Preamble

Globalization has now become one of the most fashionable strategic terms, supposedly descriptive of an inevitable process through which a bright new future will emerge. This use of the term obscures other senses of the term 'globalization' that have traditionally been more highly valued by the individual and by the community through which the person is sustained -- notably in non-western cultures.

Personal globalization might usefully be seen as descriptive of the process through which an individual becomes 'better rounded' -- a person 'for all seasons'. Beyond the evident preoccupations of education and socialization with the enculturation process, it carries connotations of the individuation process that is a central focus for much psychotherapy. Indeed it might be said that the crisis in psychological well-being is intimately associated with fragmentation of an integrative, or global, sense of self.

The following notes explore the possibility that the enthusiastic focus on economic globalization, as an inevitable process, is a reflection of a momentum towards an equally inevitable form of personal globalization. Many challenges of globalization of the planet may be occasioned and sustained by unresolved challenges in the globalization of the person -- just as proponents of economic development argue the reverse, namely that any the problems of people will be resolved by economic development. It is indeed possible that planetary globalization will only prove sustainable with an adequate degree of personal globalization. However 'personal globalization', as explored here, is NOT about obesity and its achievement, nor is it about travelling the world -- nor consumption of products from distant lands!

The paper was partially inspired by the initiative of the Union of International Associations, through its project on Integrative Knowledge and Transdisciplinarity (see commentary) dating from the 1970s, which profiles some 720 'integrative concepts' concerned with unification in some way -- and of which 'global' is an example.

Conceptual prosthetics and surrogates

It is recognized that it is much more difficult for the individual to explore and acknowledge personal challenges than to explore and acknowledge the challenges of a community or of the planet. Indeed the variety of phenomena around the globe provides an ideal set of conceptual 'coat hangers' onto which the challenges of personal globalization may conveniently be projected. The challenges of personal globalization may then be readily described as external features of society -- without any need to explicitly acknowledge their roots in the individual through these conceptual prosthetic devices and surrogates.

As a result society now practises a special form of euphemism and denial that, as might be expected, is reminiscent of the prudery (and avoidance of consequences) widely associated with reference to bodily output processes in certain cultures. As with the presidents of major democratic countries and CEO's of major corporations, it is vital that unsavoury practices against opponents be undertaken in such a way as to permit 'plausible deniability' -- innocent denial of responsibility for involvement in events of which they are the direct cause.
Why would any individual want to consciously acknowledge involvement in an environment characterized by extreme dysfunctions?

There is therefore a case for reviewing some of the core arguments relating to planetary globalization: the emphasis on economic globalization, the tolerance of homogenization and inequalities, etc. What do they represent as unresolved issues for the personalities whose well-being is supposedly the justification for the human enterprise? In this mode the range of 'external' planetary problems (hunger, pollution, poverty, unemployment, criminality, disease, ignorance, injustice, etc) may be reviewed to determine what they may constitute as surrogates for poorly acknowledged 'internal' conditions of the human psyche (see).

Conceptual traps and Ponzi schemes

Attention is widely focused on material conditions and technical innovation. This disguises the ferment in contemporary ways of thinking that is expressed through three forms. On the one hand there is widespread appeal for 'new ways of thinking' -- as being essential to avoidance of patterns of behaviour in which planetary society is trapped. On the other hand there is widespread belief in a 'new paradigm' that many have endeavoured to elucidate. Finally there is concern about 'leadership' and the need for new leaders to take people forward.

However the proponents of new paradigm thinking have great difficulty in focusing it on the material conditions for which sustainable solutions are sought. They quickly end up in the well-known trap of deploring the unsustainability of their particular initiative due to the lack of sufficiently widespread consensus on its merits -- and the absence of active adherents and financial support (to be generated by the old paradigm). For enthusiasts, all problems would be resolved if only sufficient people would subscribe to their preferred recipe. Religions have long used 'insufficient adherence and commitment' in arguments to explain why their individual recipes have not brought 'peace on earth'. They have been quick to stereotype negatively those who oppose their strategies or fail to support them. Advocates of new paradigm thinking face the same challenge. Are those who agree with them to be labelled 'forward thinkers', and are those who disagree with them to be labelled as regressive adherents to 'old paradigm thinking'? A genuinely new paradigm would address this issue of diversity of perspectives rather than remaining locked in the conceptual trap which sustains old paradigm thinking.

Proponents of globalization are also caught in a similar trap and indeed their belief system increasingly takes on a religious quality. For an increasingly secular society, the 'wholeness' of 'global' has come to hold traces of the Holy Grail and the Quest for it. Proponents point enthusiastically to a glowing future resulting from the inevitability of the process from which they personally derive most benefit. They carefully ignore, or minimize as incidental, the negative consequences for those who suffer in the intervening period. Supposedly it is merely a temporary matter requiring a measure of austerity before 'all comes good' -- especially for later generations.

Society has a heavy investment in such Ponzi schemes, or their conceptual equivalent. The prime characteristic of such schemes is the process whereby resources are transferred from the many to the few in exchange for promises which ultimately cannot be fulfilled for the many -- and about whose fulfillment the proponents are quite negligent in practice. The social security crisis of the decades to come is but one very concrete example. The challenge for new leaders is to distinguish their promises and visions from those of any marketer of a Ponzi scheme.

Globalization of experience

Humans, like animals, are necessarily skilled in responding to a complex dynamic environment. These skills do not however translate into equivalent skills in responding to the complexities of society. Although perhaps, like animals, the skills of policy-makers lie in focusing on specifics and switching to other specifics, without at any time having to be consciously concerned with the coherence of the response. If a policy response is inadequate, then it simply fails -- perhaps entraining many in its fall (as in the Asian financial crisis). The range of intellectual disciplines, and the institutions associated with them, are all primarily characterized by their problematic relationships with each other -- or absence of such relationships. Many have deplored the shallowness and limitations of interdisciplinary methodologies.

How can the individual globalize personal experience? What might this mean? Is it a question of discovering or recognizing a dynamic framework through which all experience is understood as complementary? Part of the challenge must surely lie in the dynamics, for the framework cannot simply be a set of conceptual 'pigeon holes' or labels. It is as much process as structure. Another aspect of the challenge is the wide variety of 'things' to be entrained in this dynamic. And yet another must be the way one's thinking engages with any such dynamic framework. Personal globalization is a matter of selectively reducing barriers between modes of experience such as to ensure the emergence of a richer pattern of checks and balances within one's awareness.

Conceptual de-regulation

Such pointers suggest the possibility of other modes of experience from a 'global' perspective. Their nature is echoed in some of the hype associated with material globalization of the world. An important characteristic is indeed the manner in which knowledge is developed and exchanged between different parts of the whole. Indeed what would seem to be missing from the current hype about a particular form of economic globalization is the need for what might be termed 'conceptual deregulation' -- to match and manage the deregulation of trade and financial services for which arguments are so vigorously made. Such conceptual deregulation would remove the artificial barriers to transfer of knowledge between various academic disciplines, and notably those surrounding contemporary economics, in order to enable insights from the many systems disciplines to cross-fertilize.

Disciplines thus need their own equivalent to 'trade rounds' and a 'WTO' -- and achieving this is just as challenging, if not more. Ironically disciplines need to engage in a freer 'trade in ideas' (especially systems insights) to ensure, for example, that economists understand systems implications blindingly obvious to hydrologists. Whereas economic globalization is dependent on transportation (the movement from port to port, even electronically), the conceptual counterpart requires new kinds of transdisciplinary vehicles to ensure more appropriate governance of the process (see Metaphors as Transdisciplinary Vehicles of the Future, https://www.laetusinpraesens.org/docs/transveh.php). The individual has much greater opportunity to explore these possibilities through
considering the implications of personal globalization, moment-by-moment, in daily life.

Again, 'protectionism' amongst the disciplines is very much alive and active in opposing any such globalization of knowledge -- despite the World Bank's Global Knowledge Partnership (http://www.globalknowledge.org/) that in no way focuses on these issues. Such interdisciplinary cross-fertilization is a prerequisite to ensure the development of conceptual frameworks and techniques capable of predicting, preparing for, and remediating the disasters which the current blinkered approach is unable to handle. Removing buffers between trading systems may indeed reduce transaction costs but it effectively increases the costs associated with the system management expertise then required for what becomes a much more complex dynamic system. This requisite is well-identified by Ashby's Law in cybernetics (requiring that the controller of any system be of greater complexity than the system controlled). In the case of personal globalization, the question is what buffers are essential between different modes of one's behavior? When should different modes be buffered and when should such buffers be removed in ensuring coherent behavior? Why has economics stigmatized system buffers as 'protectionism', making globalization an exercise in 'de-bufferization' -- leading to consequences such as the rapid spread of foot-and-mouth disease?

**Conceptual dimensions of globalization**

In focusing on an essentially **geographical and geopolitical** understanding of 'globalization', there has been a complete failure to recognize the need for a corresponding **conceptual** understanding of globalization through which its implications can be appropriately managed. This is more difficult in French, for example, where *mondialisation* ('worldifying') is clearly distinguished from *globalisation* (in its conceptual sense). There are innovative challenges to both, but hype concerning the former dangerously and irresponsibly conceals those of the latter. It is through personal globalization in the latter sense that the individual has some possibility of shifting to a new mode of thinking and applying it meaningfully to daily behavior.

The current approach to globalization of the planet effectively oversimplifies, inhibits and distorts the new forms of 'global' dialogue required (see Judge, 1997: *Future Generation through Global Conversation*):

> 'Perhaps it is only in mathematics that the clearest, and most general, distinction is maintained between "global" and "local". Unfortunately that discipline is incapable of taking into account the essential psychological distinction between the two that is associated with broader (rather than narrower) processes of comprehension, communication and learning…In terms of the challenges of global governance, the ability of a particular discipline to grasp the challenges of society cannot in this sense be understood as "global". It is necessarily sub-global, namely local in some way whichhonours the particular, "local" insights of that discipline. A single finger cannot pick up and hold a ball, just as the ball cannot be completely viewed from a single perspective. In this metaphor, there is also a distinction between "clutching" and the many skills required to play with the ball through a variety of grips and actions. What does this then imply for global "conversation"?

(https://www.laetusinpraesens.org/docs/converse.php#global)

The question is how insights from the variety of disciplines are to be integrated dynamically into a whole -- a form of global understanding -- through which many processes of globalization (economic, social, cultural, etc) can be managed, and **without designing out alternative insights and initiatives**. But, much more pointedly, how are the roots of such insights and disciplines in personal thinking to be woven into a personal form of globalization?

**Reflecting the environment**

The (Updated) *Last Whole Earth Catalog* (1974) carried on its cover the phrase: "We can't put it together; it is together". It is indeed possible that there is an intriguing conceptual dance to be explored between the necessary togetherness of the global environment and the sense of personal integration and togetherness of which we have many intimations at better moments in our daily lives. Just as the planetary globe, as a complex ecosystem, sustains life through the pattern of systemic relationships between elements of the geosphere, the hydrosphere, the atmosphere and the biosphere, these might be understood as necessary templates for patterns between the earthly, watery, aerial and fiery qualities of the human psyche -- as implied by many contemporary and pre-modern schools of psychotherapy. Solutions that humans discover to 'scientific' problems may well prove to have been widely prefigured by elegant solutions to systems design problems manifest in the natural environment. Is it not dangerously arrogant to assume the contrary?

The 'problems' that people perceive in the external world may be to a high degree a reflection of the unresolved issues amongst these patterns in the understanding of the individual. If the external environment is necessarily 'together', individuals may need individually (or collectively) to project their unresolved issues onto their external world. Unconsciously, we may even evoke these problems externally as a way of providing carriers for conflicted understanding, dilemmas, and paradoxes within ourselves. Of course it is also possible that problems of pollution within the external environment, and how we collectively respond to them, may condition ways in which we individually experience forms of pollution of our internal environment. What is it that people seek in resonating with the implications of asteroid collision with the planet, the loss of species, starvation, and the like?

Knowledge of environmental processes and interdependencies is now increasingly rich. A wide variety of species is acknowledged in principle -- reinforced by media documentaries. It might also be said that the range of TV and other dramas is effectively an equivalent acknowledgment of the range of interpersonal processes and interdependencies, although these are not subject to the same kind of taxonomies as for the biosphere. The reflection of both in the potential variety of processes and interdependencies within the individual human psyche is even less accessible -- however much it may be the subject of literary exploration.

It is currently extremely challenging to understand how such variety might be embodied in any form of personal globalization. But ironically this difficulty is matched by the oversimplifications associated with the hype about planetary globalization -- which many see as
tending towards homogenization and suppression (or marginalization) of variety. This cultural homogenization may be a reflection of tendencies towards homogenization of individual personality -- at least through formal programmes and initiatives. Individuals must necessarily discover and face the challenges of any richer form of personal globalization for themselves. However, as with the Last Whole Earth Catalog, maybe for the globalization of the individual it is also a case of "We can't put it together; it is together". The question is why we each invest so heavily in thinking we need to get our personal act together -- rather than finding ways of understanding how it is already together.

**Recognizing the 'cultural rainforests' of the globalized person**

Following this argument, individual species of the oddest form and behavioural pattern in the natural environment may well have a role for human well-being far beyond that acknowledged by pharmaceutical companies in their efforts to patent their derivatives. It may well be the case that they are each effectively carriers of complex patterning information that is vital to the subleties of complex system design -- especially in any effort towards personal globalization. Individuals may also be psychically dependent on their own exploited personal 'cultural rainforests'. Each species effectively resolves an unrecognized design problem in complex system dynamics. Humans may be able to derive insights from resonating in some way with their behaviour -- as intimated by the fascination that some people feel for some species.

It may also be the case that, as a solution to a systems dynamics problem, the loss of a species may force individuals in society to evoke carriers for solutions to problems of the same form. This might prove to be an explanation for the metaphoric use of 'tiger' (Asian tigers), 'bull' and 'bear' (stockmarkets), 'fox', 'cat', 'snake', 'rat', 'worm', 'shark', 'hawk', 'wolf', 'sheep', 'pig', and the like. As many have noted, urban society may not only recreate conditions of pre-industrialized society (in slum areas), but is frequently described as being a 'jungle' (notably in the business environment) -- an acknowledgment that whole ecosystems are being recreated as carriers for individual experience and learning.

The natural environment has a highly complex web of species, but the psycho-social environments being recreated are only understood through a very limited range of metaphoric categories -- as suggested by the limited range of metaphoric species that are identified within them. The question is whether these are sufficient for a sustainable ecosystem that can hold the qualities that we would like to believe characterize humanity -- rather than primitive conditions of the prehistoric, pre-human era. In their private pursuit of personal globalization, individuals may be wise to acknowledge a far greater range of interacting 'species' within their internal psychic environment in order to give themselves the possibility of a sustainable quality of personal life.

It may be that until people can recognize the species analogues within themselves, they will be unable to appreciate the need to support the preservation of the species without -- or how to go about it.

**Universe, solar system, cell and atom**

Science has made tremendous advances in exploring the extremes of the universe (back to its origins), microbiology, and the makeup of the atom. But, as with the human-scale environment, there is a sense in which it is human explanatory capacity, and criteria for a satisfactory explanation, that are determining the patterns of insight that emerge. It might be asked to what degree human cognitive capacity influences the nature of the explanations sought and found in the domains that are beyond direct human ken. General systems theory has identified organizational parallels at all these levels -- perhaps because these are the patterns humans find meaningful.

In the light of the earlier argument, the case might also be made that humans project subtle dimensions of their own thinking onto the seemingly unimaginable phenomena at the beginning of the universe or in nuclear physics -- or the life of the cell. Seemingly highly unusual -- even paradoxical -- patterns are discovered that do not appear to conform to normal human logic. The styles of explanation are not those which apply in human-scale phenomena. Science has made a discipline out of such explorations. No equivalent discipline exists for the explorations of the human subjective cognitive capacity -- except in those of some eastern meditation traditions outside the western mainstream.

In this way humans may well be using such inhuman scales onto which to project aspects of human cognition that cannot be adequately expressed on human-scale media. There is then merit in exploring the nature of these explanations about the universe, and about the cell or atom, to discover to what degree they have been developed 'unknowingly' by scientists to hold insights into human cognition whose reality they otherwise choose to avoid.

Some might argue that any such relationship is ridiculous. However, given that humans are a product of the evolution of the universe and of the cell, and that they continue to have an intimate (moment-by-moment) relationship to the dynamics of atoms and cells by which they are constituted, is it not highly probable that organizing principles at these other levels have a very strong influence on the kinds of patterns that humans can perceive and find meaningful? They are the patterns with which we have evolved. In this sense science is an exercise in human self-discovery.

In exploring personal globalization, there is therefore a case for reviewing the insights about the design of the 'universe', or the 'cell', or the 'atom', to detect how human self-organization is written there in unusual languages -- which we choose to define as totally impersonal and irrelevant to understanding of our individual selves.

To what extent is there a strange resemblance between the origins of the universe, or the fertilized cell, and the development of human understanding? Do these early dynamics provide templates through which we can understand our own cognitive origins? Are there exciting possibilities of recognizing in such dynamics the processes of conceptual creativity that we experience on a daily basis? Is the birth of some new idea and its subsequent articulation, similar in many ways to the birth of a universe, a galaxy, or a solar system? What might the pattern equivalents of 'black holes', 'quasars', 'stellar evolution', and 'super novae' be within our own psyches? How is our moment-by-moment thinking paralleled by the dynamics of the cell -- what is a 'stem cell', 'cellular division' or a 'cancer'? Is it possible
that cancer might be more accessible to understanding in terms of certain forms of 'cancerous' thinking?

Does the resonance hybrid pattern, in the most basic organic molecule (benzene), have implications for how we might choose to understand the organization of concepts, communities or our own psyches (https://www.lactusinpraesens.org/docs/quenchin.php)? Curiously the Nobel Prize in chemistry was recently awarded for discovery of more complex versions of such basic resonance hybrids (Carbon-60) -- a third form of carbon, structurally more complex than graphite or diamond. The special characteristic of this new form is that it is a molecule of 60 carbon atoms forming a hollow sphere (https://www.lactusinpraesens.org/musings/bucky.php).

Understanding of this molecule by Kekulé (as described to all chemistry students) has since evolved through resonance between alternative structures, to one based on "orbitals" above and below the plane of the carbons, in which electron (probability) clouds are smeared out, with no single or double bonds at all. The real benzene molecule looks rather like an included middle between what were formerly understood to be the two canonical forms raising the question of whether there is any resonance. More recent descriptions, of both benzene and C-60, are based on combinations of bonding, anti-bonding and non-bonding orbitals. The question is how such evolving explanatory patterns, unacceptable a century ago, acquire credibility and how their credibility affects, or is affected by, patterning within the human mind.

In this light humanity is in the strange condition of having been cut off from the cultural heritage through which it has access to rich patterns of explanation for the human condition -- and from understandings of who we are as individuals and how we function. These explanatory tools and insights have been directed elsewhere -- with great success -- but the most important fruit of this enterprise has not been embodied back into our own thinking to assist in our evolution. As with certain animals, we respond to the environment as to a mirror in which we fail to recognize our own reflection. It is this lost connection which may be fundamental to personal globalization. It is a connection that is of deep concern to many indigenous peoples as recently documented in a UNEP publication (see Darrell A. Posey (Ed.). Cultural and Spiritual Values of Biodiversity, 1999).

There is a curious irony to the fact that one of the principal academic indicators of self-awareness and introspection is the ability of individuals to recognize themselves in a mirror -- usually achieved in humans between 18 and 24 months. A major breakthrough in 2001 has been the demonstration that dolphins also have mirror recognition ability. It might be wondered whether extraterrestrials have analogous indicators of self-awareness based on ability of a species to recognize itself as mirrored in its environment. Modern civilization's failure of this test may have resulted in humanity's classification as a pre-intelligent species, just as humans have classified animals as lacking in the kind of self-awareness by which humanity characterizes itself.

**Technology as metaphor**

As explored by Robert Romanyshyn (1981, 1982, 1989), technology itself may be explored as symptom and dream. As with the natural environment, the artefacts of human activity may themselves be powerful carriers of insights into human psycho-social processes that we find it easier to project onto externalities.

Much may presumably be learnt from recognition of the patterns embodied in artefacts such as a dynamo, a windmill, a bicycle, a motor or even the subtleties of nuclear fusion in plasma containment vessels (https://www.lactusinpraesens.org/docs/quenchin.php).

There is a curious resemblance between the electromagnetic technology required to generate the pattern of magnetic fields to contain plasma and that of the pattern of relationships between the Chinese hexagrams (see diagram) purportedly encoding the full range of experiential transformations. Within the latter framework, the dynamics of moment-by-moment understanding are sustained by their projection onto the complexities and subtleties of relationship between elements, such as earth, air, fire and water, held to embody qualities of that understanding.

**Planetary thinking and human experience**

Some of the legitimacy of the above inquiry is extensively outlined in a study by Francisco Varela et al (The Embodied Mind, 1991) whose concern is to 'open a space of possibilities in which the circulation between cognitive science and human experience can be fully appreciated and to foster the transformative possibilities of human experience in scientific culture.' The authors see their project as owing much to Martin Hiedegger's invocation of 'planetary thinking' of which they quote the following:

> **We are obliged not to give up the effort to practice planetary thinking along a stretch of the road, be it ever so short. Here too no prophetic talents and demeanor are needed to realize that there are in store for planetary building encounters for which the participants are by no means equal today. This is equally true of the European and of the East Asiatic languages and, above all, for the area of a possible conversation between them. Neither one of the two is able by itself to open up this area and to establish it.** (The Question of Being, 1958, p. 107)

This endeavour has been considerably developed by Nishitani Keiji (1982), one of Heidegger's students educated in the Zen tradition. Varela et al, after reviewing 'nihilism and the need for planetary thinking' (p. 239-241), consider that:

> **The need for planetary thinking behoves us to consider groundlessness, whether evoked by cognitive science or experience, in its full light in the total human context. (p. 245)...If planetary thinking requires that we embody the realization of groundlessness in a scientific culture, planetary building requires the embodiment of concern for the other with whom we enact a world. The tradition of mindfulness/awareness offers a path by which this may be actually brought about. (p. 247)**

They conclude:
When we widen our horizon to include transformative approaches to experience, especially those concerned not with escape from the world or the discovery of some hidden, true self but with releasing the everyday world from the clutches of the grasping mind and its desire for an absolute ground, we gain a sense of perspective on the world that might be brought forth by learning to embody groundlessness as compassion in a scientific culture. (p. 254)

These writings on 'planetary thinking' predate the recent unreflective enthusiasm for simplistic 'globalization' and might easily be confused by its proponents as support for aspects of it. New variations are to be found in the promotion of 'planetary consciousness', such as the Planetary Consciousness Network (http://home.earthlink.net/~akaszlo/syntonyquest/Pages/PCN.html) of the Club of Budapest, and a number of other bodies focusing on this understanding. This language invites projection of a variety of insights, as a complement to 'globalization' -- but it is unclear to what degree it loses touch with the directness and quality of human experience for which the above writers call.

There is also something of an irony to the fact, for astronomers, any plea for 'planetary' or 'global' thinking is tantamount to a regression to the earth-centric focus of the Middle Ages -- in a universe of myriad galaxies to which their research is constantly attracted. In that scheme a planet is a globe restricted to an orbital plane around the sun -- with more restrictions than a ball on a billiard table. As a metaphor, planetary consciousness also raises the question of what is the 'sun' around which the 'planet' revolves. More fruitful, and consistent with this paper, are the explorations of Thomas Moore (Planets Within, 1982) in interpreting the work of the Renaissance luminary Marsilio Ficino on the personal psycho-social implications carried by the planets.

**Globalized experience as nonlocal consciousness**

'Global' may also be understood as 'nonlocal' in mathematics and physics. The notion of 'nonlocal consciousness' is now being popularized, notably by Russel Targ (1998), Deepak Chopra and others. The possibility that consciousness itself might be described as nonlocal has been usefully reviewed by Christian de Quincey (1999), as well as by Peter Lloyd's review of consciousness studies (http://easyweb.easynet.co.uk/~ursa/philos/cns.htm) and relevant websites. This approach is providing a new basis for 'explaining' consciousness -- however that preoccupation is to be understood.

In the field of research on the nature of consciousness there is considerable excitement about the learnings to be derived from advances in fundamental physics. Thus Gordon Globus (1995) argues that:

Classical mechanics cannot naturally accommodate consciousness, whereas quantum mechanics can, but the Heisenberg/Stapp (H/S) approach, in which consciousness randomly collapses the neural wave function, leaves the conscious function un Restricted by known physical principles. The Umezawa/Yasue (U/Y) approach, in which consciousness offers superposed possibilities to the match with sensory input, is based in the first physical principles of quantum field theory. Stapp thinks of the brain as a measuring device, like a Geiger counter, and overlooks that the brain upholds second-order quantum fields that are symmetry-conserving with respect to reality. Consciousness is cybernetic rather than having a random function.

An International Conference on Science and Consciousness (Albuquerque, N.M., 1999) has provided a recent focus for insights into the relation between quantum physics and consciousness. Another conference was held specifically on the Quantum Approaches to Consciousness (Flagstaff AZ, 1999). Steve Bank (1999), reviews the work on a self-aware universe of Amit Goswami (1995) in the following terms:

The question, then, is what collapses a wave of possibility into an actual event? Goswami's answer: consciousness. Quantum nonlocality says that once materials interact, they become coordinated, and once coordinated, they remain that way even when separate. Metaphorically, when either of two correlated beings touches a cactus, the other feels the prick. But quantum nonlocality only exists when two objects are correlated, a relationship that ends as soon as they interact with another object. Only consciousness can keep the correlation intact, as in human nonlocal interactions. "Consciousness simultaneously collapses similar states of actuality in two locally separated brains," as Goswami puts it. And the cactus prick is felt by both beings.

There are processes in nature with no subject/object split, which means there is no awareness of an event, and therefore, no quantum event occurs. In those situations, the brain itself becomes a wave of possibility. So, which came first, the awareness or the collapse? Happily, the very circularity of this chicken-and-egg problem also solves the problem of self-reference, or our own self-awareness. That's because there is a difference between the object that was collapsed and the brain that was collapsed. The difference is that the observer identifies with the brain, and this identity becomes the subject/object split, or the controlling consciousness looking at itself separately from itself. The result of these tangled, hierarchical measurements is self-reference.

But if the observer abides in his or her own awareness, the objects aren't outside the observer. Why, then, can we all share the observation? Because for massive objects, the waves of possibility are sluggish. Yet the large object does move, imperceptibly, and so the great quantum law, the Uncertainty Principle, still applies. Indeed, all of modern science can be accommodated by these ideas, including Darwinism and genetics. For example, genetic mutations can be seen as quantum possibilities that accumulate without collapse (this is the stage of unconscious processing), until a pattern leading to a definite trait reveals itself. When the macroscopic trait is realized, consciousness suddenly collapses the possibility into actuality. Thus, only at the big end of evolution is consciousness required. (*The Scientist* 13[11]:16, May. 24, 1999)

The notion of opening up a space between objectivity and subjectivity, as argued by Varela *et al.* is succinctly expressed in other terms
Donald E Ingber argues there: "A universal set of building rules in relation to tension elements (strings), such that the rods do not touch each other according to the principles of tensegrity. These struggle to understand within or are they also usefully understood like notes evoked from a complex wind harp between the parts, are like ecosystemic links between species. Holding separate, but within the same understood in both these arts, association and resonance have a key function in poetry.

Clues to the pattern that connects

Such articulations, and the meditational tradition to which Varela et al. point, are undoubtedly of great value in orienting collective investigation. But it would seem that much of immediate value is lost for the individual in their subtle arguments about the simplicity of a different direct experience to which they point. It is in this sense that the phenomena of the environment at every scale may be seen as holding patienty for us understandings whose directness we may choose to avoid or experience only glancingly. It is our recognition of ourselves in the 'mirror' to which we need to adapt our understanding -- more than an explanation of the 'optical' principles involved.

It has been argued by Gregory Bateson that civilization is characterized by 'patterns that connect' -- with the quality of higher civilizations characterized by higher connectedness of patterns. More personally, globalization as hyped may reflect thinking that is the antithesis of the kind that is required to meet the challenge of 'remaining human' -- the theme of a public forum on the occasion of a conference of the American Society for Cybernetics (Vancouver, May 2001).

The mystique and hype now associated with globalization indeed stresses certain forms of connectedness: information, telecommunications, trade routes, travel. However incoherent, it is suggested that this makes for a form of cultural globalization through exchanges of various kinds -- supposedly distinct from homogenization.

But what are the patterns that connect in the case of personal globalization? What are the webs of insight that sustain us individually and exemplify our character in communication with others? They may be better recognized when they are broken or absent -- as in certain forms of mental illness, or in the decline into senility. But they are also recognized in some ways by educators in trying to build such patterns to produce a 'well-rounded individual'. But no effort is made to evaluate degrees of 'roundedness' -- except perhaps as a set of unrelated characteristics in interview situations on a CV (academic qualifications, sport, 'interests', 'community initiatives', etc).

It is curious that various disciplines and schools of psychotherapy may well acknowledge distinct aspects of the psyche (cf Jung's: Sensation, Emotion, Thought, and Intuition; or their articulation in the categories of the Myers-Briggs system). But the challenge of how they are woven into a dynamic pattern of behaviours necessarily escapes 'cookie cutter' thinking. This is the new-found challenge for geneticists who have lost the direct match between genes and the complexity of living creatures (following discoveries of the genome projects). It is one thing to have the all the parts of a watch -- it is another to put them together so that it works. Psychotherapists may focus on ensuring that no one function is suppressed or dominant, but whether as a consequence the pattern that connects exemplifies a higher quality of personal globalization or not is another matter.

Patterns that connect

How might this patterning within the globalized person be understood? A prime clue may lie in the role and appreciation of music and poetry.

In both these arts, association and resonance have a key function in weaving and sustaining a pattern. The pattern that connects might be understood as one of resonant associations. These are the global pathways around the psyche that sustain its roundedness as a way of holding separate, but within the same frame, the many modes of approaching the world that characterize an individual. The resonances between the parts, are like ecosystemic links between species. It is no coincidence that the past decade has seen an emerging concern with memes, memetics and knowledge ecology -- to counter-balance the preoccupation with more tangible analogues in material forms of globalization.

Are the patterns of resonance to be understood like Chladni patterns (see examples http://www.phy.davidson.edu/jimn/Java/modes.html)? Or are they also usefully understood like notes evoked from a complex wind harp on which the winds of change play a melody that we struggle to understand within ourselves? It is curious that recent thinking on individual biological cells views them as structured according to the principles of tensegrity. These usually spherical structures are built up by configuring compression elements (rods) in relation to tension elements (strings), such that the rods do not touch each other and the strings form a continuous network. They have some of the features of basket-weaving. But, as a Scientific American (January 1998) issue on the topic indicates:

"How groups of molecules assemble themselves into whole, living organisms is one of biology's most fundamental and complex riddles. The answer may depend on 'tensegrity', a versatile architectural standard in which structures stabilize themselves by balancing forces of internal tension and compression."

These considerations have encouraged neuroscientists such as Andrew Newberg (2001) to explain the nature of individual spiritual experience. See New Scientist review by Bob Holmes (http://www.newscientist.com/features/features.jsp?id=ns22871)

Clues to the pattern that connects

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It is the unique equilibrium (made possible by a tensegrity pattern) between what unites (i.e. the tensional network) and what divides (i.e. the many distinct compressional incompatibilities) which gives rise to (and derives from) the new kind of organizational structure. The functional incompatibilities are those which have to be faced (to create a viable organization) when all the functional realities (i.e. negative feedback loops?) are accepted and brought into focus rather than avoided, whether deliberately or out of ignorance. The more functional incompatibilities explicitly incorporated, the more specific each becomes (and the less vulnerable will be the organizational integrity to imbalance in any one of them). Also the more viable and resource-conserving the resulting organization - namely the more spherically symmetrical the resulting tensegrity pattern and the more elegant the dynamic equilibrium between the functional elements. (Judge, 1978)

Such tensegrity structures may be equally fundamental to the organization of the individual psyche -- the tensional elements functioning like the chords of a wind harp through whose melodies individuality is expressed and given dynamic integrity. Perhaps it takes the form of a hypersphere (see http://www.hypersphere.com/hs/). The many meditational mandalas favoured by eastern disciplines might each be seen as sub-elements of such spherical cognitive structures -- each flat mandala corresponding to the visible portion of a sphere onto which they are all projected so that together they sustain the cognitive whole.

The sustainability of any psycho-social community may be defined by similar structures of which a special characteristic is their dynamic equilibrium. They are in constant resonance in search of equilibrium -- the strings vibrate in this process. There is a tantalizing resemblance to the continual shifts in a person's thinking from moment to moment (a concern in meditation) in order to maintain an integrated response to the environment.

For the globalized person, these resonances -- like bird song echoing in a forest dell -- may well have been the allusion in the classic Sufi allegory of the Conference of the Birds. In the words of Laleh Asher on that allegory (see http://www.mycweb.com/megillah/jul2000/the_conference_of_the_birds.html)

'The Conference of the Birds is about the search for an ideal spiritual king. Two constant themes throughout the poem are: the necessity for destroying the Self, and the importance of passionate love...The allegorical framework of the story is as follows: the birds of the world gather and are led by the hoopoe to find their ideal king, the Simorgh, who lives far away. After their initial enthusiasm, each bird makes excuses about going on the journey which the hoopoe counters with anecdotes which at first seem obscure. The final question the birds ask before proceeding along the way, is about the length of the journey, to which the hoopoe responds with a description of "The Seven Valleys of The Way." The obscurity of the hoopoe's answers is partly intentional; the reader is being asked to look at a problem in an unfamiliar way, with logic deliberately flouted, so we are teased into understanding, analogous to the paradoxical koans of Zen Buddhism. The birds' final arrival at the court of the Simorgh depends on a pun, as they realize that there are only thirty (S3) birds (Morph) left. The thirty birds meet the Simorgh, and realize that the goal of their quest, the Simorgh they have been looking for, is none other than themselves.'

It is amazing that the birds who achieve the goal of their quest (the Simorgh) number thirty -- an organizing principle of Stafford Beer's syntegrity (1994). Strangely there are echoes of this in the much quoted phrase of Lao Tzu from the Tao Te Ching: 'Thirty spokes share the wheel's hub. It is the centre hole that makes it useful...Therefore profit comes from what is there; usefulness from what is not there'.

Initiatives in a global context: Dancing between Project and Projection

A global context, in whatever light it is framed, evokes the question as to the nature of any viable initiative or project. Clearly it may be simply framed as a purely objective, practical matter from which those engaged in it are dissociated according to normal management practice. On the other hand it may be undertaken as a vehicle and carrier of meaning in which the drama of the dynamics is an essential learning process. These two extremes might be understood in terms of 'project' vs. 'projection'. Either may be favoured for shorter or longer periods of time but individuals or groups are obliged in practice to alternate, or dance, between them.

As in the complementarity between the wave vs. particle theories of light, both limited explanatory models are required to encompass the underlying experiential reality. Those engaged for any length of time in 'projects' may focus on a check list of such projects in their CVs, but in their experiential reality these are associated with learnings deriving from the projections they constituted that integrate into patterns of experience that cannot be so articulated and are essentially invisible to external measurement. This leaves unanswered any questions about the nature and quality of the dance and the experience its dynamics carry. Researchers on 'flow' experience continue to explore this, most recently in relation to web experience (Csikszentmihalyi, 1990; Hsang Chen, et al.; Thomas BNovak, et al., 1997). It may perhaps be alluded to in phrases such as 'radical appreciation of the coherence of the moment', alth the design of group initiatives based on this remains to be discovered (Judge, 1994).

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