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Introduction
This exploration responds to an increasing sense of the multiplicity of perspectives perceived as relevant to understanding and navigating the world -- whether as an individual, a group or in terms of governance of the world itself. The challenge is exemplified by:

- the exploding range of books in libraries and bookshops, now supplemented by the vast resources of the web
- the knowledge and insight implied by this range of information, however its quality may be judged
- the numerous philosophies and belief systems inspired by such knowledge, whether recognized or unrecognized
- the multitude of answers associated with such philosophies, notably as formulated by those considered wise
- the many questions engendered by these phenomena and the dynamics between them

The challenge can of course be understood as how to unify such matters within a coherently ordered framework, duly discarding that which is judged irrelevant or of inferior quality. The approach here is however to explore how those sensitive to this variety, whatever its quality -- and the complex dynamics associated with it -- might understand their relationship to each other and to any coherence emerging from such appreciation. The focus is therefore on avoiding premature closure on particular patterns of order in response to any particular sense of urgency.

As a methodological device, the challenge is framed in terms of the dynamics amongst the "whys" -- as questions -- rather than amongst the "wise" imbued by such questions in order to provide "answers" and closure. Hence a concern with the dynamics of a hypothetical Council of the Whys rather than of a Council of the Wise. In a sense the wise may then be understood as driven or ridden by questions such as "why" -- however these are understood as related to other classical questions such as "what", "where", "when", "which", "who"
(including "whom" and "whose"), collectively studied as "WH-questions" (cf Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness, 2004; Functional Complementarity of Higher Order Questions: psychosocial sustainability modelled by coordinated movement, 2004 ). Such questions are notably of significance in the design of information search engines.

The assumption in what follows is that "why" questions are fruitfully considered as more fundamental than other WH-questions -- or than the answers which they may engender for reframing individual or collective strategy. The issue is the contrast between question-based dialogue and answer-based dialogue -- and the proportion of time devoted to questions and their improvement, as opposed to that devoted to answering questions that are essentially inadequate to the challenge.

Council of the Whys

In considering a hypothetical Council of the Whys, the question of "who" might form part of such a collective identity, or "what" its purpose might be, is set aside in what follows, as with the questions of "where" it might be located, "when" it emerged or with "which" priorities it is faced. The concern here is rather with "how" it might be understood to function and how its dynamics might possibly be described.

As an archetypal roundtable, the Council of the Whys might then be understood as at the centre of a pattern of concentric circles (spheres or hyperspheres). In the innermost, the preoccupation would then be with the multiplicity of "whys", whereas outer circles (spheres or hyperspheres) might be successively preoccupied with "whats", "wheres", or "whens". The outermost might then be usefully associated with "hows". This suggests a progression from "external" mundane, concrete preoccupations to "inner" essentials or existentials.

Why-questions might indeed be understood as closely associated with the so-called "essence of humanity" and how this is distinguished from the consciousness of animals (and possibly of plants). The latter typically have effectively to formulate or answer questions of:

- "when to engage" in some behaviour in response to a pattern of stimuli
- "who is that", notably when there is any form of bonding
- "what is that", in detecting threat and sources of food
- "where to go" in avoiding threat, seeking nourishment or moving to breeding or nesting grounds
- "which to do" in deciding on action priorities
- "how to act" in obtaining food, shelter or avoid vulnerability

Is there any implication that animals (or plants), however "curious" or "puzzled", are confronted with the question of "why" as such, rather than its reduction into other WH-questions? By contrast, it is through why-questions that the framing of questions is challenged -- potentially they are a "mise en question" of extant patterns. It is for such reasons that the 5th Annual Edge Question (2002) of the World Question Center (of the Edge Foundation) was: "What is your question? Why?" This was considered to reflect the spirit of the Edge motto:

To arrive at the edge of the world's knowledge, seek out the most complex and sophisticated minds, put them in a room together, and have them ask each other the questions they are asking themselves.

Fundamental to the domain of Whys are of course the perspectives from which questions of "why" might emerge. Such perspectives might be understood in part as defining sectors of human preoccupation as conventionally understood: health, education, security, employment, environment, technology, relationship, etc. The "inner" concentric circles might then be understood as concerned with the particular principles or values associated with each perspective, however much these seemingly distinct sectoral preoccupations became intertwined, entangled and reframed within the dynamics amongst the "whys".

In more conventional terms, the distinction between "inner" and "outer" circles might then be crudely seen as:

- inner: engendering "health, wealth, happiness" for existential satisfaction
- outer: engagement with the "other" through "fix-it" recipes of every conceivable variety

Why-question dysfunctionality vs Why-question aversion

These and related issues are discussed at greater length in an Annex (Question Avoidance, Evasion, Aversion and Phobia: why we are unable to escape from traps, 2006).

For the dynamics of the Council of the Whys, the challenge is then how resonance between the "whys" can be meaningfully and fruitfully achieved across the range of perspectives, whilst avoiding entrapment in the answers they may too readily engender.

How is a sterile pattern of repetitious, rhetorical, or circular questioning avoided in order to inhibit unfruitful intellectual "games"? Such intellectualization has been identified as a danger in the Gestalt Therapy of Fritz Perls. In the Neuro-Linguistic Programming (NLP) meta-model, for example, there is a concern to avoid asking the question "why" because there is then a tendency to feel a need to defend what has been said or done, or to make excuses or rationalize behaviour. Whereas a 'how' question provides a better understanding of the process [more].

Matt Lee (An Approach to An Introduction to Metaphysics: on the desire of being) offers a discussion of the slippery regressive slope of Martin Heidegger's question "why the why".
The role of the question in Heidegger is fascinating, I believe, because it is set up in such a way that in order to begin to think it we simultaneously find ourselves drawn into it -- our ability to even make a pretence of standing outside the 'object' under interrogation, in this instance 'the question', is troubled by the fact that it appears as questioning about the question of the question. We enter that realm where words seem peculiarly slippery and a notion of almost vertiginous regression lurks at our shoulders, where it seems all too easy to succumb to the forgetfulness of inquiry.... This danger of the interpretive stance, of the desire of interpretation, is exacerbated by Heidegger when his very words aim at holding back closure. It is precisely such openness that Heidegger points to with talk of questioning the question. The structure brought out in the "why the why" phrase Heidegger uses recalls not just on itself in the event but also on the 'why' that is not asked but given in any interpretation. We can hear the 'why the why' in a number of combinations which manipulate the sense of 'why' as either giving or halting explanation. The 'why' forms a slash on which we can balance. We ask why, to give a why, to ask why.

A why-question, especially in conventional therapeutic contexts, may be framed as disempoweringly "negative" to the highest degree. Such aversion may even amount to why-phobia. This might be understood as favouring a questioning process that would amount to what could be described as a cognitive form of the current lifestyle trend of cocooning -- enabling only those questions that sustain what has now been recognized as a "psychological cocoon" (cf. Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society, 2004). Disruption of an agenda, righteously and unquestionably assumed to be appropriate, is then naturally seen as inappropriate [more more more]. In contrast to such "why shy" perceptions by those identified with psychosocial change, a commitment to why-questions is to be found amongst those concerned with change in the business world [more more more].

For the dynamics of the Council -- to avoid entrapment in either extreme -- this calls for an appropriate balance between "positive" and "negative" (cf. Being Positive Avoiding Negativity: management challenge -- positive vs negative, 2005).

In this sense, the Council of the Whys would be vigilant regarding the dangers of systematic why-avoidance, as illustrated by the quote much-favoured in management schools: Having lost sight of our objectives, we redoubled our efforts (attributed to Walt Kelly). Adapted as a warning regarding Council dynamics, this could read: Having lost understanding of why we continue this initiative, we redoubled our efforts. The pressure on the Council to elicit fruitful why-questions (to avoid the complementary danger of becoming trapped in cycles of repetitive, inappropriate why-questions) is however well illustrated by the saying "Those who cannot remember the past are condemned to repeat it." (attributed to George Santayana)

Of particular concern for such a Council, might be its own vulnerability to fragmentation, its associated loss of coherence, as well as any loss of identity as a viable context for such dynamics. The challenge for the Council, and a prime reason for framing "why" as "negative" or destructive, is that "whys" can in effect function like the archetypal "universal solvent" of alchemy. This is known as the Liquor Alchæst (Alkahest, Aqua Permanens, Ab-e-Hyat or "prickling, fiery essence") -- alluding to its ability to dissolve or reduce all physical matter to its basic essence, releasing it from its bonds to the past [more]. This suggests another way of understanding a "burning question". In effect a why-question opens up the possibility of alternatives, questioning the accepted frame and effectively setting it aside -- as in "out-of-the-box" thinking. Other WH-questions tend to remain within-the-frame ("in-the-box") and even to reinforce it.

The Council dynamics therefore have to self-organize to provide a container for such a "universal solvent" -- a traditional challenge of alchemy (of which "psychological cocooning" is perhaps a faint alchemical metaphor, is perhaps a faint echo). In physical terms the challenge bears a strong relation to providing a container for plasma in nuclear fusion reactors (see below). Frederick Turner (The Universal Solvent: Meditations on the Marriage of World Cultures, 2006) explores the nature of such a solvent in cultural terms (that relate to the cognitive challenge of the Council of the Whys):

What universal solvents will ensure the liquidity and translatability of cultural value? What new problems and dangers will be spawned by our very success? How do we preserve the cultural differences that we value?

The issue for the Council of the Whys, within the alchemical metaphor, is to purify its cognitive "body" until it is able to identify with its "divine essence". When that is achieved, the "water of life" pours forth and takes away all remaining dross, leaving "pure gold". The aspirations for nuclear fusion, as an enduring source of energy for global society, could be expressed in similar language.

**Whys as collectively associated with a form of Prima Materia**

In seeking to understand the elusive dynamics of Whys, there is a need to use metaphor to describe the "insubstantial matter" of which "whys" are composed (possibly a cognitive variant of the Prima Materia explored by C G Jung) -- and of how it might take various forms in the course of any transformative dynamics in that domain. What indeed is transformed when a why-question is transformed -- when it is not transformed by reduction (through habit or instinct) into a who-question, a what-question, a when-question, a which-question, a where-question or a how-question, or "quenched" by an answer?

It might be argued that "why" is more intimately associated with the experience of meaning and meaningfulness than are other typical WH-questions. Meaning is that which "why" seeks and evokes in contrast to the more tangible, tactical outcomes of other WH-questions. Meaning is that which emerges through those dynamics and thereby nourishes the Council of the Whys.

In going this route it is of course important to avoid closure on what is a "why" or on the psychodynamics of asking such a question (perhaps to be called "why-ring" or "why-ning", as suggested below ). This epistemological reservation is a classic feature of:

- naming the Tao (Lao Tzu's "The Tao that can be named is not the Tao") in the *Tao Te Ching*
- the Sanskrit neti neti ("Not this, Not that")
• Socrates' empassioned preoccupation with the avoidance of closure in progressively refining understanding of goodness and truth, as notably recognized by John Rakont Saul (The Unconscious Civilization, 1995)

The need for such an approach has also been argued elsewhere (cf Union of Intelligible Associations: remembering dynamic identity through a dodecameral mind, 2005; Comprehension of Appropriateness, 1986). The challenges associated with closure have been usefully explored by Hilary Lawson (Closure: A Story of Everything, 2001) who confirms that "things" emerge through closure:

Closure can be understood as the imposition of fixity on openness....It is the conversion of flux into identity, the conversion of possibility into the particular. [more]


Curiously there is a sense in which the evocation of meaning in Whys, through the continuing process of formulating why-questions, is necessarily associated with exposure to meaninglessness and chaos -- and is even triggered by it. The mountains of meaning are in this sense necessarily defined by the valleys of meaninglessness that separate them. Why bother? Within such a metaphor, a plateau (of the height of the highest mountains) is as much associated with meaning as with meaninglessness. Meaning, in this sense, is then fundamentally associated with difference (cf George Spencer-Brown, Laws of Form, 1969).

The approach here is to refine a language or cognitive tool through which "whys" of various kinds may be variously understood and expressed -- a language with a degree of isomorphic relationship to the forms that why-questions might take. It is from such understanding that the questions can be addressed of how the dynamics of Whys can more fruitfully engage with the preoccupations of other WH-questions, notably regarding more concrete matters. As already noted in 1980 by W. Wahlster (Towards a Computational Model for the Semantics of Why-Questions):

Although there has been relatively little research into the semantics and pragmatics of why-questions and the cognitive processes underlying the answering of them, several AI systems do exist which are capable of handling certain types of why-questions.

Re-distribution of significance through various sets of categories -- metaphorically framed

The relevance of the use of metaphor in this kind of exploration has been notably established by the collaborative work of George Lakoff and Mark Johnson (Metaphors We Live By, 1980; Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought, 1999) and subsequent cognitive studies (cf George Lakoff and Rafael Nunez, Where Mathematics Comes From: how the embodied mind brings mathematics into being, 2001).

Of particular relevance here is the way in which the nature of "why", and the dynamics between "whys", is intimately related to the nature of the cognitive engagement with the number of distinct issues in play. This number is an obvious indicator of the complexity, and the associated tensions, that evoke a sense of "why" in seeking to understand a situation -- whether or not there is any question of controlling it or responding to it in other ways. The challenge of a juggler comes to mind as the number of objects increases and subtler techniques are required to sustain a dynamic rather than have it degrade catastrophically (in some kind of "quenching" process).

The following table distinguishes between the "mysteries" of "why" -- as the number of issues, or factors, in play increases or decreases (cf Andrius Kulikauskas, AddOne, Glossary of Structure, 2004; Kirby Umer, Functions and Generators, 2006). This follows from a more detailed experimental exploration elsewhere (Distinguishing Levels of Declarations of Principles, 1980). The table below focuses on the mysterious quality to understanding why the number of factors (in a pattern through which a given situation is comprehended):

• cannot be readily reduced by one -- shifting to a cognitively "simpler" and more "essential" condition;
• cannot be readily increased by one -- through the emergence of a "higher" ordering factor in handling the increased complexity.

In either case the "why" that is of interest has more to do with why the cognitive trap is framed and constrained -- to a degree of satisfaction (a sense of "goodness of fit") for those involved -- in terms of a given number of factors (cf Representation, Comprehension and Communication of Sets: the Role of Number, 1978; Distinguishing Levels of Declarations of Principles, 1980). This can be usefully understood in the light of the understanding of early policy scientist Geoffrey Vickers: "A trap is a function of the nature of the trapped" (Freedom in a Rocking Boat: changing values in an unstable society, 1970).

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<th>Table 1: Dilemmas and Challenges to Comprehension</th>
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<td><strong>Variations in the existential &quot;mystery&quot; of integrative understanding</strong></td>
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| 2 | To 3: The significance of tripartitum understanding (eg social process triangles, challenge of the "eternal triangle" in relationships, emergence of temptation in the Garden of Eden) From 2: The possibility of loss (or union) associated with cessation of a binary relationship (eg mystical union, union through intercourse, integration of space and time into space-
The "mysterious" quality of these integrative challenges of course lends itself to the extensive "mystification" seemingly cultivated by groups with esoteric preoccupations and sympathies. Typically the transitions within those frameworks are associated with, or celebrated by, rituals of "initiation" into more advanced "degrees" of understanding, notably as is to be found in freemasonry (cf Varieties of Rebirth: distinguishing ways of being "born again", 2004). More generally (as explored in systematics by J G Bennet and summarized by Anthony Blake) they point to the challenge of the nature of more integrative understanding, whether:

- through acquiring skills in encompassing more factors necessary to handle greater complexity (cf the cybernetic Law of Requisite Variety), or
- through a "deeper" understanding of a more reduced number of factors, from which greater numbers are then derivative

Both raise questions of how people of the future will understand (cf Authentic Grokking: Emergence of Homo conjugens, 2003) and their preferred, and hopefully enriched, metaphors for articulating that understanding. It is in this sense that unusual explorations, such as that of Michael Winn (Daoist Internal Alchemy: A Deep Language for Communicating with Nature's Intelligence), are to be valued.

Two-fold metaphorical framing of meaning

One choice for such a metaphoric language would be based on a binary system. This is consistent with the "yes-no" questions that are closely associated with research on "WH-questions". This binary approach is taken by the I Ching in using the contrasts of yin and yang to distinguish 64 decision conditions that might indeed be used to frame why-questions and the resulting 384 transformations between them (cf Patterning Transformative Change for sustainable dialogue, vision, conference, policy, network, community and lifestyle, 1983). A case could be made for using the 64 hexagrams as a way of coding WH-questions, or their combinations, in a particular situation. The 384 transformations between them are suggestive of an understanding of the dynamics of the Council of the Whys.

But this binary approach has also figured prominently, and most unfortunately, as a basis for constituting the Coalition of the Willing following the declaration of the USA that "If you are not with us you are against us". This provides one strong indication of the manner in which such an approach can be subject to dysfunctional reductionism as opposed to responding to the challenge of transcending the constraints of polarization (cf Discovering richer patterns of comprehension to reframe polarization, 1998). Edward de Bono has done much to to highlight the limitations of binary thinking (Po: Beyond Yes and No, 1972; I Am Right -- You are Wrong, 1991).

A two-fold framing is notably interesting in the light of classic existential polarities such as:

- To be or not to be, that is the question: As the first line of William Shakespeare's Hamlet (Act III, Scene 1 soliloquy) this has been considered the most famous line he ever wrote. It has been a focus of WH-question studies.
- Being and Nothingness: A Phenomenological Essay on Ontology (1943) is a philosophical treatise by Jean-Paul Sartre

On the occasion of the Edge Foundation's Annual Edge Question (2002), Derrick de Kerckhove (To be or not to be' remains the question, 2002) considered that:

The fact is to be or not to be is both a simple, perhaps the simplest, and a complex question, the hardest to sustain, let alone to ask...and it is the asking, not any hope for an answer, that yields the most searing and immediate insight... I am thrown for a split second at the other side of being, the place where it begins...What is required is a kind of radical pull-back of oneself from the most banal evidence of life and reality. Jean-Paul Sartre, after Shakespeare, was probably the thinker who framed the question best in his novels and philosophical treatises....There is huge energy and cognitive release to expect from it when it is properly framed. You have to somehow imagine that everything, absolutely everything has disappeared, or never was, that you have just happened upon your own circumstances by accident, the first accident of being.

The phrase "to be or not to be" is often discussed in relation to reflection on suicide (whether actual or symbolic). The existential nexus of that moment is characteristic of haiku poetry written prior to seppuku (cf Ensuring Strategic Resilience through Haiku Patterns, 2005). WH-questions might then be understood as the primary existential windows of humans onto chaos and meaninglessness (cf Pandora Consulting. The Seven Sisters of Project Management). The phrase might then be the focus of the following:

- when: raises the timing of the (possibly fatal) choice to be made or, alternatively, when "to-be" and when "not-to-be" if alternation is possible between these conditions (as with taking on a role as opposed to use of substances and other strategies through which
to "forget oneself"); it obscures any responses based on a sense of timelessness or of a focus on "now" in the present moment

- **where**: focuses on the location where "to-be" is possible, or where "not-to-be" should be enacted (possibly irreversibly); it tends to focus on "elsewhere" rather than "here"

- **which**: emphasizes the binary nature of the either/or approach (notably in reflection on a potentially fatal decision) and without any suggestion that a reframing is possible; it may be characterized by the agony of indecision

- **how**: emphasizes the modality through which "to-be" or, possibly irreversibly, the manner of ceasing to be; it predisposes to thinking in terms of habitual tools without questioning their relevance to unusual or changing circumstances (namely by framing the challenge to the tools rather than adapting the tools to the challenge)

- **what**: may be understood as a question of style and typology -- "what to be" (including a martyr or a hero) or "what not to be" under particular conditions; it predisposes to thinking within predetermined categories (reducing understanding to them) and tends to undermine creative responses "outside-the-box" that may be essential in unusual circumstances

- **who** (including whom and whose): raises the question of the nature of identity, whether in the case of "to-be" (Sartre's Being) or in the case of "not-to-be" (Sartre's Nothingness), with relatively little implication that alternation between identities is possible (as in switching between roles, or with split or multiple personalities); it reinforces any sense of fixed or defined identity and may be characterized by the agony of uncertainty with respect to unknown identities (as in paranoia) or identities that are inadequately known, raising concerns about credibility and untrustworthiness

- **why**: offers the possibility of reframing the polarity between "being" or "not being", questioning its apparently exclusive nature and implying other possibilities; it may however predispose thinking to focus on conventional explanations rather than encouraging the creative exploration of new explanations

In each case, the "or" in "to be or not to be" implies the possibility of an existential reframing -- a **kairotic moment**. But only "why" can point beyond the binary framing, raising the possibility of a four-fold framing, for example -- as recognized with regard to richer modes of dialogue in the quadrilemma of some Eastern cultures as explored by Kinhide Mushakoji (Global Issues and Interparadigmatic Dialogue; essays on multipolar politics, 1988) (cf Threshold of Comprehensibility: a fourfold minimal system?, 1983).

"To-be or not-to-be" might then offer two additional forms: "to-be and not-to-be", as well as "neither-to-be nor not-to-be". This suggests similarities to the mathematical challenge of mapping **complex numbers** in the **complex plane** in terms of orthogonal axes:

- **real numbers** (positive and negative), namely ("to-be" and "not-to-be", respectively)
- **imaginary numbers** (positive and negative), namely ("to-be and not-to-be" and "neither-to-be nor not-to-be", respectively)

The dynamics of the Council of the Whys might then be understood as "defined" within such a complex context, notably the Mandelbrot set (cf Sustainability through the Dynamics of Strategic Dilemmas: in the light of the coherence and visual form of the Mandelbrot set, 2005). The associated psychodynamics are explored elsewhere (Psycho-social Significance of the Mandelbrot Set: a sustainable boundary between chaos and order, 2005)

**Conformality of WH-questions to elementary catastrophes**

**Discussed in an Annex**

As a human response to the perception of a cognitively chaotic situation, WH-questions might be considered to lend themselves to analysis with the **catastrophe theory** as developed by Rene Thom and others. Thom developed catastrophe theory as a mathematical way of addressing the work on *morphogenesis* done by C.H. Waddington in the 1950's. Thom's Classification Theorem culminates a long line of work in singularity theory. The crucial theorems rigorously establishing his conjecture were proven by Bernard Malgrange (1966) and John N. Mather (1968). Its essential concern is change and discontinuity in systems (cf Robert Magnus, Mathematical models and catastrophes). WH-questions may be considered as triggered and formulated in response to discontinuity -- when habitual adaptive responses to change are inadequate. The contents of the Annex are:

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<td>Psychosocial implications of WH-questions as &quot;catastrophes&quot;: what, who, why</td>
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<td>Conclusion</td>
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Some traps, notably for the Council of the Whys in relation to the higher-order group of questions, include:

- any tendency to an intellectualizing focus on "what" is "why" and "who" formulates it (or wants to know)
- the reduction of higher order questions ("beyond why") to why-questions
- the transformation of why-questions into who-questions, how-questions, etc
- failure to recognize that unquestioned assumptions may be effectively answers to "frozen" why-questions

### Four-fold metaphor: rock / water / air / fire

One metaphorical approach that is both more accessible, and of adequate richness (at least initially), is that based on the classic four-fold division of natural forms into earth, air, fire and water. Before exploring this set of metaphors, it is useful to clarify the manner in which their use can be fruitful --- as a contrast to contemporary perception of them as totally outmoded precursors of modern scientific approaches to matter:

- from a psychoanalytic perspective, of relevance to the epistemological issues addressed here, extensive studies of the significance of this four-fold division have been made by Carl Gustav Jung and his successors. The significance of that original four-fold division is, for example, fundamental to the Myers-Briggs Type Indicator
- the four forms are considered here as metaphors of fundamentals --- to be variously understood as principles, values, cognitive approaches, or modes of apprehending or framing reality.
- the forms may be usefully understood as offering a feel for the distinction between different qualities of knowing. The rigidity of "earth" can thus be compared to the flexibility of "water", for example. These qualities can be understood in terms of the distinct types of bonds between the constituent molecules on which the metaphors are based -- as illustrated by the transformation of ice through water to steam. An interesting contemporary approach to such fundamental forms is that of Edward de Bono who has made a distinction between two logical modes in strategic management in terms of such metaphors (From Rock Logic to Water Logic, 2004) and has used metallic forms as metaphors to distinguish values (The Six Value Medals, 2005)
- the four forms may also be considered as metaphors of different modes of engagement of "subjective" with "objective. This may be extended to the distinction between different ways of holding identity or "embodying" "points of view"
- the familiarity of the four forms extends to familiarity with combinations of them as evident in geographical and weather conditions (eg mud, mist, dust, lava, etc)

It is worth recalling current understandings from theoretical physics regarding "matter", as a "distortion" of space-time, which is in many respects "insubstantial". In the light of such understandings, the question raised is in what sense does a "four-legged table" actually exist - - however it may be defined at any moment of its existence, with the aid of certain "senses", in terms of the categories of "air", "earth", "fire" and "water"?

### Complementarity within the set of metaphors

In distinguishing four modes of knowing through these metaphors, the intention is not to privilege or favour one mode above the other but rather to distinguish the value or appropriateness of each under certain conditions. Edward de Bono indeed stresses the merit of shifting from "rock logic" to "water logic" -- but primarily in response to governance situations in which the rigidity of "rock logic" is dysfunctional in comparison to the advantages to be gained from "water logic". The reverse might also be true. This necessary complementarity between different modes in management and strategic contexts is made evident even more clearly in some of his other work based on a 6-fold metaphor (Six Thinking Hats, 1987; Six Action Shoes, 1991; Six Value Medals, 2005).

The complementarity is therefore not a static complementarity but one that points to the need for a dynamic between the four modes of knowing. In effect it is a dynamic of alternation (cf Metaphors of Alternation: their significance for development policy-making, 1984). One valuable familiar four-fold metaphor of alternation is, for example, the process of walking of quadrupeds (horses, dogs, cats, etc).

The key to such locomotion is the orderly dynamic, whether it takes the form, in horses (for example), of walking, trotting, cantering or galloping.

From such a perspective it is possible to explore the significance of the interrelationship between the four metaphors in different contexts as indicated in the following table. Here each set (namely a table column) metaphorically mirrors the other sets as a form of alternative language, perhaps more comprehensible to some or in different contexts. They may be understood as mutual imitations -- variously distorted.

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<tr>
<th>environment</th>
<th>genetic/memetic etc</th>
<th>climbing</th>
<th>music etc</th>
<th>formality</th>
</tr>
</thead>
<tbody>
<tr>
<td>rock</td>
<td>J</td>
<td>sensation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>water</td>
<td>C</td>
<td>feeling</td>
<td>playfulness</td>
<td>informal</td>
</tr>
<tr>
<td>air</td>
<td>G</td>
<td>thought</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fire</td>
<td>A</td>
<td>intuition</td>
<td>humour, twinkle</td>
<td>creativity</td>
</tr>
</tbody>
</table>

The table draws attention to the relationship between:

- rock = invariance = foodstuffs ****
- water = variability = thirst
- air = penetrating / filling = breathing (visioning / transcendence)
- fire = imagination / self-reflexive
Developing "insight" and calls for "foresight". Strategies are typically "envisaged" from particular "perspectives", logic", and through any
The four-fold patterns of metaphors explicated in Table 2 is notably
dialogue, and therefore
This may be understood as pre-temporal ("before
to the nature of the hyperspace terrain. Such speculations do at
least stimulate imagination concerning a possible marriage between metaphor and the possibilities of dialogue within the Council of the Whys -- and their relevance to governance.

**Inadequacy of particular metaphoric frames**

The special challenge of the Council of the Whys cannot however be articulated within a single pattern of metaphors. As Table 1 indicated there is a special challenge to the dynamics of "whys" that is associated with:

- the emergence of a Factor X that implies the need or the possibility of a higher order -- for example, a "fifth discipline" or a "sixth sense"
- the integrative possibility of reducing the number of factors by framing otherwise the qualities in play

In fact it is the transition between frames, with more or less factors, that is the essential dynamic of the Council of the Whys. It is through this process that meaning is variously re-distributed -- a transformative possibility well-represented by the geometrical relationships between polyhedra (as noted below).

In a sense the Council of the Whys is obliged to function somewhat like the driver of an automoble that has to optimize the use of different gears according to the nature of the terrain or topography -- through a form of cognitive gearbox (cf *The Future of Comprehension: conceptual birdcages and functional basket-weaving*, 1980). This is most usefully illustrated in the relationship between:

- a four-fold framing of experiential reality as earth, air, fire and water
- a five-fold framing of experiential reality through the senses -- through which the four-fold reality is comprehended

In a fundamental sense however the dynamics of the Council of the Whys are determined by number, by the size of sets through which meaning is carried, and by the transformations possible between sets -- notably in the light of their geometrical representation (cf *Representation, Comprehension and Communication of Sets: the Role of Number*, 1978). It is these that order the epistemological space in which any why-question, or any set of related why-questions, is framed.

**Metaphorical framing of the future: challenge of strategic apprehension**

There is an interesting sense in which the domain of Whys may be considered atemporal, characterized by a condition in which time must necessarily be considered otherwise (cf *The Isom of the Wisdom Society: Embodying time as the heartland of humanity*, 2003). This may be understood as pre-temporal ("before time") or eternal. More interesting in this respect is the relation to David Bohm's understanding of the unusual characteristics of the "implicate order" from which the temporal dimension emerges -- and its relation to dialogue, and therefore potentially to the nature of dialogue within the Council of the Whys.

The four-fold patterns of metaphors explicated in Table 2 is notably useful in clarifying the limitations of future strategy as framed through any extremely selective choice of metaphor. Whereas Edward de Bono makes a case for moving beyond the limitations of "rock logic", and for the complementarity between "value medals", almost all strategic discussion is locked into the "vision" metaphor. Strategies are typically "envisaged" from particular "perspectives", based on explication of "vision" statements, possibly based on creative "insight" and calls for "foresight". In public discourse, strategies are in no way "entasted", "enfelt", or "en outreach" for example (cf *Developing a Metaphorical Language for the Future*, 1994 **+**). The pattern of bias is made apparent in the following table.

<table>
<thead>
<tr>
<th>sense</th>
<th>strategic elaboration</th>
<th>strategic presentation</th>
<th>strategic consequences in a four-fold reality</th>
<th>potential defects</th>
<th>corrective devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>sight / vision</td>
<td>&quot;envisaging&quot; or &quot;intuiting&quot; the future</td>
<td>vision statement</td>
<td>OK</td>
<td>&quot;fire&quot;</td>
<td>&quot;water&quot;</td>
</tr>
<tr>
<td>feel</td>
<td>&quot;feeling out&quot; or &quot;enfeeling&quot;</td>
<td>feeling-out possibilities for the</td>
<td>OK</td>
<td>strategies that may &quot;stink&quot; in practice or be perceived as &quot;tasteless&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Patterns of bias 3 (incomplete)

It is worth considering whether features at any moment of a dialogue process, notably within the Council of the Whys, could be characterized by a "rock-like" quality, a "water-like" quality, an "air-like" quality or a "fire-like" quality. This suggests the merits of reflecting on the insights of Aikido or the *Book of Five Rings*, based on such metaphors, to enhance skill in dialogue.

One situation explored by a number of writers is however of relevance to comprehending the navigation of complexity. That is the problem of piloting or navigating a spacecraft through "hyperspace" or "sub-space", as imagined in the light of recent advances in theoretical physics and mathematics. Because of the inherent complexity of such environments, writers have explored the possibility that pilots and navigators might choose appropriate metaphors through which to perceive and order their task in relation to that complexity -- for example, "flying like a bird", "windsurfing", "swimming like a fish", "tunnelling like a mole", etc.

The mass of data input, otherwise completely unmanageable, is then channelled to the pilot in the form of appropriate sensory inputs to the nerve synapses corresponding to the pilot's "wings" or "fins". The perceptions through the chosen metaphor are assisted by artificial intelligence software. The pilot switches between metaphors according to the nature of the hyperspace terrain. Such speculations do at least stimulate imagination concerning a possible marriage between metaphor and the possibilities of dialogue within the Council of the Whys -- and their relevance to governance.


<table>
<thead>
<tr>
<th></th>
<th>Future</th>
<th>&quot;Tasteless&quot;</th>
<th>Defects of Feeling</th>
<th>&quot;Drugs&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch</td>
<td>&quot;Entouching&quot; the future?</td>
<td>Symbolic indications of being in &quot;touch&quot; (&quot;kissing babies&quot;)</td>
<td>OK</td>
<td>Strategies that may &quot;stink&quot; in practice or be perceived as &quot;tasteless&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strategic analogues to defects of touch</td>
</tr>
<tr>
<td>Hearing / Listening</td>
<td>&quot;Listening&quot; to the future</td>
<td>Symbolic indications of listening to, or hearing, others (going &quot;door-to-door&quot;, &quot;fireside chats&quot;), or communicating the &quot;voice of God&quot;</td>
<td>OK</td>
<td>Strategic analogues to defects of hearing</td>
</tr>
<tr>
<td>Smell / Taste</td>
<td>&quot;Entasting&quot;, &quot;Smelling out&quot; or &quot;Nosing out&quot; the future?</td>
<td>&quot;Tasteful&quot; symbolic representations of the future, possibly &quot;perfumed&quot; by advertising</td>
<td>OK</td>
<td>Strategic analogues to defects of taste and the challenge of &quot;odourless&quot; futures</td>
</tr>
</tbody>
</table>

Other strategic limitations on the "vision" metaphor are apparent from the following considerations:

- Understandings of "vision" as a metaphor are implicitly based on the "visible" part of the electromagnetic spectrum of wavelengths [more]. The "optical spectrum", as it is termed, is well-recognized as being a very limited proportion of the whole spectrum -- that includes other parts (ultraviolet, gamma radiation, radio frequencies, microwave radiation, etc), some of which are indeed important to the sensory perceptions of other animals, notably the infra-red (eg some snakes), magnetism (eg migratory birds), and electromagnetism (eg sharks). It might however be asked what kinds of strategic understanding are effectively ignored, or denied, by neglecting insights based on a broader spectrum of "cognitive wavelengths".

It is unfortunate for the vision metaphor that the optical spectrum is indeed the range in which the sun, and stars similar to it, emit most of their radiation -- entirely consistent with the tendency to define strategic visions by reference to proximate media, political or academic "stars" whose "visibility" is achieved by suitable public relations. Focus on such obvious stellar phenomena, visible from a particular perspective and location, precludes attention to less luminous, or more distant, "visible" phenomena characteristic of the universe as a whole -- and to the planetary bodies on which life as it is known can actually be lived.

It cannot be too strongly stressed how small is the proportion of the visible portion relative to the rest of the spectrum. This extends from electric power at the long-wavelength end to gamma radiation at the short-wavelength end, covering wavelengths from thousands of kilometres down to fractions of the size of an atom. Therefore there is a lot of radiation which is "invisible" to the eye, but is vital to techniques of "remote sensing" (such as radar and radio telescopy) on which the security of human society may depend. "Remote sensing" suggests a far more powerful metaphor than "vision". "Night vision" technology is now considered vital in human security operations, as has long been the case with animals. To what extent are the majority of vision-based strategies effectively incapacitated in the absence of "light"? Hence the increasing importance of "electronic surveillance" and its implications as a metaphor for detecting the future beyond the range of "vision".

In cosmology, dark matter refers to hypothetical matter particles, of unknown composition, that do not emit or reflect enough electromagnetic radiation to be detected directly, but whose presence can be inferred from gravitational effects on visible matter such as stars and galaxies. Such speculation raises the question as to whether any analogous "dark matter" could, without "vision", be usefully detected by the vigilant in the psychosocial sphere (cf The "Dark Riders" of Social Change, 2002)

Animals, and people, are variously sensitive to different parts of the visible spectrum as conventionally divided (red, orange, yellow, green, cyan, blue, indigo, violet). Curiously these colours are often associated with different strategic "visions" -- and may even be one of the metaphors and models (other than left-right) used to (re)define a "political spectrum", as in recognition of "political colour" (and any corresponding flags). Is there a strategic sense in which "communists" are more "visually" sensitive to "red", "environmentalists" to "green", and "conservatives" to "blue"? Is it then as strategically naive, if not dangerously inappropriate, to exclude "non-visible" cognitive "wavelengths" from any "vision" as it is to seek to design certain colours out of the political spectrum? In his use of the colour metaphor, Edward de Bono specifically recognizes the need to use a variety of colours in ensuring the viability of any strategy (cf Six Thinking Hats; Six Action Shoes)

- "Vision" is of major significance to many religions as a mode of externally manifested divine communication, vouchsafed to an individual or a group, that may be given great legitimacy by the leadership of a wider group or a whole people (Lourdes, etc). However this form of vision is typically dissociated from the strategic visions of secular societies
- Dreams may represent another form of private "vision" for an individual which may then be interpreted as having great significance for a group, notably if that person is a leader or is thereby driven to take up a leadership role
- According to some belief systems that associate "vision" with a particular psychic centre, such as a chakra, the understandings associated with other such centres (such as the hara) may be considered highly desirable, if not a sign of maturity valued in experienced decision-makers above that reliant solely on "vision".
• curiously some forms of creativity and innovation are framed, valued and legitimated as dependent on a vision-related metaphor through the term "insight" -- distinct from that questionably associated with divine visions or dreams. Again it is not clear what forms of strategic response are excluded by this framing. The implications, notably for certain leaders, of "gut feelings" merit exploration. The nature of "understanding" may itself relate more strongly to senses other than vision.

• a vision-related metaphor is fundamental to conventional understanding of the thinking process itself, namely "reflection". The constraints of this metaphor are highlighted by criticism of "speculation" and of the associated implications of the "mirror" of awareness, most notably within certain spiritual disciplines ***

The domain of Whys presumably includes ways of knowing corresponding to all the senses and to the manner in which they may be coordinated and integrated (cf Howard Gardner. *Multiple Intelligences: The Theory in Practice*, 1993). Given physicist David Bohm's earlier hypotheses (mentioned above) regarding the implicate order, it is perhaps surprising that a leading proponent of modern string theory Michio Kaku, should entitle a recent work as *Visions: how science will revolutionize the 21st Century* (1998) -- based on interviews with 150 scientists. *String theory* focuses notably on the manner in which space-time is curled into eleven (or more) dimensions within which, presumably, any metaphoric use of "vision" for the "future" needs to be completely reframed -- irrespective of the restricted part of the electromagnetic spectrum from which the vision metaphor is derived.

Kaku concludes a later article (*M-Theory: The Mother of all SuperStrings*, 2005) with a section entitled "Is the End in Sight?". Surely, in order for its implications to be meaningful, any such cognitive "end", as with religious "end times" scenarios, must necessarily call for a fundamental reframing of understanding described in terms of the limitations of "sight" metaphors and related spatial notions of boundedness? The metaphoric use of "end" to describe a space-time universe held to be "finite but unbounded" is as laughable as Douglas Adams' *Restaurnat at the End of the Universe* (1980) -- or as questionable as the journey to the "end of the rainbow". The challenge to perspective is especially evident in the limitations inherent in the phrase "end of the day" in the case of a rotating Earth. Such limitations would be equally inappropriate in the cognitive domain of the Council of the Whys.

The strategic interface explored in Table 3, through which 4-fold reality is perceived through 5 senses, is of course only one possibility for the Council of the Whys. As indicated in Table 1, reality may be understood as 3-fold (for example), or the number of senses may (for example) be increased to 6 (as with the notion of a "sixth sense" and Edward de Bono's various 6-fold metaphors). More intriguing is the possibility that, given that string theory is a human cognitive construct, there may be a degree of isomorphism between the dimensionality of reality and the cognitive capacity to sense and describe that dimensionality in some way -- beyond the strictures of "vision".

Future understanding may therefore bodied in the approach of leaders of taste in designing the future in terms of fashion in every field. The process of tasting, through "drinking in", has been associated with the process of grokking (cf *Authentic Grokking: Emergence of Homo conjugens*, 2003). For the poet Jorge Luis Borges (*This Craft of Verse*, 2000) the experience of "drinking in" the language is central. This metaphor raises the question of the nature of "foretaste" in contrast to "vision". Consider also:

• ritual guardians of song, as with the principal songmen of the Australian Aborigines, or a Jewish cantor. How is the practice of "singing in" the future to be understood -- as practiced in some indigenous and shamanic communities (the Sami, Australian Aborigines, etc) [more]? In C S Lewis' *The Chronicles of Narnia*, the lion, symbolizing Christ, "singing the world it into being". For the Aborigines of Australia, there is a place behind reality, one reached by dreams, where anything can be created just by singing it into being. The Sami singing style *jok* is understood as a means of deeply identifying oneself with someone or something in an essentially atemporal mode. The focus of LiveAid-style concerts raises the question of the nature of any "sound of the future" (cf Jacques Attali, *Noise: the political economy of music*, 1985). The poet David-Michael Cook asks the question: "When will we start listening to the voices of the future?" [more]

• given the credibility attached to the predictive power of prophets, "channellers" and others capable of hearing the "timeless" voice of divinity, or listening to the "voices of the future". In Quaker meetings importance is attached to listening to the "sense of the meeting". The process of "deep listening" is advocated for CEOs [more]. How is this mode related to "envisioning " the future?  

• careful consideration of the future by leaders in every field typically results in the phenomenon of "keynote speakers". There is no implication that there may be a corresponding need for "keynote listeners" in endeavouring to detect the "sense of a meeting" (except perhaps in the Quaker decision process).

• feeling "in my bones" or "in my guts". According to his disciple Doho, the haiku poet Matsuo Basho would "enter into the object, the whole of its delicate life, feeling as it feels. The poem follows of itself." (Shinkichi Takahashi, *Afterimages: Zen Poems*, 1972).

For the Council of the Whys, excessive dependence on the vision-sight-perspective metaphorical set also completely obscures the disadvantages of such dependency as suggested by:

• dependence on a "line of sight", namely inability to see, other than in a straight line -- in contrast to the vital ability to smell, hear and touch "around corners" or "over the horizon"

• dependence on light and transparency to be able to see effectively -- in contrast to the ability to smell, hear and touch "in the dark"

Evolution offers powerful lessons regarding the viability of species that became over-dependent on a particular survival faculty when the context and circumstances changed, or other species emerged that were less dependent on that faculty and more vigilant regarding its "blindspots". It is however the case that an ecosystem might be understood as a set of interacting species distinguished by their dependence to different degrees on the various senses. Analogous cognitive preferences, and their associated metaphors, are presumably
a strong influence on the emergence and viability of different human groups in terms of the types ignorance within which they can shelter (cf Dynamically Gated Conceptual Communities: emergent patterns of isolation within knowledge society, 2004)

Metaphorical permutations and combinations

As with any pattern of metaphors, the basic four-fold pattern may be used to generate combinations pointing to qualitatively mixed modes of knowing. This is most readily apparent in the approach taken in the elaboration of the Myers-Briggs Type Indicator which results in a 4 x 4 combination, namely 16 distinct types. Qualitative arrays may in this way be articulated from 4 to N qualities.

Engendered combinations of this kind may also provide analogues of metaphorical significance for other sets in Table 2

The resulting qualitative distinctions may be reflected fractally amongst the wholes in the parts

Psychological engagement with four-fold metaphors

It is one thing to use metaphor as a purely rhetorical device to illustrate by analogy -- as is typical of literature. But, as extensively demonstrated by George Lakoff, Mark Johnson and their colleagues, it is quite another to appreciate how generative metaphor -- especially implicit metaphor -- conditions thinking. From this perspective it is yet another matter how metaphor may be consciously used to frame new understanding.

In this sense the challenge in comprehending the dynamics of the Council of the Why is:

- understanding how a metaphor may be used to "grok" reality (cf Authentic Grokking: Emergence of Homo conjugens, 2003)
- understanding how diverse, and seemingly easily described, modes of sensing the world may be embodied in practice in the light of various understandings of "embodiment of mind"(George Lakoff and Mark Johnson, Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought, 1999; Francisco Varela, Evan Thompson, and Eleanor Rosch, The Embodied Mind: Cognitive Science and Human Experience, MIT Press, 1991; Warren S. McCulloch, Introduction to Embodiments of Mind of Seymour Papert, 1965)
- to distinguish degrees of competence in engaging in such embodiment, namely the capacity to effectively "doff" and "don" metaphors offering fundamental cognitive reframing, as is explored to some degree in Edward de Bono's studies (see above). An effort has been made to distinguish such degrees in the classic Zen sequence of 10 ox-herding pictures

From such perspectives, it is then not categories, as intellectually defined, that are as significant as how, cognitively, such framing categories are understood, "grasped" or embodied. The conventional descriptive approach of "explanation" -- perhaps to be understood as "taken out of the plane of reality" -- is then to be complemented by what might be termed "implanation". This would be understood as a form of engagement "within the plane of reality". Much then depends on the quality or feel associated with the approach -- "rocky", "windy", "airy", etc as de Bono has variously explored in his efforts to clarify the nature of "operacy".

Such alternatives point to the capacity to engage differently with the present moment, namely to the requisite modes of knowing in order to "be present". The above metaphors may then be understood as qualitative, dynamic focusing tools for travel in kairotic time -- perhaps to be understood as moving associatively through "semantic wormholes", or even worm(wh)oles (cf Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement, 2002). Cognitively, as emphasized on the cover of the classic Whole Earth Catalog: "There is no need to put it together, it already is together". The sense of a need to explain or change the present moment may be misplaced, the challenge is to engage differently with it (cf John Ralston Saul, The Unconscious Civilization, 1995).

Intriguingly, vital characteristics of this understanding are to be found in older forms of spirituality and attitudes to the environment -- as extensively documented for the United Nations Environment Programme by Darrell Addison Posey (Cultural and Spiritual Values of Biodiversity, 2002) and explored by David Abram (The Spell of the Sensuous: perception and language in a more-than-human world, 1997). They are notably to be found in understandings of the Australian Aboriginal Dreamtime -- as they are in the Anglo-Saxon spirituality explored by Brian Bates. (The Way of the Wyrd, 1983) who notes:

Wyrd is the unfolding of our personal destiny. It has sometimes been translated into modern English as 'fate'. But it is much deeper than that. It does not see our lives as 'pre-determined'. Rather, it is an all-encompassing view which connects us to all things, thoughts, emotions, events in the cosmos as if through the threads of an enormous, invisible but dynamic web. Today, scientists know intellectually that all things are interconnected. But the power of Wyrd is to realise this in our inner being, and to know how to use it to manifest our personal destiny.

Today, through a deep connection with wyrd, we are inspired to see our lives in a new and empowering way. It restores our experience of the healing power of love, nature and creativity. It is about letting into our lives the guidance of an extended universe of spirit. It brings ancient wisdom together with modern science in the service of enhancing our lives, and the integrity of our human presence on the planet.

Advocacy of "embodiment" then needs to be matched by a complementary "detachment" -- the capacity to "doff" and "don" cognitive framings. This suggests avoidance of "buying into", or being beholden to, particular conceptual models, especially when they have not -- after decades of promises -- proven to be the promised panacea. Unusual for any religion, for example, is the fruitful dissociation of a much-honoured focal figure, Buddha, from the essential understanding to which he points. For example:
• Zen masters frequently quote the contrarian answer offered to the question "What is Buddha" -- the answer, famously given by Master Yun-men, being "Kanshiketsu" namely "Dried shitstick"
• The great Japanese haiku poet Matsuo Basho said, "Do not seek to follow in the footsteps of the ancients; instead seek what they sought."

As is comprehensible to any user of tools (eg hammer, chisel, etc), conceptual models are best used when appropriate and required -- and in the light of their limitations. Particularly inappropriate however is the misapplication of "cookie-cutter" models to order domains to which they are not well adapted. Many criticisms of World Bank and IMF development policies over past decades have focused on the unfortunate consequences of this tendency.

The cognitive engagement with reality -- the embodiment of mind -- is then usefully to be understood in terms of a pattern of alternation between distinct cognitive "peripherals" or "feet" of which the senses are indicative (cf Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement, 2002). Whether it is four feet, two feet or N-feet is another matter which the variety of differently-limbed species, fundamental to the viability of the ecosystem, is helpful in clarifying -- as with the transition of the human child from crawling "on all fours" to walking. For any Council of the Whys, the capacity to detach from the mundane preoccupations with questions of who, where, when, which and what is therefore fundamental to sustaining its integrity and coherence -- and the continuing ability to relate to such concerns.

**Integrative and transdisciplinary operacy**

Walking and tool-using are helpful metaphors illustrative of the dynamic challenges of cognitive coordination to which appeals for integrative and transdisciplinary approaches point. Again it is appropriate to stress the distinction between integrative perspectives and effective integrative operacy in the sense stressed by Edward de Bono.

From the psychoanalytical and psychotherapeutic perspectives associated with individuation, as explored by Jung and his successors, the potential integration of the understandings implied by four-fold metaphors has notably been symbolized by the search for the "philosopher's stone" -- a fifth element or the Hermetic quintessence (cf C G Jung, *The production of the quintessence*. In: Mysterium Coniunctionis, 1970). This might be understood as a particular kind of skill in "walking" and "tool using" -- however variously it is described (for example, flow experience, as explored by Mihaly Csikszentmihalyi). It might also be understood as a form of invariance ensuring continuity and coherence -- providing connectivity into alternative framings (and the management of "gait" within a quadrilateral locomotion metaphor).

A major challenge in sustaining such coherence is the status of other alternatives when one has momentarily been embodied or favoured. This is the cognitive challenge of "the other" -- prosaically, but dramatically, evident in the dysfunctional relations between the divisions of an organization, the Specialized Agencies of the UN, the countries and cultures of the world, or the many religions or disciplines. The challenge is that of understanding -- whatever that can be understood to mean -- how one can hold or focus a feature for another in whom it has been deactivated or rendered unconscious, even though essential to their viability in a larger setting. What indeed is the understanding required when 'The lion shall lie down with the lamb;" (Isaiah 11:6)?

This pattern has been described through the Hindu symbolism of Indra's Net within which each embodied identity is a jewel at a node. It is echoed by the Greek symbol of the omphalos. These are of course images which avoid any reference to the cognitive challenge of the relationship with what is embodied by any "other" and how that other effectively holds and provides a focus for aspects of one's (unrecognized) larger identity. In the larger sense, as noted by the *Whole Earth Catalog*, everything is already together. It might be said to be a cognitive indulgence to believe that it is not -- in the many ways that subject the world to unresolved and often bloody tensions. In the larger sense, people encountered as an "other", can be usefully compared to the understanding of astrophysicists of planetary masses as being "curvature" in the space-time gravity field of the universe.

The cognitive challenge of the "other", with the associated divergent priorities, remains a major challenge for individuals, for organizations, for disciplines, for religions and for society. The challenge, as noted earlier, is to embody or work with forms that transcend duality. Elsewhere this challenge has been discussed in the light of metaphors of: clathrates, resonance hybrids, and tensegrity (see below).

**Duality and its transcendence through memetic reproduction**

The Council of the Whys must in some special way derive its energy from duality and its transcendence. This is suggested by the "dance" between the meaning continually sought by "why" and the sense of meaninglessness that continually triggers that search. From a memetics perspective, Helena Katz (*Dance and Evolution: a non-stop combination of biology and culture*, 1998) highlights the role of dance in relation to any understanding of embodiment:

> If dance is information not encoded in DNA, it has to be brought to the body. If Culture is a space where occurs exploration and transformation of information through variation, selection and replication, as Dawkins points, and dance is information with patterns (Gabora, 1997), dance finds itself in a privileged place to the clarification of evolutionary processes and can be understood as an evolutionary process itself. As a non-stop combination of Biology and Culture, dance is a pool of dancing memes and their offspring.

But this process needs to be understood through a different frame than is conventionally deployed with respect to duality and polarization. In a sense the Council of the Whys thrives on duality rather than being torn by it. It is through the dynamics associated with duality that the essence of the Council of the Whys emerges. Polarity and polarization are then effectively a higher order game to be explored -- as
with contrasting notes and melodies in music and the play between discord and harmony.

Valuable ways of understanding this dynamic, as suggested above, can be explored through metaphors of alternation (cf Metaphors of Alternation: their significance for development policy-making, 1984). These typically point to the coherence, and its associated meaning, offered by the dynamic between contrasting (if not incommensurable) understandings. This coherence is of course distinct from that sought, and possibly temporarily achieved, by attempts at unification within a single non-dynamic framework.

Another possibility is however suggested by the biology of reproduction as a metaphor. Curiously the most solidly constructed edifices of humanity are subject to obvious decay. This is evident in the case of the Egyptian pyramids. But it is also evident in the case of conceptual constructs. Theories do not survive for any length of time -- in comparison with the half-life of centuries of the most robust physical edifices -- before being displaced. Biological species use the "trick" of reproduction to achieve even greater longevity. Arguably this process may be isomorphic with the dynamic of the sustainable development of meaning as suggested by application of insights from theoretical population genetics to mathematical models for memetic development. Within a larger context, this isomorphism may even be necessary (cf James Grier Miller, Living Systems, 1995).

In introducing the Symposium on Memetics: Evolutionary Models of Information Processing (on the occasion of the 15th International Congress on Cybernetics, 1998), Francis Heylighen (What makes a meme successful? Selection criteria for cultural evolution, 1998) clarifies this isomorphism in the following terms:

Cultural evolution, including the evolution of knowledge, can be modelled through the same basic principles of variation and selection that underlie biological evolution... This implies a shift from genes as (replicating) units of biological information to a new type of (replicating) units of cultural information: memes... A meme can be defined as an information pattern, held in an individual's memory, which is capable of being copied to another individual's memory. This includes anything that can be learned or remembered: ideas, knowledge, habits, beliefs, skills, images, etc. Memetics can then be defined as the theoretical and empirical science that studies the replication, spread and evolution of memes....

Responding to criticisms of the relation between cultural evolution and memetics, Joseph Henrich Robert Boyd and Peter J. Richerson (Five Misunderstandings about Cultural Evolution, 2002) conclude:

The proper approach is to recognize that the analogy between genes and culture is quite loose, and to build up a theory of cultural evolution that takes into account the actual properties of the cultural system. Culture rather obviously has a much richer array of psychological processes with population level consequences than is the case for genes. But neither particular psychological forces, nor the integrated effect of all such forces, in any way rules out a role for natural selection or vice versa.

The point to be stressed here is however one that is traditionally emphasized in cultural myths -- as memes in their own right -- regarding the consequence of intercourse between the primary genetic duality of male and female, here to be understood in memetic terms. This union is itself an existential form of transcendence and its product is a memetic reflection of that through a mixture of memes reflecting traits of the parents in various combinations -- as is the case in genetics. This suggests the possibility of a memetic interpretation of any form of schism in belief systems or schools of thought, however formalized, as being the product of a form of reproductive process through which combinations of memes are transferred into new frameworks so as to optimize the probability of survival of the human meme pool. Such reproduction, through schism, can thus be reframed as a form of temporal transcendence of duality.

In a helpful tutorial, Joe Felsenstein (Tutorial on Theoretical Population Genetics, 2003) introduces the fundamental Hardy-Weinberg proportions which govern the transfer of genetic (and probably memetic) information from one generation to the next. Felsenstein states:

Given a population with a locus with two alleles and discrete generations and these assumptions:
- the population is infinitely large
- there is no mutation
- there is no immigration or emigration
- there are no differences among the genotypes in viability
- there are no differences among the genotypes in fertility
- there are no differences in frequencies of genotypes between females and males

then if we start with genotype frequencies P, Q, and R, we can calculate the frequencies of the genotypes in the next generation... Essentially, the outcome of random mating under these conditions is that everybody contributes equally to an infinitely large "gamete pool" and the offspring are equivalent to draws of pairs of gametes from this... So the gene frequency does not change from generation to generation, and the Hady-Weinberg proportions do not change after the first generation..

The above assumptions can of course be relaxed in various ways and Felsenstein discusses the consequences for natural selection, mutation and genetic drift, diffusion, multiple loci and linkage disequilibrium all of which might be understood in memetic terms.

The evolution of theoretical population genetics has reached a point at which there are multiple papers on computer simulation of evolution by population geneticists. This work has stimulated analogous investigation with regard to computational memetics as with J R Kendal and K N Laland (Mathematical Models for Memetics. Journal of Memetics - Evolutionary Models of Information Transmission,
In his explorations of Richter, concern with the deep structure, that is, the way the language is working. Aphorism 24 (1929). In commenting on Ludwig Wittgenstein's critical view of such a question as "language games" (in: Philosophical Investigations, Aphorism 24), Lois Shawver asks whether it "betrays a concern with the way things look on the page, or sound in the voice, and not a concern with the deep structure, that is, the way the language is working and having an impact on what is happening" (see also Duncan Richter, What Use Are Wittgenstein's Language-Games?, 2004).

In his explorations of holistic mathematics, Peter Collins (in a personal communication) opens up the challenge with the following:

What I have found quite remarkable (and with which I am still attempting to come to terms with the profound implications) is that associated with every dimension ≠ 1 is a unique logical system that deals with WH-questions in a distinct manner. In other words potentially out there (and in here mentally) we have an infinite number of mathematical systems based on distinctive logical metaparadigms (represented by dimensions). However conventional mathematics has been constructed on just one of these (i.e. where the interpretative dimension is 1)....

Thus in linear terms -- where interpretation is absolute -- both positive and negative positions exclude each other. Thus for example a proposition such as the Riemann Hypothesis must be either true or false represents such linear thinking. However if we attempt to interpret relationships in true (unreduced) two-dimensional terms then we use an opposite both/and logic where positive and negative polarities are combined. In other words the metaparadigm for (unreduced) two-dimensional understanding is based on the complementarity of real (i.e. conscious) opposites.

Thus in this more dynamic understanding, all propositions are both true and false with a merely relative truth value (depending on arbitrary initial conditions). Thus in terms of the deeper 'why', such propositions are truly open-ended with each answer (with a merely relative truth value) simultaneously posing another question (that can again only be answered in relative terms).

Indeed one could say that ultimate truth (i.e. God, Spirit etc.) is the pure question that is its own ineffable answer. This is the faith that can remove mountains i.e. the firm conviction that whatever question is asked (in pure faith) must thereby be answered.

The science of memetics aims to understand the evolution of socially transmitted cultural traits. Recently attention has focused on the interaction between memetic and genetic evolution, a phenomenon described as meme-gene co-evolution. Whether cultural evolution occurs purely at the level of the meme, or through meme-gene interaction, a body of formal theoretical work already exists that can be readily employed to model empirical data and test theoretical hypotheses. This is cultural evolution and gene-culture co-evolutionary theory, a branch of theoretical population genetics. We reject the argument that meaningful differences exist between memetics and these population genetics methods. The goal of this article is to point out the similarities between memetics and cultural evolution and gene-culture co-evolutionary theory, and to illustrate the potential utility of the models to memetics.

In the case of the Council of the Whys, this work suggests the possibility of a particular focus on the dynamics amongst "whys" -- given their more intimate relation to any sense of meaning than is the case with other WH-questions. From such a perspective, any genetic population dynamics could be understood as a material reflection of memetic dynamics within the Prima Materia.

Transcending dualities: other approaches

(*** incomplete)

Quest for questions "beyond why" or "prior to why"?

Kim Veltman (Questions and Choices, 1996) provides a valuable comparison of the progressive emergence of different combinations of WH-questions, and their relation to the disciplines -- from Aristotle, through medieval thinking and John Stuart Mills, to modern universities. This is the basis for his System for Universal Media Searching (SUMS), a systematic tool for finding, retrieving and organizing material on the internet, linking the users own local collection of facts with the external electronic universe. In relation to these questions, SUMS has ten basic entry points: access, learning, levels, media, quality, quantity, questions, space, time, tools.

Development, whether ontogenetic or phylogenetic, might be understood in terms of progressive capacity to formulate and respond to different types of WH-questions. For example, there is an extensive literature on the "acquisition order" of morphemes notably in describing second language question stages for learners of English and specifically in terms of WH-questions (cf Eun-Young Kwon. The 'Natural Order' of Morpheme Acquisition: A Historical Survey and Discussion of Three Putative Determinants, 2005) dating from studies by Manfred Pienemann (1985).

Whilst the Council of the Whys may indeed derive its dynamic from the progressive reformulation and cross-fertilization of why-questions, its capacity for self-reflection would clearly oblige it to ask why it is locked into that pattern. Are there indeed questions of a type "beyond why" or "prior to why" in a developmental sense, and how are they to be recognized? Or are why-questions to be understood as the ultimate type of question in any acquisition order?

Any such question raises the philosophical issue of "what is a question" -- of which WH-questions may merely be a subset. There would appear to be a relatively meagre literature on the question (cf Kevin H. Knuth. What is a Question? 2002; F Cohen. What is a question?, 1929). In commenting on Ludwig Wittgenstein's critical view of such a question as "language games" (in: Philosophical Investigations, Aphorism 24), Lois Shawver asks whether it "betrays a concern with the way things look on the page, or sound in the voice, and not a concern with the deep structure, that is, the way the language is working and having an impact on what is happening" (see also Duncan Richter, What Use Are Wittgenstein's Language-Games?, 2004).

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Thus in this more dynamic understanding, all propositions are both true and false with a merely relative truth value (depending on arbitrary initial conditions). Thus in terms of the deeper 'why', such propositions are truly open-ended with each answer (with a merely relative truth value) simultaneously posing another question (that can again only be answered in relative terms).

Indeed one could say that ultimate truth (i.e. God, Spirit etc.) is the pure question that is its own ineffable answer. This is the faith that can remove mountains i.e. the firm conviction that whatever question is asked (in pure faith) must thereby be answered.
One classical approach to "beyond why" is the use of the Zen koan (or kong-an in Chinese) to break the conventional mindset conditioning the relationship between question and answer -- and questioner and answerer. This is exemplified by the classical challenge of understanding the "sound of one hand clapping" [cf Zen Koans: transcending duality]. Mu (in Japanese), Wé/Mou (in Chinese) is a word which can be roughly translated as "without" or "have not" and is typically used as a prefix to imply the absence of something. It features in the jargon of computer hacker culture as a response to logical inadequacies [more]. Of more relevance here, is its use as a response to certain koans and other questions in Zen Buddhism, intending to indicate that the question itself is wrong [more]. It is effectively a way of un-asking questions by providing an anti-answer [more]. As the deliberate cultivation of ambiguity, this has recognized value in the training of military special forces (cf Anna Simons, How Ambiguity Results in Excellence: the role of hierarchy and reputation in U.S. Army Special Forces Human Organization, Spring 1998).

Another approach is that relating to "impossible questions", "unanswerable questions", "insoluble questions" (in contrast with "unsolved problems"), the "unknowable" and limitations to human knowing:

- **Creativity:**
  - Lu Stone, Asking "Impossible Questions": critical social thought majors share a passion for ideas, 1996
  - Are there any unanswerable questions? The Guardian, 2005
  - William Poundstone, How Would You Move Mount Fuji? How the world's smartest companies select the most creative thinkers, 2004 [more]
- **Information searches (and the Boolean satisfiability problem -- SAT):**
  - Tad Hogg, Solving Highly Constrained Search Problems with Quantum Computers, 1999
  - Unanswerable Questions Educational Technology Journal, 1997 [toolkit]
  - Andrew Davenport and Edward Tsang, An empirical investigation into the exceptionally hard problems, 1995
- **Ignorance and limits to knowledge**
  - Bernard Williams, What we do not know? UNESCO, 1995 [more]
  - Ronald Duncan, Miranda W. Smith, Encyclopedia of Ignorance, 1978
  - Graham Chapman, The Limits to Knowledge: Evolutionary Psychology, Complexity Theory, and Social Epistemology
  - Piet Hut, Joseph Traub and David Ruelle, Varieties of Limits to Scientific Knowledge, 1998 [more]
  - J. F. Traub, What is scientifically knowable? (School of Computer Science, Carnegie-Mellon University), 1991
  - Piet Hut, Limits to Scientific Knowledge, 2005
  - Anthony Judge, The International School of Ignorance? 1996
  - Gerald Feinberg, What can we know? Whole Earth Review, Summer, 1987
  - Anthony Judge, Limits to Human Potential, 1976
  - Rudolf Steiner, Are There Limits to Knowledge? (The Philosophy of Freedom Knowledge of Freedom, ch 7), 1894
- **Philosophy:**
  - Moritz Schlick, Unanswerable Questions, The Philosopher, Volume. XIII, 1936 [more]
  - Bob Zunjic, What is Philosophy?: Defining Philosophy (Based on "The Value of Philosophy" by B. Russell)
- **Science:**
  - Wrenn Heisler, Asking the Impossible Questions: theoretical physicists grapple with the unanswerable, 2005
  - C G Bennett and R W Fairbrother, Unanswerable questions, Physics Education., 2, 1967, 288
  - John Horgan, Pushing the Envelope: a paradigm is born, 1996 [creating a "meta-paradigm" focusing on the limits of scientific knowledge]
  - John Baez. Open Questions in Physics, 2005
  - MathWorld, Unsolved problems. 2006
- **Religion:**
  - Avvaakata: The Buddha's Ten Indeterminate Questions
  - Timothy S. Morton, Answering the "Unanswerable" Answers to "Unanswerable Questions" posed by King James Bible Critic, Gary Hudson
  - Fred R. Anderson, God's Impossible Questions, 1994
- **Lists:**
  - Unanswerable Questions
  - Life's Unanswerable questions
  - Authoritative Unanswerable Questions [jokes]
  - Almost Impossible Questions [web-based answering facility]

Adam Jacot de Boinod (The Meaning of Tingo, 2005) -- basing his approach on 154 languages, following that of Howard Rheinhold (They Have a Word for It: a lighthearted lexicon of untranslatable words and phrases, 1988) -- identified words and concepts for which there is no obvious equivalent in a language such as English. This suggests the possibility that some languages may have forms of question that are indeed "beyond why". An indicative example is the use of nja in Swedish. Alternatively an artificial language might be created to explore this possibility and its implications.

A pointer in this direction is provided by the early, well-articulated, proposal by Edward de Bono (Po: Beyond Yes and No, 1972) for a new word "po" as a device for changing ways of thinking: a method for approaching problems in a new and more creative way, as discussed elsewhere (cf. Categorical Straightjackets PO: A suggestion for a de-patterning device for international organization descriptions, 1974). It is seen as a means of legitimately placing a "creative" question mark against the categories and category-systems which have to be used in the grammatically correct sentences required for effective communication. "Po" is not a neologism in the
conventional sense since all neologisms tend to be descriptors. The proposed word would have a status similar to the logical operators AND, NOT, OR, etc which are each the basis for an important conceptual operation between categories. Its use has been discussed in relation to trying out ideas in mathematics:

For many years mathematicians have tended to use the words 'Let' and 'Consider' to introduce ideas for examination. MATHS also encourages creative (or lateral) thinking. At any time an idea can be documented and experimented with - as long as it is in an enclosed context. Edward de Bono's work suggests there is need for a new word that frees the mind to examine the ideas without pre-judging them. He suggested "Po". "Po" invites the reader (or listener) to suspend judgment of an idea for a time. It means that the idea is thought about without evaluating it as true or false.

Significantly the string "po" is found in "hypothesis", "suppose", "posit", "proposition" which indicates something of the way it is intended to work. It is also part of "poetry" - indicating that an idea can be thought about for aesthetic as well as pragmatic reasons. In MATHS the word 'Po' is followed by a set of (braced) documentation which includes the assumptions and derives the consequences. After the end of the argument a conclusion can be drawn from the complete process. Edward de Bono had no intent for 'Po' to be part of a formal language, but by the lateral move of trying it out this author concludes that it works better than other words.

Presumably any such "higher order" question would be based on a higher degree of self-reflexivity and recursiveness -- perhaps to some degree cognitively isomorphic with the curving surfaces of catastrophe theory (or even the space-time "curling" of the more fundamental dimensions of string theory). It would be a greater challenge to any sense of identity and coherence since it implies a degree of identity with (or embodiment of) the question, the content and the potential answer -- in the spirit of enactivism. But as such it might be of greater value to the reframing of strategic issues such as the meaning of sustainable development and quality of life.

"Po" clearly points to a way of transcending conventional dualities, notably in relation to question and answer -- although its use is necessarily precluded in approaches to the Boolean satisfiability problem (SAT) in information retrieval. There is even less reason to consider its relevance to the primordial cognitive creativity of the "Big Bang". In this connection, given Edward de Bono's predilection for humour ("as the most significant behaviour of the human mind"), his choice of the term "po" may also have been intended to have fruitful scatological associations to the anatomy of the fundament and its defecatory process [see Note].

Use of "po" might then be considered valuable in reflection on any fundamental reframing of recycling. In this sense, reframing Michio Kaku's question as to whether the "end is in sight", what might become apparent through such a new form of "higher order" question is the tail of the Ouroborous -- a cross-cultural, ancient symbol depicting a snake or dragon swallowing its own tail, constantly creating itself and forming a circle. If Buddha can indeed be understood as "shitstick" by Zen masters (as noted above), perhaps the universe, as commonly known to humanity, could then be understood as an instance of divine flatulence -- the "Big Bang" as a momentary lapse of anal retention.

This understanding contrasts with that exemplified by many current framings of future strategy (cf Backside to the Future: coherence and conflation of dominant strategic metaphors, 2003) -- and with epistemological perspectives exemplified by a dog energetically chasing its tail, as the "end in sight".

The "end of questing"?

There are other questionable "ends". These include Francis Fukuyama's controversial The End of History and the Last Man (1992) and the "end of individuation" explored by psychoanalyst Dolores Brien (Today's Magnum Opus of the Soul, 1999) in commenting critically on the work of Wolfgang Giegerich (1996).

The atemporal meaning to be fruitfully associated with the cognitive "end" of the questing -- at the origin of the Council of the Whys -- is perhaps best exemplified by the much-quoted stanza of T S Eliot (in Little Gidding, 1942):

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.

The Council of the Whys may therefore be best understood as based on circular "why-rings" of different orientation to one another, but nevertheless interlocking to form a (hyper)sphere -- as illustrated by the following images discussed elsewhere (Ensuring Strategic Resilience through Haiku Patterns: reframing the scope of the "martial arts" in response to strategic threats, 2005; Spherical configuration of interlocking roundtables: Internet enhancement of global self-organization through patterns of dialogue, 1998 ).

As a pattern of communication, these forms might be understood as configured around some kind of strange cognitive attractor (cf Human Values as Strange Attractors: Coevolution of classes of governance principles, 1993). This could be understood in terms of the work of Ron Atkin on the use of simplicial complexes to analyze connectivity in social systems and the challenges of its comprehension (Combinatorial Connectivities in Social Systems: An Application of Simplicial Complex Structures to the Study of Large Organizations, 1977) [more].

Schematics illustrating a configuration of kairotic moments
at the intersection of pathways in chronological time
By analogy to the coiled wiring of dynamos and electric motors, it is the ability of these "why-rings" to channel the movement of (meditative) attention which is the basis of the ability of the Council of the Whys to engender energy and to generate motivation respectively. The (hyper)sphere formed by the interlocked "why-rings" may also be understood as the archetypal container, or "alchemical vessel", within which transformative processes take place. As with the design and operation of the "magnetic bottle" of a nuclear fusion reactor, it is the synergistic electromagnetic effects of the pattern of wiring that ensures that plasma is usefully contained as a source of fusion power, rather than "quenched" by contact with the material walls of the container. In a real sense therefore, the many calls for "new thinking" and "rethinking" could be understood as a need for "re-why-ring" (or "re-why-nding").

In terms of meditative disciplines, failure to sustain a sense of wholeness or harmony (the Chinese understanding of Wa), through "quenching" by material preoccupations, is a momentary lapse of attention that engenders the fragmentated experience of life. Such quenching is then a human form of cognitive flatulence -- emitted through the many lesser circles around the surface of the (hyper)sphere. These lesser circles are reminiscent of the "fish-scale model" (cf D T Campbell. Ethnocentrism of disciplines and the fish-scale model of omniscience, 1969) currently proposed as one of the models of interdisciplinarity.

As it is to be understood in the present time, the Council of the Whys might be expected to be constantly experimenting (to the point of distraction) with the art and science of balancing the effects of the "why-rings" to achieve a container capable of sustainable transformative operation -- rather than occasional peak experiences. In a fundamental sense, this is paralleled by the current work in MagnetoElectroHydrodynamics (or ElectroMagnetoHydrodynamics) on the design of the fusion reactors that are potentially so vital as a future energy source for the planet (cf ITER, the international tokamak magnetic confinement fusion experiment). However, this complex and very costly experiment, comprehensible only to the few, is itself paralleled by the daily experimentation of everyone in some measure -- in endeavouring to configure a meaningful, sustainable life characterized by thrival rather than survival.

As the person who has done most to clarify the significance of tensegrity structures, R Buckminster Fuller (Synergetics: explorations in the Geometry of Thinking, 1975-79), it is unfortunate that visualization technology did not make it possible for him to clarify to a greater degree the dynamics of any tensegrity structures. The text description is of limited assistance in facilitating comprehension -- as with a
transformations between Platonic, Archimedean and other polyhedra, as optional templates of the energy exchanges of tensegrity structures (as the number of categories increases or decreases according to Table 1) [see images and Java3D programs by Robert Gray: Jitterbug Defined Polyhedra: the shape and dynamics of space, 2001; 120 Polyhedron Investigation Program, 2000; Interactive Polyhedron Display Program, 1999; see also a range of models by Bob Burkhardt]

dynamic distortions of the tensegrity structures as a result of the relative increase or decrease in tension in the associative links between particular polarities in a given tensegrity. This possibility is exemplified in two dimensions by the interactive web technology used in sodaconstructor whereby the strength of associative links can be selectively strengthened or weakened as "muscles" -- and the polarities may then function like "limbs".

Beyond the duality implied by such metaphors of containment, openness and closure -- and the associated challenges of energy loss -- the ultimate challenge for the Council of the Whys is to embody what has been described in Zen Buddhism as The Gateless Gate or "mindlessnessness" (cf Paul J. Griffiths, On Being Mindless: Buddhist meditation and the mind-body problem, 1999; State of No-thought or No-Mind). In Taoism it is understood as an "empty vessel" (cf The Empty Vessel: A Journal of Contemporary Taoism). In this sense an empty spherical configuration, such as the above tensegrity, can be fruitfully understood in terms of the classic quote from the Tao Te Ching:

Thirty spokes share the wheel's hub.
It is the centre hole that makes it useful.
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.
Therefore profit comes from what is there;
Usefulness from what is not there.

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**Notes on "po" and its possible cross-cultural (onomatopoeic) connotations**

1. Relating to the human backside: "Po" is an English slang term for chamber pot (or potty), also used in Canada [more] and in Dutch, possibly deriving from the French pronunciation of *pot de chambre* [more] or the German word for backside or buttocks [more]. "Popo", both in French and Spanish, refers to backside.
2. Relating to earnestness: "Po-faced" has been used to refer to people who take themselves too seriously -- piously or hypocritically assuming a solemn or earnest expression [more].
3. Relating to decay processes: There is some semantic resonance to "Po", "indicating that (in the state which it symbolises) it will not be advantageous to make a movement in any direction whatever... Po is the symbol of falling or of causing to fall, and may be applied, both in the natural and political world, to the process of decay, or that of overthrow” [more].
4. Relating to sodomy: Popo Bawa, also "popobawa", is a monster purported to live on the spice islands of Zanzibar that engages in sodomy with its victims. [more | more]
5. Relating to (explosive) wind:
   - The United States Congress designated the Popo Agie Wilderness in 1984 as a national forest wilderness areas in the Wind River Range.
   - The volcano Popocatepetl (abbreviated to "Popo") in Mexico, whose name is the Aztec word for smoking mountain, is North America's 2nd-highest volcano.
   - Feng Po-Po is the Chinese goddess of the winds, literally "Madam Wind". Represented as an old, wrinkled woman, sitting on a tiger riding on a path made of clouds. On quiet days she placed the winds back in the bag she carries over her shoulder.
6. Relating to eternal life in Chinese culture:
   - "Po" is the earth aspect of the soul. "Hungry ghosts" are the earthbound soul fragments of deceased humans, namely the unintegrated body spirits that lack the will and the *yuan qi* to bind them to the celestial aspect of human souls ("hung") normally absorbed back into Early Heaven at death.
   - The Chinese poet Li Po (701–762 A.D) was a friend of the alchemist Sun T'ai-ch'ung who widely claimed to have engendered an Elixir of Life that spontaneously "made itself" (in a manner reminiscent of emergent order). Li Po was one of the first poets to show familiarity with the literature of alchemy and its technical terms and to provide extensive descriptions of the pursuit of eternal life in poetic form (largely in terms and concepts derived from the Book of Changes). Li Po's poem *On Making the Great Elixir* describes the polarity which pervades the universe, the mingling of opposites as a natural law, and the processes of alchemy notably as the alternating mastery of sunshine and moonlight. [more]

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