage in a zoo -- or a fish in a fish tank? Aspects of this challenge have been explored with respect to "think tanks" and the "tank thoughts" to which such a container metaphor gives rise (see *"Tank-thoughts" from "Think-tanks": constraining metaphors in developing global governance*, 2003).

What makes a container a livable environment -- in which one can thrive? And what kind of life can inhabit it? A Sufi tale alludes to the process of creating a door-less golden cage, that may at some time prove attractive to the spirit or muse that then takes up residence there - but which may also leave at any time. In this sense the container is not a constraint but a frame of reference through which higher dimensionality may be brought into focus and experienced.

By contrast, in seeking to evoke authenticity, the challenge of designing and operating such a configuration in practice is superbly modelled by the challenges of **nuclear fusion technology**. In this case the much sought energy benefits of nuclear fusion can only be achieved if the generated nuclear plasma (a **fourth state of matter**) can be held within a container. Given that the plasma degrades if it comes in contact with its container, the design problem becomes how to hold it away from the walls of its container. This may be achieved by designing the container as a **"magnetic bottle"** in the light of the insights of magnetohydrodynamics [[more](#); [more](#)]. The walls of the container, like the paradoxes in the configuration above, exert push-pull forces on the plasma. In this way the extremely high temperatures of the plasma (necessary for fusion) can be sustained without it being "quenched" by contact with the container wall. Authenticity requires analogous detachment.

As might be expected, there is an intriguing isomorphism between the construction and operation of a magnetic bottle and of the traditional **alchemical crucible** and the associated notions of *Ovum Philosophicum* (which can be translated as the Philosophical or Hermetic Egg) [[more](#)]. This suggests that magnetohydrodynamics, and the associated fusion technology, might offer vital clues on how to operate a configuration of paradoxes. Given Isaac Newton's non-mathematical preoccupation with alchemy (only recently acknowledged), it is interesting that physicist David Peat has specifically related alchemical preoccupations to those of nuclear plasma (where "tensions" in the following quote might be understood in relation to the polarities of this paper):



In this talk I want to maintain a creative tension between a number of different ideas, not giving in too quickly to the natural impulse to discover new solutions and seek exhaustive definitions. Carl Jung gave the image of the alchemical vessel in which processes of sublimation and purification take place. Psychotherapy provides this same kind of containment whereby tensions and paradoxes are charged with energy until they give way to active transformation. Even nuclear fusion requires the hot plasma to be contained long enough for fusion reactions to take place. (*Alchemical Transformation: Consciousness and Matter, Form and Information*, 1995)

The configuration serves as a kind of control framework -- except that the framework is essentially dynamic and the control is one of holding in place so that a transformation can take place which is of a higher dimensionality than the container. Virtue-Vice pairs, understood as paradoxes of daily life, can be usefully configured as such a control framework through which life is navigated (see *Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement*, 2002).

This perspective raises the issue of how being (and feeling) alive is related to the experience of existential paradoxes. Are such configurations associated with a sense of identity -- with what we have to live with, and through which we have to express ourselves? Are they the energizing dynamics of life? To what extent might the many forms of life be understood as different ways of resolving the "metaphysical" challenge posed by a particular configuration of paradoxes? To what extent is a coherent worldview sustained by an appropriately configured set of paradoxes -- by the "burning" bars of a cage?

## Nested sequence of polyhedra

The geometry of the set of spherically symmetrical polyhedra is such that there are pathways of transformation from one to another [more]. The simplest are embedded implicitly in the more complex in which features of the simple are elaborated in more and more complex ways.

If polyhedra can be used to hold "paradoxes" (as suggested above), can these be used to distinguish patterns of dynamic constraints on different systems, as follows:

- *simplest polyhedra*: plants and animals are constrained and guided in their behaviour by a set of "tropisms": heat/cold, food/satiety, security/vulnerability, etc. In the case of humans, these -- or their analogues -- may also apply (as explored by Maslow's need hierarchy) [more];
- *more complex polyhedra*: the features of simpler polyhedra (encoding the simpler tropisms) become implicit or virtual, with the emergence of more complex sets of paradoxes that exemplify or frame the virtual tropisms;
- *maturation*: a final stage might be distinguished in which all paradoxes become explicit to awareness, although the more fundamental are now implicit as patterns of symmetry in the geometry rather than explicit on the surface of the polyhedra.

The "maturation" process, through the sequence of polyhedra, then provides progressively greater sensitivity to the contextual challenge of embodying complexity. In a sense any given polyhedron in the sequence could be understood as functioning like an antenna -- a polyhedral array -- sensing the potential of the next complexification. The emergence and nature of higher forms of organization might also be explored in the light of two seemingly contrasting evolutionary forces:

- the necessity to switch from the simple, and essentially passive, spiracle-based respiratory system of insects to that of the active circulatory system of vertebrates permitting bodies of larger volume
- the necessity to switch from the complex, non-focusing faceted eyes of insects to the non-faceted eyes of vertebrates in order to provide a more integrated perspective.

This progression points to the manner in which authenticity offers the requisite degree of complexity (in terms of Ashby's [Law of Requisite Variety](#)) to provide coherence to the ecosystem of paradoxes. But the set of paradoxes active to consciousness in the struggle for coherence may be only of tertiary significance, leaving more fundamental paradoxes unaddressed, except by analogy and correspondence.

## Movement and focus of attention

Individual attention tracks endlessly around any container, often following habitual circuits -- as noted by many meditation masters and psychologists. Some control may be exerted as with the control of the traffic on a model train set of some complexity -- switching points, stopping/starting trains, etc. The circuit may be more complex still -- perhaps as with the circuit board of any piece of electronic gadgetry -- capacitors, resistors, etc -- or with an extensive electrical grid.

Attention may flow along pathways as along any decorative garden walk. Any particular stretch may be experienced like the string of an instrument -- it may be plucked to evoke resonances and harmonies with others elsewhere. Degrees of consonance and dissonance may be detected. Patterns of association may become perceptible as in the art of poetry.

As with any journey, there is a pull onward to the next junction, and the next -- the potential of distant green fields. Significance may be derived from such "tourism" -- with explication taking the form of travel journals as in the earliest exercises in linear route mapping.

In a formal organization the flow and focus of attention is ensured by arrays of subunits. A conventional organization chart might be seen to be an array vital to that body's knowledge management process. Typically this is hierarchical -- with daring excursions into matrix management and network organization models. These may all be considered to be different styles of array. They reflect equivalent arrays in conceptualization: hierarchy, matrix, and network. Interestingly the French term for a matrix-based conceptual array is *grille de lecture*, emphasizing that it is through the conceptual array that external phenomena are read -- as through a pattern of window panes

(and, ironically, the *Windows* computer operating system offering a "gateway" to surfing the web).

It is also worth considering how many conceptual schemes, whether theories or in the form of operational plans, can be considered as arrays -- ranging from lists of concepts (as in web menus), through tables, to more complex structures. The organization of these may be of special significance in practice (see *Representation, Comprehension and Communication of Sets: the role of number*, 1978).

Although much studied, it is questionable whether array technology as applied to social organization is now as sophisticated as that applied to radio antenna design and operation. There has been little follow-up to Patrick Heelan's concern with "*The Logic of Changing Classificatory Frameworks*" (1974) in terms of the conceptual freedom of the lattices of non-Boolean quantum logic -- which is in complete contrast to the essentially mechanistic structure of conventional thesauri [more]. He noticed that meta-contextual languages able to unify two or more contextual languages are isomorphic.

One intentional community that made very intensive use of conceptual matrices (which they termed "screens") was the Institute of Cultural Affairs [collective research]. The question is how such conceptual arrays function to orient the flows of insights and control messages throughout a community -- or for an individual. Can polyhedral configurations be understood as arrays of differently oriented facets that focus disparate insights? As such do they effectively function as conceptual antennae for the detection of insights of higher dimensionality?

How does this contrast with processes based solely on logical chains of argument -- on a "line" of argument? Can an "argument" then be better understood as an array of reasons to be comprehended through insights into their complementarity and symmetry -- as with a configuration of paradoxes? This then raises issues about the kinds of visual literacy required to comprehend an argument, or conceptual complex, so presented. The work of mathematician Ron Atkin --- concerned with whether humans can live in only three dimensions -- is helpful in understanding the difficulties that may be experienced in holding an array of perspectives of any particular degree of complexity [more]. Forms of intelligence may be cultivated that are more adept at this than those whose strengths lie in conventional forms of literacy and numeracy.

There is a case for exploring *radiolaria* as arrays. They are holoplanktonic protozoa widely distributed in the oceans (and in the fossil record) and range from 30 microns to 2 mm in diameter [more; more; more]. They have long been an inspiration as art forms in their own right [more]. Many are spherical in structure. Extremely interesting efforts by Nicholas Shea have been made to generate such spherical *radiolaria* structures [more] with graphic software within the context of other generated spherical arrays [more], including *buckyballs* [more; more]. The question is whether such structures could be used to configure semantic content spherically -- a spherical semantic network map. This would then provide a context for exploring whether some collective initiatives effectively involve the construction of such "closed" arrays as "*grilles de lecture*".

Do such structures:

- map complex closed conceptual systems?
- reflect a degree of "programming" in both the positive and negative sense?
- provide the degree of mutually reinforcement between the semantic components to perform an antenna-like function ?
- offer clues to the emergence of coherence in the forthcoming "*semantic web*"?

## Authenticity as "re-membering" the present moment

A vital requirement to sustaining the embodiment of a way of knowing is through a mutually reinforcing pattern of mnemonic keys -- a memetic ecosystem of associations. At its simplest, and possibly richest, this may be a set of songs. Such patterns may be reinforced through any of the arts, in isolation or in combination. Aspects of such techniques are exploited in marketing campaigns, notably in political or religious propaganda. Much less known are the mnemonic techniques, notably associated with mnemonic architecture (as described elsewhere).

The concept of cocooning points to other lessons from its metaphorical roots -- the cocoons spun by silkworms, other insects and spiders. The features are juxtaposed to create a psychosocial cocoon, and the resultant web of mnemonic associations, recall the mnemo-technical role of structures such as "memory theatres" (see Frances Yates, *The Art of Memory*, 1966). Such devices compensate for attention-deficiency disorders, erosion of collective memory (*Tensing Associative Networks to contain the Fragmentation and Erosion of Collective Memory*. 1980), and the inability to comprehend the longer-term cycles fundamental to sustainability. The traditional mnemonic role of beaded circlets merit wider recognition with respect to the challenges of sustainability (*Designing Cultural Rosaries and Meaning Malas to Sustain Associations within the Pattern that Connects*, 2000).

In effect a way of knowing becomes all-encompassing when the pattern of associations is all-encompassing -- offering particular semantic pathways in every circumstance. Pejoratively, this may be labelled in anti-sect terminology as a dangerous degree of "programming" typical of "brainwashing" -- that urgently calls for remedial "de-programming". Curiously however professional training of any kind is offered through "programmes" -- perhaps implying that any professional qualification is the result of successful programming. Religious education -- to compensate for the errors propagated by sects -- is also offered through "programmes". There is already recognition that the simpler forms of propaganda are evolving through "psychological operations", to "information warfare" into "memetic warfare" -- to be understood as invasive exercises in programming and counter-programming.

The plethora of information and knowledge now available, especially via the web, is making evident the diminishing capacity of humans to "make sense" of it as a whole. The situation will be aggravated in the future when every person will probably have a website as a birthright -- to be cultivated during life, and cared for as an electronic tombstone after death, in a process reminiscent of the life-long preoccupations of the pharaohs. People are increasingly overwhelmed by significance -- with significance grasped in the moment rapidly fading and eroding with the passage of time (see *Societal Learning and the Erosion of Collective Memory: a critique of the Club of*

*Rome Report*, 1980). This is a precursor of the Alzheimer condition which awaits many and may call for new mnemonic techniques for maintaining functionality and integrity with increasingly fewer links -- a new way of framing Gregory Bateson's challenge regarding sustaining quality by preserving the "pattern that connects".

Memory theatres and other contextual devices suggest the possibility of technologies through which the present moment may be "re-membered" as a focus for the authenticity projected into cultural artefacts and experiences.

As an example reviewed elsewhere (*Renaissance Zones: experimenting with the intentional significance of the Damanhur community*, 2003), the community of **Damanhur** has indulged riotously and joyfully in every possible art to carry and sustain a rich and evolving pattern of insights quite distant from the western mainstream. Its astounding temple decor, for those who can read the interwoven iconography and scripts, seems to offer a form of mnemonic or memetic encoding -- a carefully constructed circuitry for the mind and emotions through which knowledge is embedded in the body. This wraparound mnemonic circuitry is quite in contrast to the widely recognized challenge of responding to information overload. The techniques for doing so, from speed reading to the **Total Information Awareness** programmes, do not address the ultimate challenge of making sense in the moment from large quantities of information, however well-clustered. Clearly, however, the work on strategic "situation rooms", with their multiple displays, is moving towards the kind of "wraparound" presentation in continuing development at Damanhur. It is the improved elaboration of configurative encoding of significant content within physical volumes that remains the challenge -- again as in the time of memory theatres promoted by the hermetic tradition (cf Frances A. Yates. *Giordano Bruno and the Hermetic Tradition*, 1991).

These issues were given a special focus by Marsilio Ficino -- named as instigator of the western Renaissance. His special skill might be described as a preoccupation with "composing the moment" through a configuration of aesthetic and cultural devices then described as "natural magic" (*Composing the Present Moment: celebrating the insights of Marsilio Ficino*, 2001). It is such configurations that sustain authenticity.

"Presenting" is therefore used here in a much stronger and more radical sense of "making present" rather than in the more common, weaker and more dissociated sense characteristic of "presentations" about the future.

## Cultivating the present moment

In the light of Ficino's insights, an earlier paper (*Presenting the Future*, 2001) explored ways of making understanding of the future meaningful in "the present" moment by giving it a new operational form of actuality and immediacy that "the future" tends to lack when it is described in terms of scenarios that may become a reality at some distant time. Too often people are "presented" with projects that require austerity in the present -- justified by promises for future well-being that are increasingly broken. The most blatant example of such broken promises is in relation to pension schemes that have been undermined, depleted and even annulled.

The focus on the present moment therefore responds to the often dramatic, concrete challenges of personal survival through the austerity gap between present circumstances and the future time when their unsatisfactory conditions may possibly be remedied by proposed initiatives. From the prevailing perspective it is argued that many contemporary proposals are difficult to distinguish from variants of Ponzi schemes in which people are called upon to invest psychological or material resources in ways that benefit the few "in the present" without any guarantee of benefit to the many "in the future".

The focus is therefore on the enhancement of quality of life and sense of well-being in the present -- and the ways in which "the futures" that can emerge are necessarily embodied embryonically in radically new understandings of the present moment -- to a greater degree than is implied by efforts purporting to remedy external conditions towards such ends. There is therefore a case for exploring "the future" as a distinct way of being in "the present", rather than as how people might experience "the present" in some projected "future".

Since it is paradoxes that undermine the coherence of the present moment, it is perhaps through appropriately configured paradoxes that a new way of thinking about the present and being in it may be engendered. This requires new consideration of the kinds of conceptual feedback loops essential to sustaining well-being in the moment, whether or not such considerations have long been characteristic of some non-western cultures [more]. Polyhedral configurations may prove to be useful templates onto which maps of such loops can be fruitfully projected to ensure their coherence. They may provide a pattern of associations to highlight both the bars of the cage in which we are constrained reframed as the gateway through which we can then move.

If the polyhedra can be used to map out the pathways along which attention tends to track around, this movement may be reframed by other insights such as:

- ritual chanting: this is a traditional method of focusing attention to engender a new mindset in the moment or to celebrate and sustain a pattern of insight (as with the Aboriginal approach to songlines);
- psyching up: this technique is notably used in preparation for war or competitive engagements;
- cyclosynchrotron: this technology is used to accelerate sub-atomic particles through a very large ring of electromagnets to an energy level at which they can be employed in experiments offering insights into the structure of matter;
- alternation: each of the above uses a form of "alternation" to enhance the level of energy; alternation between paradoxical alternatives may be usefully explored through a range of other metaphors (see *Metaphors of Alternation: their significance for development policy-making*, 1984);
- standing wave: the cycles of attention in feedback loops relating to paradoxes, as mapped along the cyclic symmetry features of polyhedra, could give rise to a phenomenon analogous to standing waves. The standing wave mode would then arise from the combination of reflection and interference of attention such that the reflected waves interfere constructively with the incident waves. Rippling around equilibrium positions in the tensegrity structures (discussed below) may be explored as standing waves;
- sacred writing: certain scripts may sustain patterns of connections (valuable insights that may be explored, and **unfortunately copyrighted** in particular cases); in the case of "sacred writing" these may prove to be in some way isomorphic to some degree



with the sequence of patterns of activated nerve pathways in the brain by particular memes.

Such insights point towards other ways of understanding the pattern of associations explored and sustained in the moment by poetry in support of the noosphere -- or a person's own noosphere. The virtues of living in the present moment have been extolled by the Buddha and his commentators in many texts [[more](#); [more](#)]. The concern would seem to be both appropriate detachment from, and attention to, whatever is brought to awareness and how this ripples through a person's noosphere.

## "Making a gateway"

Many myths and tales for children explore the nature of the magical doors to "another place". A TV series (*Stargate*) has popularized the function of a "stargate" worldwide. The movie *Contact* demonstrated the construction and operation of a dynamic gateway in 3D. Gateways feature in many science fiction novels.

Magic as a practice has long been concerned with construction of such doors to and from the "supernatural" worlds. A vast literature discourses on the appropriate use of pentacles and the various "entities" that may be contacted through them. As exercises and operations of the imagination, the associated symbolism has been of great interest to both poets (such as Yeats) and depth psychologists (Jung, Hillman). It has also been a focus for many secret societies.

Curiously "making a gateway" is intuitively understood by many -- to some degree. This knowledge is clearest in making a special occasion for another. A space is appropriately decorated and those involved are appropriately brought into it. It may be a birthday, a marriage, or part of a courtship or mating ritual. It may be an initiation into a peer group -- exemplified in secret societies from wiccans to freemasons -- and including joining of a religious order. It may include other "rites of passage". In each case careful attention is given to: dress, look, smell, nourishment, symbols, moves and context.

An effort to make such occasions "magically" and meaningfully transformative as gateways is evident in "opening ceremonies" -- exemplified on the largest scale at the Olympic Games. On a smaller scale it is evident in the attention devoted to the care and investment lavished on project and sales presentations.

Curiously the "gateway" concept is echoed in the use of pillared archways -- in the case of suitably draped prosceniums, recalling analogies explored between theatre proscenium design and female genitalia. It is through these that people enter into the moment of the "happening" and coming alive. As an "event", the transition may be compared to passage through and out of the birth canal -- being reborn in a new space as the culmination of a process analogous to a mating ritual. It is this that justifies explicit use of such symbolism in wicca and tantra.

These points emphasize the visible and tangible features of a gateway, although it is clearly how these create a transformative ambience that is the issue. Without the tangibles -- and possibly of greater significance -- much may be achieved with conceptual frameworks suitably catalyzed. Such possibilities are explored elsewhere: speculatively ([People as Stargates: an alternative perspective on human relations in space-time](#), 1996), in the light of some traditions ([Patterning Archetypal Templates of Emergent Order: implications of diamond faceting for enlightening dialogue](#), 2002), and through the use of circlets of beads as a spiritual discipline ([Designing Cultural Rosaries and Meaning Malas to Sustain Associations within the Pattern that Connects](#), 2000).

It is not however sufficient to configure a set of paradoxes. This is a necessary preliminary step. The challenge is how to "make" the configuration "work" as a gateway. This is the contrast between designing, describing, and observing a door -- as opposed to actually opening and going through it. It is very much a question of how the individual's awareness engages with the configuration to "unlock" it as a door. Making the door "work" involves issues explored by [enactivism](#) -- succinctly summarized by Francesco Varela in the phrase "laying down a path in walking". Is there a way in which one must become both the "door" and the "key" in order to be able to step through it?

The may be the challenge for for the species that will replace *homo sapiens*, as the Neanderthals were replaced by the Cro-Magnon (see [Authentic Grokking: Emergence of Homo conjugens](#), 2003)

## Tragedy of "dis-membered gateways"

Suppose that active (or potential) gateways within our culture had been inactive or dismembered by some means. This might be like being confronted with an automobile from which the wheels had been removed -- or a doorway that had been bricked up. In science fiction terms the elements of the door frame would have been disassembled -- and taken to different places. Or an operating door might be rendered phoney and inoperable by the attitude of the person encountering it -- possibly epitomized by modern attitudes to the traditional Chinese archway symbolizing contemplation and perspective. Worse still, a phoney door might have been substituted -- offering a transition to nowhere significant. How is an active gateway transformed into a purely symbolic archway to nowhere? But even worse of course would be loss of memory of the existence of such a door -- except perhaps in magnificent fairy tales for children.

There are some interesting examples of what might be dismembered doorway elements:

- sets of tales (eg *Aesop*, *Nasruddin*, *Jataka*) to which people are successively exposed without any means of understanding how they fit together. Each tale is a mini-story which can "transport" people imaginatively. But suppose it is the significance of the tales together -- their co-significance in their complementarity, as with the parts of a door -- which provides the critical mass for a more sustainable form of transportation
- a set of koans typical of Zen might constitute a transformation experience of a different nature to that offered by a single koan. But how are the koans in the set to be re-membered to configure such a gateway. Might the same be said of a critical collection of aphorisms of any culture?
- much is made of the distinctiveness of particular perfumes, textures, tastes, or even sounds, as detected by the appropriate

senses. But why is it, in each case, that the possibility of configuring these qualitative differences is not explored? Who has the insight to recognize and circumnavigate a "globe" of odours -- of tastes, of sounds, or of colours? Are people effectively deprived of gateways and maps for such qualitative journeys?

- could it be said that the gateways offered by literature and music are in many respects dismembered or rendered operable only for "local" travel? Why is the possibility of qualitative travel no more than of a similar order to that of the earliest explorers dependent on local guidance to help them to the next location?
- a number of devices engendered within various cultural traditions are poorly understood as wholes -- emphasis being placed on their features, aspects and the personal significance of their parts. This is notably evident in the case of the labyrinth, the mandala, the horoscope, the enneagram, the *I Ching*, the prayer circle of beads, and variants of sand painting. A gateway can only function as an integrated whole. Any focus on aspects detracts from that integration -- symbolized by their centro-symmetric form. Their form and function as gateways perhaps derive their mystery and fascination from the degree to which they echo the muscular form and psycho-social dynamics associated with female genitalia.
- sets of virtues and vices that collectively may be understood as navigational aids through which the mundane may be transcended [more]. The focus on the challenge of any particular vice (greed) or virtue (compassion) inhibits insights into the manner whereby the set (of interacting virtue-vice pairs) as a whole can reframe reality -- thus serving as a gateway.
- systems of knowledge organization are most significant in their inability to relate to each other or to handle polarities and paradoxes -- from which their incommensurability partly stems. If the governance and development of society is subject to tensions from a variety of polarized perspectives, then knowledge organization would seem to need to be designed in the light of those polarities and paradoxes [more; more].
- a "re-union" or a "con-ference" (possibly of "members" of an "association") suggests a bringing together of distinct perspectives through generic dialogue processes alluded to in associated terms such as "congress" and "intercourse" (with their curious secondary connotations to sex). Despite the number of such events, their capacity to constitute a transformational gateway (whether singly or in combination) has proven to be highly questionable. The diverse elements required to build a gateway may well be in the same place at the same time, but like a kit of parts their "assembly" is not necessarily appropriate and does not necessarily result in their "co-operation" as a gateway in more than a token, cargo-cult sense. The assembly of the parts tends to be based on simplistic understandings of "common values" or "common ground". For a gateway to operate, it is the diversity of the assembled perspectives that needs to be brought into play. Perhaps the focus should not be based on "conference" but on "difference" as a framework for holding disagreement.
- stakeholders in relation to any issue may together constitute a gateway for transformative processes. The challenge in practice lies in their recognition and their appropriate configuration -- as exemplified most concretely by the shape of the table in some diplomatic negotiations.

Is it possible that the real "tragedy of the commons" is a conceptual one through which common gateways have been closed off through a pattern of enclosure [more; more]? Does the nature of any operational gateway depend on the capacity to configure highly disparate qualitative insights, despite their inherent incompatibility?

In the logic of this paper, there is of course a danger in the polarity between closing and dis-membering (stigmatized as "bad") and opening and re-membering (caricatured as "good"). In practice doors and gateways only function if they can be both opened and closed. With respect to information and meaning, this dimension has been most usefully explored by Orrin Klapp (*Opening and Closing: strategies of information adaptation in society*, 1978; *Overload and Boredom: essays on the quality of life in the information society*, 1986) [more]

## Modelling: construction of a dwelling or temple by configuring polarities

Construction of a dwelling, whether considered abstractly or in practice, is a challenge in configuring polarities (walls, roof/floor, doors, windows, etc). In the simpler cases -- as with various kinds of hut -- these may indeed be poles. They have to be positioned in relationship to one another -- and interlocked or joined in some way -- in order to create a space. There are many techniques for doing so which offer insights into the challenge of configuring polarities.

It is the space which is then protected from the elements by the framework of polarities whilst providing controlled access to them (fireplace, water supply, ventilation, etc). The framework may even serve as a lightning conductor. The elements -- such as water, wind, or heat/cold -- can also be understood as metaphors for the varieties of pressures and stresses that are characteristic of social life.

Buildings can be constructed with great attention to symbolism, attributing significance to the polarities in the design. This is the case with temples, mosques and cathedrals [more]. It is in this light that the polarities inherent in the symmetries of the human body can be interpreted -- through the much cited phrase -- "the body is the temple of the spirit".

## Modelling: stakeholders and authenticity

A much-favoured metaphor for international strategy development and implementation is that of "stakeholder" -- as in multi-stakeholder roundtable (working group, conference, etc) or multi-stakeholder dialogue. Larry W. Smith, for example, discusses *Project Clarity Through Stakeholder Analysis*. In discussing the reality of multiple perspectives, Christopher Fox (*Mental Models, Metaphor, Systems Theory and Theory*) indicates:

Because each individual interprets the world and constructs their mental models differently, each person's mental models will provide them with unique perspectives onto the world. For example, in information systems projects, this manifests itself in two ways.

- Within each project, the different stakeholders will have different perspectives on what the desired outcome or goal of the project is. This manifestation of multiple perspectives underpins the role of corporate politics in projects.
- Each of the stakeholders in a project will have different perspectives on the nature of project management. These differences may result from differences between the systemic metaphors employed by the stakeholders or from other differences in their mental models which result from different past experiences.

Obeng (1994) offers a further basis for multiple perspectives with particular reference to project management, in his distinction between process stakeholders and outcome stakeholders. For both groups of stakeholders, project success is measured in terms of stakeholder satisfaction. However, for process stakeholders, stakeholder satisfaction is a function of the quality of the process by which the project was enacted, whilst for outcome stakeholders, stakeholder satisfaction is a function of the quality of the end-state reached by the project.

The use of the term stakeholder comes easily but the configuration that it implies is less evident. Are they to be considered as configured in a ring -- reminiscent of a "fairy ring" in mushroom country, from which the central seeding mushroom has disappeared? This is consistent with an understanding that an invisible Registrar has recognized their right to the claims that they each stake -- who recognizes the claims of stakeholders?

The paradoxical dimension of a stake becomes evident through reflection on the origin of the stakeholder metaphor -- in staking a claim to land for farming or mineral exploitation. The claimant places the stake into the ground with a suitable symbol of authorization attached to its other extreme -- and holds it in the middle (as dramatized in the Tom Cruise movie *Far and Away*, 1992). There is a paradox to the placement of a stake into the heart of the land to which indigenous others have a different relationship -- and then attaching a symbolism to this that is meaningless to them. Whilst this paradox may be more obvious in the case of claims on the lands and resources of indigenous peoples -- ensuring their enclosure -- there is a case for reflecting on the "territories" over which more conventional stakeholders seek to register and maintain their claims.

In the light of such claims on land territory, it is easily assumed that its analogues in social and knowledge space are similarly two-dimensional -- and can be so marked on a map. But the claims of modern stakeholders over social space are more complex, as is any configuration of them. They are also less constrained to a static territory and call for a more dynamic understanding of their respective spheres of influence.

In an earlier paper (*In Quest of Uncommon Ground Beyond impoverished metaphor and the impotence of words of power*, 1997), it was argued with respect to the stakeholder metaphor:

Little thought is given to building on this metaphor to suggest notions of links between stakes, as in fencing an enclosure -- fencing the commons? Nor is thought given to the ways in which stakes may be used (for the attachment of guy-lines and as poles) to ensure the erection and stability of a "tent" within which all can shelter and interact in new ways -- a three-dimensional spatial arena. Strangely stake "holding" implies that people will continue to cling to their respective stakes -- however a project takes form. It might even be asked whether the term is better understood as "steakholders", where each grabs a piece of "meat" from an ill-defined whole -- which might have otherwise been able to live. Far more interesting is the metaphorical exploration of the role of stakeholders in the construction of scaffolding through which social contexts of higher dimension can be created.

Some of these dynamic, three-dimensional approaches to stakeholding are more evident in the following models.

## Modelling: configuring paradoxes through the tensional integrity of their relationships

In the above-mentioned Human Values project the possibility of configuring over 200 value polarities in 3 dimensions was explored in the light of the unusual features of tensional integrity (tensegrity) structures [more; more]. Such "global" structures have the unusual property of existing in three dimensions as a result of a dynamic balance between tension elements (cords) and compression elements (struts). What makes such structures unique is that the struts do not touch one another and there are no privileged struts, especially at the centre (where there are in fact no structural elements at all). It is such properties which usefully encode the possibility of non-linear relationships between mutually opposed value categories that collectively sustain a coherent counter-intuitive structure.

Of special interest is the possibility of projecting value polarities onto struts. The particular model presented to highlight these possibilities for further investigation was selected because it had 90 struts. Speculating that it may be fruitful to distinguish between a conscious (explicit) and an unconscious (implicit) form of the 45 value dimensions identified in that project, the two sets of 45 could be projected onto such a model. The distinction between two such sets is itself modelled by the impossibility of viewing more than half such a global structure from any one perspective. Other properties of interest are the three-fold and five-fold groupings of polar elements within the model as well as many symmetry effects which contribute to the integrity of the model. It is the use of such properties to stabilize and render comprehensible interpretation of the complex relationships between opposing values that merits attention (see *Groupware Configurations of Challenge and Harmony: an alternative approach to alternative organization*. 1979)

Whether or not the paradoxes are explicitly identified in terms of values, the kinds of polarities listed as examples at the beginning of this paper could be projected onto a single tensegrity as a way of providing a special kind of common framework. In this case "common" respects the incommensurabilities through a different kind of connectivity (referred to as the *kiss-touch*) -- rather than "bolting" the items distinguished into a rigid structure emphasizing a theoretical uniformity that has no correspondence in practice.

Given that tensegrities exist of complexity greater than may be appropriate for particular purposes, it is interesting to explore the simpler

tensegrities that may be used to handle 6 to 30 polarities / paradoxes. This was the approach taken by Stafford Beer (*Beyond Dispute: The Invention of Team Syntegrity*, 1994) in a cybernetic application of R Buckminster Fuller's [synergetic geometry](#). For a group of 30 people his [syntegration process](#) is explained by using an [icosahedron](#) as a metaphor [[more](#); [more](#)]. Here, each of the 30 people is represented by an edge whereas each vertex corresponds to a topic of concern -- in this case we have 12 topics. Usually each vertex (i.e., a topic) is associated with a colour so each member of the group is represented by two colours, the two colours that connect its edge in the icosahedron.

The question might then be framed as what structure of this kind can hold the set of paradoxes that sustain and frame my own world? Of particular interest is one based on the cuboctahedron or vector equilibrium (*Vector Equilibrium and its Transformation Pathways*, 1980). Is there a way in which the nested polyhedral sets of paradoxes effectively constitute a matrix or womb within which authenticity is birthed? This perspective might be usefully contrasted with the emphasis on the (usually cubic) "tank" metaphor in relation to "think-tanks" as centres of excellence within which innovation is engendered -- possibly to be developed in associated ["business incubators"](#). Elsewhere the suggestion was made that more organic metaphors might prove more appropriate to some of the paradoxical challenges of sustainable development (see *"Tank-thoughts" from "Think-tanks": constraining metaphors in developing global governance*, 2003).

## Modelling: authentic dialogue and quarterstaff combat?

One interesting take is to consider that a metaphorical "stake" (see above) may be both held and used like a "quarterstaff". The challenge in both cases is the extent to which either the stake or the quarterstaff is recognized as representing a paradox rather than as having any element of paradox designed out of it.

The quarterstaff (of some 2 metres length) is the basis for a traditional martial art -- which is also associated with some spiritual disciplines in West and East. A quarterstaff combat can be fruitfully explored as the encounter between two contrasting paradoxes or polarities -- or more in the case of many dialogue participants each so armed. It then models only too realistically many dialogue situations! The moves in such a conflict -- how the quarterstaff is held and used -- model many moves open to those interacting in dialogue. A quarterstaff may, for example, be held at one end (of the polarity) in order to beat the opponent with the other. One opponent may poke the other with one end of the quarterstaff, etc.

This "one-end" (polarized) method of engagement in dialogue is also modelled by the use of a sword. Fencing has its well known tactical elements (such as thrust, parry, riposte, engagement, change of engagement, beat, press, etc). This is a metaphor for some forms of dialogue as in the phrase of fencing Maestro Luigi Barbasetti: "like poets we compose verse in the great dialogue of steel". The metaphor is explored to a far greater degree in Miyamoto Musashi's classic *The Book of Five Rings*. This has become a key text in some Asian schools of management education. According to Harold Hayes (*Strategic Balance in Chess and Fencing*, 1991):

Education in the art of fencing prepares the fencer to sustain a rational dialogue with the opponent in the language of struggle. In that language there are many dialects, and many universal themes. Fencing itself is perhaps the king of those dialects, and chess is perhaps the queen. The education of a fencer develops familiarity with the many types of part/whole relationships that may exist among fencing actions and the infinite variations that link them together.

Such polarized engagement has also been popularly dramatized in the archetypal interaction of Obi Wan Kenobi and Darth Vader in the *Star Wars* movie series using [lightsabers](#) ("laser swords"). It is consistent with that archetype that swords of any kind are only held at one end -- the other being used to subdue the opponent. So held it signifies a "truth" which challenges the "falsehood" of the opponent (holding the opposite view). They may only be held with one hand. More interesting for dialogue, as modelled by use of a quarterstaff, is the ability to use either end of the polarity -- in response to an opponent with a similar degree of freedom. Both hands are used.

The quarterstaff, however, may also be held and used with two hands about its mid-point -- notably in order to block any strike by another. This use of the polarity (or paradox) as a balanced whole may also be understood in the light of Carl Jung's [syzygy archetype](#) -- a concept from depth psychology related to synergy, but applying to the interrelationship of two complementary archetypes (typically male-female). From this perspective there is no differentiation of priority, importance, or sequence between the polarity's poles. The whole is then as distinct from the polarity of "space and time" as is Einstein's description of the texture of the universe as "space-time". In archetypal terms, this is a pattern of wholeness and integration. Paradoxical oppositions between the outer and the inner life are "joined" in marriage (as explored in *My Reflecting Mirror World: making Joburg worthwhile*, 2002) [[more](#)]. Great power is understood to arise from this integration.

Just as sign language windows on video screens are occasionally provided to interpret verbal dialogue for the deaf, it is possible to imagine a corresponding "interpretation" of a dialogue using two (or more) martial art practitioners of quarterstaff -- with each quarterstaff colour-coded to match a polarity (paradox) in play in the dialogue. Why is it assumed that any assembly of "stakeholders" is somehow static rather than in a dynamic interaction which calls for a special approach to their configuration -- if a "multi-stakeholder" group is to make possible the emergence of some higher order of consensus?

## Modelling: encoding contrasting understandings of authenticity

In relation to this possibility is the use of the binary coding system of the *I Ching* -- which specifically addresses the paradoxical challenge of polarity (yin-yang) -- using combinations of broken and unbroken lines. There is then a case for exploring two contrasting coding interpretations (*and especially their psycho-epistemological implications in relation to the world*):

- a. **"Integrated polarity"** (as with the [syzygy](#)):
  - o **unbroken line**: two-handed quarterstaff, emphasizing integrity through non-rigid continuity and flexibility (*the manner of*

*embodying the world and reflecting the world in one's own psychic processes, as explored by [enactivism](#);*

- **broken line**: with the gap indicative of non-discriminatory, two-handed use (*the manner of shifting flexibly between the truth of the outer and that of the inner worlds understood as distinct*)

Perhaps best exemplified in the aspirations of some Eastern martial arts and in the goal of many spiritual disciplines. Exemplified in embryonic form perhaps by the European foreign policy position of ambivalence on many issues -- embryonic because of the major constraints on "getting its act together" (**unbroken line**) and finding appropriate strategic forms to deal effectively (and with integrity) with radically opposed views. The birth pains of a more integrated perspective are only too evident in the European integration processes bedevilled by a variety of forms of corruption, even in the finances of the European Commission itself. The pressures to take even-handed (**broken line**) account of alternative perspectives and processes are however more consciously and sensitively addressed. This struggle towards a more flexibly integrated approach is also evident in the challenges of the United Nations.

b. **"Biased polarity"**:

- **unbroken line**: namely the sword-like use of an integrated weapon (*the manner of standing with integrity in one's truth in opposition to contrasting truths in the world that are to be appropriately subdued*);
- **broken line**: namely indicative of the grip at one preferred end, distinct from the other end used for striking (*the manner of holding to one's own truth whilst recognizing the reality of the diversity of truths in the world to which one must adapt*).

Exemplified on the international scene by the "binary thinking" of current American foreign policy: "you are either with us or against us". Such thinking even has dangerous implications for the democratic process when the party in power is faced with opposing parties (within the USA). It is out of the strategic firmness (**unbroken line**) on which the USA prides itself (and identifies as reflective of its integrity) that opponents are held at bay and subdued. This is accompanied by the demonization of opponents as "evil" and disconnected (**broken line**) from the civilization it claims to uphold for humanity. Such thinking is reinforced by righteous religious fundamentalists convinced that they act with the blessing of God in opposition to the forces of evil -- a view held in equal measure by their opponents. The monopolar bias does not however create a context for diversity -- perhaps to be caricatured by the phrase that people cannot dwell inside a maypole!

The italicized comments on the inner-outer implications are necessarily tentative. The two interpretations of course stand in polar opposition to one another. The second is much more easily integrated into simplistic, mechanical ("linear") thinking. The first is a major challenge to conceptual and institutional structures and processes -- and to individual comprehension and individuation processes.

Whichever interpretation is used, there is the fascinating possibility that the combination of such lines into 8 trigrams (or 64 hexagrams) in the *I Ching* system may be used to distinguish both the many quarterstaff conflict situations and a set of corresponding dialogue situations (see experiment in [Transformation Metaphors derived experimentally from the Chinese Book of Changes \(I Ching\) for sustainable dialogue, vision, conferencing, policy, network, community and lifestyle](#), 1997). This approach has also been used experimentally to distinguish a set of strategies (see [Interrelationships between 64 Complementary Approaches to Sustainable Development](#), 2002).

It is understandable that the metaphors used in the *I Ching* emphasize to such a degree the most common polarities encountered in the dynamics of family life: father-mother, father-son, mother-daughter, first son-second son, etc. It is these dynamics -- often highly challenging -- that can make such a mockery of any simplistic, rigid, "universal" framework of "family values".

## Modelling: authentic dialogue as a game?

But it is worth speculating on the nature of a possible authentic dialogue "game". Such a game might combine the old children's game of "paper/scissors/stone" (paper wraps stone, scissors cut paper, stone blunts scissors) with a widely popular pattern matching computer game like [Tetris](#) [\[more\]](#) -- that has been subject to a fruitful analysis [\[more\]](#). Rules might include some elaboration of:

- dialogue participants can put forward configured paradoxes of 1, 2 or 3 dimensions;
- if a 3-dimensional structure can absorb or subsume the patterns of a 1- or 2-dimensional structure then it "wins", through remaining unmodified, through effectively absorbing it onto its surface;
- but if the 1- or 2-dimensional structure can effectively split the 3-dimensional structure (on an axis of symmetry) then it "wins"

Perhaps the rules might include dialogue processes analogous to quenching, grounding, burning or fusing -- in the light of the traditional Chinese recognition of the relationship between the "five elements" [\[more\]](#). These five elements are not just the materials that the names refer to, but rather metaphors for describing how things interact and relate to each other:

Supportive relationships	Destructive relationships
Water engenders Wood	Water can extinguish Fire
Wood engenders Fire	Wood can break the ground (Earth)
Fire engenders Earth	Fire can melt Metal
Earth engenders Metal	Earth can make Water disappear
Metal engenders Water	Metal can break Wood

According to a [Wikipedia](#) description of the relationship between the five elements:

Daoism promotes a production chain between the elements, as well as a control chain between them. In the production chain,



wood produces fire; fire produces earth; earth produces metal; metal produces water; water produces wood. In the control chain, wood controls earth; earth controls water; water controls fire; fire controls metal; metal controls wood. If one lays out these circular chains in a circle, then one chain outlines a pentagon and the other chain outlines a five pointed star pattern. These interactions and relationships form a framework for different schools of philosophy, belief and discipline. The interaction of five elements becomes a tool that helps scholars sort out observations and empirical data. Based on observations of how things interact, things are classified into one of the five elements so that they fit into the observed pattern. Then one can draw high level conclusions or predictions based on the element types. [\[more\]](#)

Just as a game like Tetris crudely models the manner in which molecules in genetic biochemistry match onto sites, the proposed game might point to the way in which memetic components might lock into suitably configured sites.

There is the intriguing possibility of a relationship, if only visual, between the pattern of all moves in a quarterstaff conflict and the structure of a tensegrity (that can indeed be constructed using quarterstaffs as struts). A tensegrity could be perceived as effectively "a standing wave" that is an expression of the potential range of angled quarterstaff encounters in any global "multi-stakeholder" dialogue. The different angles in such geometry may usefully offer an intuitive way of encoding the different "angles" from which stakeholders approach a possible common endeavour -- suggesting a function analogous to an oriented antenna.

Given the global "great circle" symmetries characteristic of tensegrities, it would then be interesting to explore whether such interlocking circles could be used to encode the various "production" and "control" chains within the Chinese 5-element theory. This could be the basis for electronic support of integrative dialogue (see [Spherical configuration of interlocking roundtables: Internet enhancement of global self-organization through patterns](#), 1998)

## Illustrations from Taoism and Buddhism ?

The authenticity induced at the focus of a set of paradoxes -- by transcending them in some way -- may be compared with the understandings of emptiness in Buddhism and Taoism.

The philosophical systems of Buddhism and Taoism both hold that logical discourse is limited in any metaphysical description of reality. However, there are many ways in which the two systems differ. The most common misunderstanding about the Tao is that "Emptiness" in the Tao has a similar meaning to "Emptiness" (*Sunyata*; Chinese, *Kung*; Japanese, *Ku*) in Buddhism. This is because different words in Buddhism and Taoism were all translated as Emptiness in English. "Taoist Emptiness" is completely different to "Buddhism Emptiness" [\[more; more\]](#).

According to the *Heart Sutra* of Buddhism:

"That which is form is emptiness, that which is emptiness form." No object or concept has its own self-nature. Everything is interconnected on an ontological level. In contrast, the Taoists believe that form is the complement of emptiness.

According to the Taoist Lao Tzu:

"Shape clay into a vessel; It is the space within that makes it useful. Cut doors and windows for a room; It is the holes which make it useful." Form works because of emptiness, emptiness works because of form. All the forces of nature, not only form and emptiness, exist in complementary pairs of yin and yang: Heaven and Earth, dark and light, hard and soft...".

It is this authenticity that provides a coherent context for the interplay of the dynamics of the paradoxes on the surface of the spherical polyhedral configuration. This is best exemplified by the following insight from Chuang Tzu where "authenticity" is here understood in terms of "Tao" :

Tao is obscured when one understands only one of a pair of opposites, or concentrate only on a partial aspect of being. Then clear expression also becomes muddled by mere wordplay, affirming this one aspect and denying the rest... each denies what the other affirms, and affirms what the other denies. What use is this struggle to set up "No" against "Yes," and "Yes" against "No"? Better to abandon this hopeless effort and seek true light!

There is nothing that cannot be seen from the standpoint of the "Not-I." And there is nothing which cannot be seen from the standpoint of the "I." If I begin by looking at anything from the viewpoint of the "Not-I," then I do not really see it, since it is "not I" that sees it. If I begin from where I am and see it as I see it, then it may also become possible for me to see it as another sees it. Hence the theory of reversal that opposites produce each other, depend on each other, and complement each other. However this may be, life is followed by death; death is followed by life. The possible becomes impossible; the impossible becomes possible. Right turns into wrong and wrong into right - the flow of life alters circumstances and thus things themselves are altered in their turn.

But disputants continue to affirm and deny the same things they have always affirmed and denied, ignoring the new aspects of reality presented by the change in conditions. The sage therefore, instead of trying to prove this or that point by logical disputation, sees all things in the light of direct intuition. One is not imprisoned by the limitations of the "I," for the viewpoint of direct intuition is that of both "I" and "Not-I." Hence one sees that on both sides of every argument there is both right and wrong. One also sees that in the end they are reducible to the same thing, once they are related to the pivot of the Tao. **When the sage grasps this pivot, one is in the center of the circle, and there one stands while "Yes" and "No" pursue each other**

## around the circumference.

The pivot of Tao passes through the center where all affirmations and denials converge. One who grasps the pivot is at the still-point from which all movements and oppositions can be seen in their right relationship. Hence one sees the limitless possibilities of both "Yes" and "No." Abandoning all thought of imposing a limit or taking sides, one rests in direct intuition. Therefore I said: "Better to abandon disputation and seek the true light!" (Chuang Tzu. *The Pivot*)

It is the dynamics of the pursuit of "Yes" and "No" around the polyhedral surface (described earlier) that evokes the centre as a form of strange attractor (see *Human Values as Strange Attractors: Coevolution of classes of governance principles*, 1993; A C Graham, *The Disputers of Tao*, 1989). The interlocking cycles of pursuit are indeed nicely represented visually by a tensegrity constructed with quarterstaffs -- a set of interlocking standing waves -- the variously angled polarities with which any society or individual must attempt to juggle.

Such an eloquent explanation also points to the paradox that the most important insights are not new but somehow coexist with both the continuing denial of their significance (which they encompass poorly) and with their repeated rediscovery. The significance is repeatedly lost through "quenching" by the containing explanation. Like a [Questing Beast](#) [more] the continuing trail of explanation may obscure the nature of what is engaged in that journey -- and why.

## Fundamental paradox: Authentic vs. Unauthentic

This paper has been structured to stress the authentic over the unauthentic. The play between the two is however a typical paradox in the lives of most people. As with other polarities, the challenge is to find new ways of relating to such paradoxes in order to prevent the human spirit from being "quenched", "grounded", "smothered", or "burnt-out" in the processes of daily life.

The challenge of such an opposition may be related to the Buddhist recognition of the fundamental non-differentiation of Samsara and Nirvana [more; more] which, necessarily, is itself contested [more]. But again, in the spirit of Jung's archetypal *syzygy*, the challenge may be best expressed as that of comprehending the nature of the "marriage" between them -- perhaps best explored as the mythical marriage between Beauty and the Beast (see *Poetry-making and Policy-making: arranging a marriage between Beauty and the Beast*, 1993). Authenticity may be the progeny engendered by such a marriage. Perhaps it is the pattern of aesthetic associations that provides a key template in support of Gregory Bateson's much-cited insight into the need to protect the meta-pattern -- "the pattern that connects".

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