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Potential Misuse of the Conveyor Metaphor

Recognition of the circular dynamic essential to its appropriate operation

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Augmented version of arguments in *Psychosocial Energy from Polarization within a Cyclic Pattern of Enantiodromia*. To be published in an abridged form under the title *Misuse of the Potential of the Conveyor Metaphor: recognition of the circular dynamic essential to its operation* in *Journal of Futures Studies: epistemology, methods, applied and alternative futures*, 12, 1, August 2007, August 2007, pp. 109-130

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Introduction

The "conveyor belt" is used metaphorically in the light of the common experience of people conveyors in enclosed public spaces. However the experience of such conveyors obscures important dynamic characteristics fundamental to the viability of such technology. These features may be understood as a vital enrichment of the metaphor to preclude dangerous simplifications in the dynamics of situations where the metaphor is typically applied.

In developing this argument, a comparison is made between the application of the metaphor to spiritual development, to market operation, to linear time, and to an understanding of the operation of ocean conveyors -- most notably the Gulf Stream. In all these cases the impoverishment of the metaphor, as currently used, fails to reinforce an understanding of a vital circular dynamic (with its necessary transformative "twists"). These may be essential to more insightful strategic responses to situations, such as the drugs trade or population dynamics, where the metaphor may typically be used as a simplistic explanatory device -- reinforcing articulation of simplistic strategies.

The following critique of the "conveyor" metaphor is in the spirit of the extensive analysis by George Lakoff and Mark Johnson (*Metaphors We Live By*, 1980) of the implicit cognitive framing associated with common use of the "container" and "conduit" metaphors.

Conveyor belt metaphor

Ken Wilber (*Integral Spirituality: a startling new role for religion in the modern and postmodern world*, Shambhala, 2006) has a widely referenced key chapter on "The Conveyor Belt". It focuses on the role of the traditional religions as a sacred "conveyor belt" to move people through all the stages of psychospiritual development -- a developmental conveyor belt. Wilber sees it as "quite possibly, the single greatest problem facing the world... fixing this problem, if there is a fix, would provide a startling new role for religion in the modern and postmodern world" (12 June 2006).

As discussed elsewhere (*Psychosocial Energy from Polarization within a Cyclic Pattern of Enantiodromia*, 2007), there is however no mention of the "twist" that has been so vital to industrial conveyor belts. In fact there is seemingly no recognition that a conveyor belt has to move in both directions if it is to sustain its ability to "convey" in one direction -- with the return (unconscious?) movement typically invisible from the "active" (conscious?) side.

This example highlights the tendency to use the metaphor to illustrate "one-way", "one-sided" movement -- a developmental conveyor belt in Wilber's case. It is then assumed that those on any such people conveyor may well be unaware of the necessarily hidden reverse motion -- and that this lack of awareness is of no significance. Otherwise explored, such "unconsciousness" is the subject of a study by John Ralston Saul (*The Unconscious Civilization*, 1995). This suggests that the use of the metaphor typically exemplifies such unconsciousness, as illustrated by other issues:

- in the drug trade the focus is on the problematic movement of the drugs, but not on whether the demand for them is problematic (Kevin Nelson, *'It's Like a Conveyor Belt'*, *AlterNet*, 11 August 2003).
- the expression "global conveyor belt" has been applied to the movement of qualified health personnel from developing countries [more].
- the expression "conveyor belt artists" has been applied where too many graduates want to be famous artists without first learning their trade [more].
- a "conveyor belt" has been used (originally by Leonard Zeskind, 1992) to describe the process of recruiting and indoctrination of Christian Patriots [more]
- labour exploitation has been described in terms of the metaphor, as by Christa Wichterich (*The Globalized Woman: Reports from a Future of Inequality*, 1998) whose chapter on 'The Global Conveyor-belt', looks at women's work in labour-intensive production, as it has shifted 'from Northern Europe to Portugal, Greece and North Africa, from Japan to South and South-East Asia, and from the United States to Central America'. Also Amarjit Kaur (*Working on the Global Conveyor Belt: women workers in industrialising Malaysia*, *Asian Studies Review*, 2000)
- William C Rhoden (*\$40 Million Slaves: the rise, fall, and redemption of the Black Athlete*, 2006), notes the: "white people's denial of black business ability while they continue to profit from black athletic skill; black athletes' training in high school, college and the pros [what he calls the 'Conveyor Belt'] to think only about individual success, never about a system that distributes power unequally; and how even today, professional basketball - controlled by whites, dependent on blacks (for the present) - resembles a plantation, albeit one on which the "slaves" earn millions, as long as they don't notice who's running the show".
- the Director of the Center for Eurasian Policy of the Nixon Center, Zeyno Baran (*Hizb ut-Tahrir: Islam's Political Insurgency*, 2004) asserted that Hizb ut-Tahrir, an international Islamist organization, is a "conveyor belt for radicalism and terrorism."
- Hans von Sponeck and Denis Halliday (*A 'New' Iraq Policy: What About International Law and Compassion?* Canadian Network to End Sanctions on Iraq, 2001) note that "The conveyor belt theory that economic pressure will produce political change has once again proved to be false".

Such examples illustrate the ease with which the conveyor belt metaphor is used to reinforce a pattern of dangerous "one-way", "one-sided" thinking.

Management challenge to "conveyor belt" thinking

One interesting contrast to such thinking is explored by Ilia Bider (*New Logistics for Administrative/Business Processes*):

Manually controlled administrative/business processes always used a 'conveyor belt' logistics, i.e. 'move information to a person doing the next operation'... Current trends in administrative/business process automation continue to exploit the conveyor belt logistics, we still send and receive documents, though we do it electronically (e.g., email). Modern technology allows exploiting other options to organize logistics. In particular, it allows employing a 'construction site' logistics that can increase both the productivity and quality of administrative work.

The challenge of the information society to "conveyor belt" thinking is more generally made by Doc Searls (*The Real Meaning of Markets*, *Linux Journal*, February 2000), citing Alvin Toffler (*The Third Wave*, 1980) on how industry drove an "invisible wedge" between production and consumption. By rending the two, this wedge "ripped apart the underlying unity of society, creating a way of life filled with economic tension, social conflict and psychological malaise."

For Searls:

The first markets were places, not *targets*, *demographics*, *seats*, *eyeballs* or other abstractions. In the first markets, producers and consumers were a handshake apart--and so were all the other reciprocal market nouns: producer and consumer, vendor and customer, supply and demand. They were all embodied in seller and buyer.... The first markets were central to culture itself.

For thousands of years, we knew exactly what markets were, but when industry arrived, we began to forget. We made markets

into battlefields for competitors, populations of consumers, targets for messages, collections of numbers, forces with animal natures, economic demons and deities, and verbs for actions done to people rather than with them. Why?...

Thus the wedge Toffler talks about is the "value chain" that runs like a conveyor belt from supply to demand, producer to consumer. For two hundred years, we have been thinking in terms of that chain and the metaphor it requires. In business, that metaphor is shipping.

We literally conceive business in shipping terms. We make *content* that we *address* for *delivery* through *distribution channels*. What we now call *markets* (populations of tastes, demographics or characterizations like eyeballs) are so far removed from their suppliers that we need a new professional concern, marketing, to understand and influence them. To do its work, marketing uses military versions of business' shipping metaphor. It *addresses* goods called *messages*, but deploys them through *campaigns* that are *aimed* or *targetted* to *deliver impact* or obtain *penetration*.

Although Searls acknowledges that in the Industrial Age, these metaphors made perfect sense, that age is now ending (cf *Enhancing Sustainable Development Strategies through Avoidance of Military Metaphors*, 1998; *Sustainable Internet Penetration of Rural Areas: reframing the global challenge of the digital divide through fruitful local metaphors*, 2003). However, within the emerging information society, Searls argues that the Internet is not just a way to ship content (as notably implied by the discredited conveyor belt theory of communication). It is the new agora. It restores markets to what they were in the first place: settings where people can meet and talk about "Stuff that Matters". This reframing of place challenges the socio-economic pattern of understanding associated with one-way conveyors and the linear thinking they reinforce.

Curiously a review in the *The American Review of Public Administration* of the study by Philip B. Heymann (*The Politics of Public Management*, 1987) already noted that:

This book serves the very important function of demonstrating the interconnection between politics and administration by showing the similarities in practice of political and managerial decision making. Thus the reader is saved from the implicit invocation of tired analogies like the conveyor-belt theory and, at the same time, is presented with a realistic picture of politics.

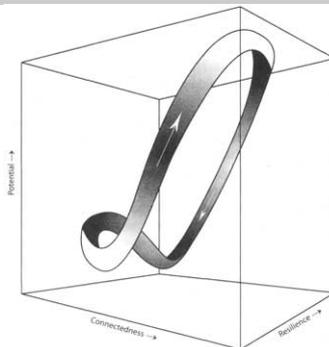
Cognitive "twist"

Curiously a form of non-linearity was in fact associated with some conveyor belts from the beginning of the industrial revolution. As discussed elsewhere (*Psychosocial Energy from Polarization within a Cyclic Pattern of Enantiodromia*, 2007), where the metaphor is used to illustrate the transfer between two different domains, whether physical or otherwise, it may incorporate a twist into the belt to ensure equal wear on both sides (as with car fan belts, until recently). Notably where the domains are epistemological, such a twist in the feedback loop between domains highlights their fundamental distinction through an **apparent** discontinuity. The challenge of any such a twist is discussed elsewhere (*Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness*, 2004; *Twistedness in Psycho-social Systems: challenge to logic, morality, leadership and personal development*, 2004).

The operation of such a twist, and the challenge to comprehension, has been remarkably well depicted in the work of the artist M C Escher, specifically with respect to the *Möbius strip*, but more generally as discussed in relation to *enantiodromia*.

Of particular interest is the possibility of understanding the "cognitive twist" in terms of the *adaptive cycle of complex systems*. Many helpful images of this are available on the web in two and three dimensions. One example is shown below.

Adaptive cycle in complex systems
(Thomas Homer-Dixon, *The Upside of Down: catastrophe, creativity and the renewal of civilization*, 2006)



It might be argued that it is in the deliberate association of Wilber's approach with the spiral sequence of vMememes in Spiral Dynamics that a form of 'twist' is recognized. This however presupposes recognition of that sequence as being itself a form of one-way conveyor - albeit spiral. Curiously, in arguing for the fundamental nature of spirals, notably by comparison with DNA, the originators of this approach appear to avoid discussion of the coiling whereby the DNA coils upon itself without any 'loose ends', except when in the 'unzipped' mode associated with reproduction (Don Beck and Chris Cowan, *Spiral Dynamics*, 1996) (cf *DNA Supercoiling as a Pattern for Understanding Psycho-social Twistedness*, 2004).

The problem of the twist in the interpretation/translation between languages is well-recognized. Curiously, it is readily assumed that such

translation is not required between the conceptual "languages" that characterize different domains -- and that that challenge is insignificant to communication (rather than potentially of much greater difficulty). There is notably no recognized profession for interpretation/translation between conceptual languages.

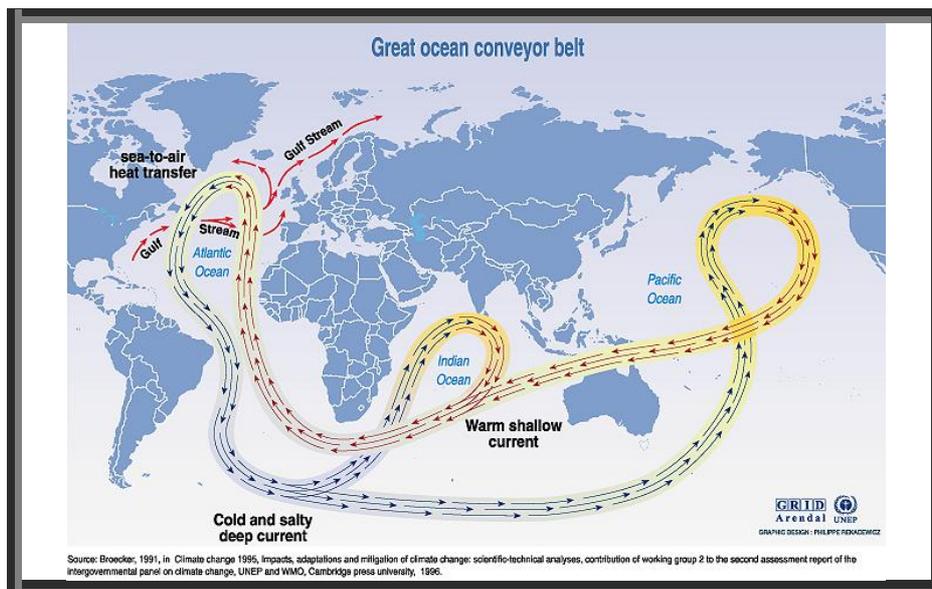
The unaddressed challenge is evident in many efforts at interdisciplinary communication and might be considered fundamental in the case of any "clash of civilizations" (witness the minimum number of Arabic interpreters/translators in the initial period of the "war on terrorism"). In a supposedly democratic world, who interprets between the "languages" of "right" and "left", "north" and "south", "east" and "west" -- and between any "clashing civilizations"? (cf *Review of Frameworks for the Representation of Alternative Conceptual Orderings as Determined by Cultural and Linguistic Contexts*, 1986)

Comparison with the Great Ocean Conveyor Belt -- and the Gulf Stream

The "conveyor belt" metaphor is commonly employed with respect to movement of tectonic plates over the Earth's magma. It is also employed by meteorologists with regard to the jet stream as a high-altitude "river" of fast-moving air acting as a conveyor belt for storms [more]. The metaphor is also employed with respect to the manner whereby space "weather" is brought to the planet by solar wind [more] and to the manner in which sunspots are moved across the surface of the sun prior to erupting into solar storms [more].

The fundamental distinction from conventional "linear" thinking is however exemplified by the contrast between the "Gulf Stream" (readily described and understood as a two-dimensional "one-way" process) and the complex three-dimensional thermohaline circulation of which it is part. This is otherwise described as the [great ocean conveyor belt](#), the global conveyor belt, or, most commonly, the meridional overturning circulation -- complete with complex three-dimensional "twists".

Ocean Circulation and Conveyor Belt: Maps and Explanations (note the problematic correspondence between different schematics)
<ul style="list-style-type: none">• Environmental Literacy Council, <i>The Great Ocean Conveyor Belt</i>, 2007• Stefan Rahmstorf, <i>The Thermohaline Ocean Circulation</i>, 2003• UNEP, <i>Great Ocean Conveyor Belt</i> (schematic)• Detailed world map of <i>Ocean Currents</i> (enlargeable and zoomable)
There are a number of animations of the ocean conveyor but these do only minimal justice to the challenge of comprehending its dynamics



This complex non-linear movement is to be contrasted with the dangerous "linearity" of Ken Wilber's presentation of a "one-way" spiritual "conveyor belt".

The global oceanic conveyor belt in fact offers a remarkable model (and a symbol of requisite complexity) of the cyclic nature of what Wilber's spiritual conveyor ought to be. This is a collective global analogue to the cycle in a Chinese text *T'ai I Chin Hua Tsung Chih* (*The Secret of the Golden Flower*) -- more recently translated by Thomas Cleary (1991) [Note also an [online variant](#) translated by Walter Picca in 1964]. The question is why should a mechanical device of the industrial revolution be considered the most imaginative metaphor of spiritual development? Why should an appropriate metaphor not have non-linear qualities to be of requisitely imaginative complexity?

Ironically, whilst Wilber stresses the vital significance of enabling the spiritual conveyor, considerable concern is expressed in parallel at the possibility of an abrupt stopping of the Atlantic Meridional Overturning Circulation as a consequence of climate change. There is concern that the disruption of this conveyor system through global warming may inexorably lead to a new Ice Age. As cycles both are however a challenge to comprehension. Especially intriguing as a complex model (like [Table 1](#)), the ocean conveyor belt reconciles several transformations between different forms of "positive" and "negative" (temperature, density, salinity). It is therefore not inappropriate to associate the foreseen sudden disruption to that global conveyor to intuitions of a spiritual Armageddon (*Spontaneous Initiation of Armageddon: a heartfelt response to systemic negligence*, 2004).

Paternoster lifts and caterpillar tractors

The [paternoster lift](#) is an interesting example of a conveyor in which its cyclic form is fairly obvious to anyone transported by it -- moving slowly in a loop up and down inside a building without stopping. The name derived from its resemblance to the the loop of rosary beads constituting a mnemonic aid to recitation of the *Pater Noster* prayer.

Curiously, despite conceptions to the contrary, the lift allowed for the possibility of passengers staying in an upgoing cabin after it had reached the top floor or in a downgoing one after it had passed the ground floor level. Clearly an alternative design would have the floor of each segment "going up" becoming the ceiling "coming down" -- emphasizing a sense of cognitive "twist" with the radical change of orientation. The Lord's Prayer would then indeed be appropriate when endeavouring such transitions! (cf [Designing Cultural Rosaries and Meaning Malas to Sustain Associations within the Pattern that Connects](#), 2000)

A caterpillar tractor (or [tractor crawler](#)) is a vehicle using tracks instead of wheels. Again the dependence on the continuous movement of the track is obvious. Curiously such tracked vehicles have been basic to development of the military tank -- raising the possibility of unfortunate metaphorical associations to the tracking functions of think tanks ("*Tank-thoughts*" from "*Think-tanks*": [metaphors constraining development of global governance](#), 2003)

Educators as knowledge conveyors?

The conveyor belt metaphor is also applied in relation to education (Stephen Gorard, Gareth Rees, Neil Selwyn, [The 'Conveyor Belt Effect': a re-assessment of the impact of national targets for lifelong learning](#), *Oxford Review of Education*, 2002). Use of the metaphor has been challenged:

- Bryan Moseley ([Pre-Service Early Childhood Educators' Perceptions of Math-Mediated Language](#), *Early Education and Development*, 2005) argues that maximizing early childhood educators' abilities to create social opportunities for co-construction of knowledge rests on two understudied assumptions, one theoretical and one empirical. "Theoretically this study rejects the notion of language as an impartial conveyor of knowledge in favor of one in which math and language interact".
- Yannis Karaliotas ([Perceptions of 'Distance' in Education](#), 2000) argues that distance education (DE): "can be seen as a paradigm shift agent in education et large, in that it is making attempts to address and resolve those problems by theorising and realising progressive notions of learning and teaching which give power to learners and bring them to the centre. In doing so, DE may directly challenge the very concept of education as a knowledge conveyor belt and help redefine the role of educators as facilitators of and co-participants in knowledge construction".

More generally, in the light of the above criticism of the "shipping" model of marketing, it may be asked whether "delivery of development" is also inappropriately conceived within a conveyor belt metaphor (cf A.-M.S. Moore and D W Chapman, [Dilemmas in the Delivery of Development Assistance](#), *International Journal of Educational Development*, 23, 5, September 2003)

Linear view of time: another conveyor belt?

Citing Edward Hall ([The Dance of Life](#), 1983), Steve Randall ([Linear Time--the Cultural 'Norm'](#), 1996) points out that:

Linear time is a major feature of our Western cultural world-view, apparently initiated by Newton some 300 years ago. It portrays time as an absolute physical reality, and says that the passage of time is independent of consciousness. So it doesn't matter what you think, feel, or do, or how you look at time, time doesn't change as a result.

He argues that in this view:

...time flows like a conveyor belt that moves horizontally from past to present to future at the same unchangeable speed for all of us... The conveyor passes through three rooms: past, present, and future. We're always in the present room -- we take that for granted. We can't go into the future or past rooms because there seems to be an impenetrable divider between the rooms. On the conveyor there is an apparently endless series of containers extending into the past on the one hand and into the future on the other. The way we 'spend our time' is by putting our activities into the containers as the conveyor moves by us. These containers are all the same size, so we can put only so many activities in a given container, then that time is used up, and the container moves into the past.

The use of the conveyor belt metaphor in relation to time has been explored by George Lakoff and Mark Johnson, noting that time may be understood as a line or space moving past the observer like a conveyor belt or stream.

Elsewhere Randall explores other views of time ([Linear vs. Timeless Views](#), [The Qualities of Deadline Pressure Scenarios](#), [How Our Sense of Time Flow is Created](#)). The implications for thinking of the container metaphor have been extensively studied.

Population conveyor -- towards Armageddon?

Most problems faced by humanity and the planet are exacerbated by the ever-increasing world population of humans. It is therefore useful to explore implications of any oversimplified use of the conveyor metaphor with respect to population dynamics.

Population dynamics is now studied in terms of "conveyor belt theory" (H.A. de Gans, [Population Forecasting 1895-1945: the transition to modernity](#), 1999). G. F. Oster ([A Simple Analog for Teaching Demographic Concepts](#), *BioScience*, 1974) suggested that the

population analog whereby the conveyor belt advances according to the growth rate, so that distance along the belt corresponds to chronological (or physiological) age.

A commentary on *World Population Growth - Solutions to Overpopulation* (2005) frames the challenge as follows:

So, should we be cold, calculating statisticians who see that a high number of deaths from a natural disaster or, say, the one million people who die each year from malaria don't matter because we've got so many new humans coming down the population-growth conveyor belt anyway?

More generally the conveyor metaphor has been used by the World Resources Institute with regard to the movement of species around the globe (*A Biological Conveyor Belt*, 1998)

On any given day, for instance, some 3,000 aquatic species are moving around the globe in the ballast tanks of ships, a biotic conveyor belt that has already altered the ecological makeup of much of the world's coastal waters.

Curiously, despite an explicit systems perspective, another example is the application of the *Vensim* modelling package to *Material in Conveyors* -- then extended to population dynamics (*Population Example with Conveyors*). *Vensim* (produced by Ventana Systems, Inc) is used for constructing models of business, scientific, environmental, and social systems. The population dynamics are framed as a one-way system.

With or without the collapse of the ocean conveyor, it would appear that current thinking regarding population dynamics could be construed as a conveyor belt approach to the movement of the population towards Armageddon -- whether inadvertently or deliberately to ensure early fulfillment of various scriptural prophecies, as noted above (*Spontaneous Initiation of Armageddon a heartfelt response to systemic negligence*, 2004).

Use of the conveyor metaphor for population dynamics neatly models the nature of the predicted collapse of the population when it overshoots the planetary resources necessary to sustain its continuing expansion. The biological phenomenon of "population overshoot" is used by ecologists to describe a species, as with humans, whose numbers exceed the ecological carrying capacity of the place where it lives (David M. Delaney, *Overshoot in a nutshell (Malthus was an optimist)*, 30 Sep 2003) [more more]. This is well-modelled by belt conveyors delivering mineral ore to a dump -- dropping off the ore at the end of the upward movement of the belt.

As typically understood, the conveyor metaphor is therefore to be seen as faithfully delivering species to the point of overshoot for that population -- the form of collapse identified for humans by Jared Diamond (*Collapse: how societies choose to fail or succeed*, 2005). Presumably the conveyor is then to be understood as taking delivery of the next species eventually to emerge as dominant.

Challenge to comprehension

Presented as a linear "one-way", "one-side" experience, a conveyor is relatively easy to understand -- even though some may hesitate to be transported by one (however unknowingly this may be so in terms of some demographic applications of a "conveyor belt theory"). As a complex cycle in three-dimensions, there is however a real challenge to understanding the physical movement -- even in the case of the Gulf Stream, let alone the more complex global ocean conveyor of which it is but a part.

The challenge to comprehension may be usefully illustrated by the light provided by a light bulb. Typically understood as "positive", light is contrasted with darkness stigmatized as "negative". And yet it is at the junction of two wires (often a twisted, resistant filament), typically recognized as "positive" and "negative" (especially in the case of direct current), that light is generated. In this case "light" is assimilated incorrectly with "positive", ignoring the role of "negative" in its generation (*Being Positive and Avoiding Negativity: Management challenge of positive vs negative*, 2005). It is quite problematic to describe electricity as being "conveyed" from A to B; as is widely understood, the process is more correctly described as one of "creating a circuit" linking A and B. Similarly the function of the "one-way" "one-sided" conveyor is incorrectly comprehended in terms of its "positive" movement in the recognized direction of travel, failing to recognize the return movement necessary to sustain the process.

An interesting comparison may perhaps be made with comprehending, and then practicing, the special *circular breathing* technique whereby the *didjeridoo* is played -- continuously vibrating lips to produce the drone. This requires breathing in through the nose whilst simultaneously expelling air out of the mouth using the tongue and cheeks -- exemplifying the challenge of a "cognitive twist". By use of this technique, a skilled player can replenish the air in his lungs, and with practice can sustain a note for as long as desired.

Chogyam Trungpa (*Cutting Through Spiritual Materialism*, 1973) might also then be understood as offering a Buddhist challenge to any spirituality treated as on the same surface of any "conveyor belt", rather than calling for a different quality of insight that interrelates the illusory distinction between materialism and such spirituality -- as in the cyclic dynamic through the twists of the Möbius belt:

Walking the spiritual path properly is a very subtle process; it is not something to jump into naively. there are numerous sidetracks which lead to a distorted, ego-centered version of spirituality; we can deceive ourselves into thinking we are developing spiritually when instead we are strengthening our egocentricity through spiritual techniques. This fundamental distortion may be referred to as spiritual materialism.

With the *Möbius strip* as a model (as discussed in *Psychosocial Energy from Polarization within a Cyclic Pattern of Enantiodromia*, 2007), the Buddhist emphasis on "not-grasping" and "letting-go" might then be understood as one of avoiding attachment to a particular

perspective on any apparent distinctions between two sides. As illusions, the "two sides" are "not as they seem, nor are they otherwise." (*Mahayana Lankavatara Sutra*).

As the Möbius topology makes clear, the "enlightened" view, whether with respect to spirituality or the ocean conveyor, simply calls for recognizing the apparent distinction in the moment without projecting all the cognitive overlay of self and other, beginning and end, subject and object and all the deep seated emotional attachment that gives rise to and follows from such categories. Such distinctions obscure recognition of the cycle through which such understandings are linked. The cycle is as significant in the case of the ocean conveyor, the spiritual conveyor, or that of the *Golden Flower*. Curiously, the apparent termination of the Gulf Stream can be understood in the light of any Klein bottle modelling of "engulfing" (as discussed in [Table 4](#) with respect to the mystical relation to God).

Descriptions in Hinduism of the operation of the *sushumna* (in Buddhism called *avadhuti*; in Chinese medicine as [meridian](#)) as the central channel or *nadi* linking the chakras of the subtle body, and representing non-dual wisdom, may make fruitful use of the conveyor metaphor as illustrated by Silvia Hartmann (*Thought Flow Technique Instructions*, 2003):

Take a thought and allow it to move into the Shushumna Nadi. It gets carried away and disappears from our conscious awareness as it begins its path on a perfectly systemic conveyor belt. But it's still there, getting changed and transmuted into something else that comes right back from a "higher, invisible processing system", nicely sorted out, and gets passed along until it arrives in exactly the right format in the processing system called "the heart" and there, it naturally and with no further ado, affects changes, which in turn get passed back to the thought system - new thoughts, new behaviours, new will and new questions arise and the whole system is different, "has learned and changed" simply by completing the process and has arrived at what you might call a higher level of organisation whilst we're at it. The resulting changes can be observed in manifesting physicality and the measurable reality which is produced by this totality's actions and behaviours.

"Ocean of Emancipation"

Given the association of a spiritual conveyor with the ocean conveyor, it is interesting to note a central theme of Jorge N Ferrer (*Revisoning Transpersonal Theory: a participatory vision of human spirituality*, 2002) in revisiting the metaphor central to many spiritual traditions whereby most such traditions, as rivers, lead to the same ocean. This metaphor does of course raise the question, as with the conveyor metaphor, of how the "water" got into the "river" and how it eventually gets back there.

Frequently citing Wilber, he argues, however :

I would like to suggest that the entry into the Ocean of Emancipation and the access to transconceptual cognition are not always the end, but in some cases the starting point of genuine spiritual inquiry.... But to enter the Ocean of Emancipation does not inevitably tie us to a particular disclosure of reality, even if this is transconceptual. In contrast, what the mystical evidence suggests is that there are a variety of possible spiritual insights and ultimates.... To recapitulate, the common ocean to which most spiritual traditions lead is not a pre-given spiritual ultimate, but the Ocean of Emancipation, a radical shift in perspective that involves the deconstruction of the Cartesian ego, the eradication of self-imposed suffering, and the rise of selfless perception, cognition, and action.... In other words, the Ocean of Emancipation has many spiritual shores, some of which are enacted by the world spiritual traditions, and others of which... may not have emerged yet.

Although the metaphor of an ocean with many shores is helpful to illustrate the partial truths of perennialism and contextualism, it should be obvious that it is ultimately inadequate to convey the participatory and enactive nature of spiritual knowing advanced here.... But the fact that enacted shores become more available does not mean that they are predetermined, limited in number, or that no new shores can be enacted through intentional and creative participation. (p. 144-153)

This participatory vision is consistent with mystical experience such as "engulfing". It is however appropriate to challenge this metaphorical understanding of an "ocean" bounded **statically** by distinct "shores" with the emphasis above on the metaphor of an ocean conveyor in which the different spiritual traditions variously interweave **dynamically** as "currents" -- made distinct by the twisting transformations between them around the globe. It is this dynamic which is essential to Ferrer's "genuine spiritual inquiry".

This switch in perspective from static to dynamic -- with an emphasis on flow -- has been well-articulated by [Edward de Bono](#) (*I Am Right-You Are Wrong: from Rock Logic to Water Logic*, 1991). It has been an important theme since the work of [Alfred North Whitehead](#) (*Process and Reality: an essay in cosmology*, 1929) and [Nicholas Rescher](#) (*Process Metaphysics: an introduction to process philosophy*, 1995), as exemplified by Michel Weber (*After Whitehead: Rescher on Process*, 2004).

The possible application of such a metaphor to religion is reinforced by the arguments of Harry Cleaver (*Deep Currents Rising: some notes on the global challenge to capitalism*. University of Texas, 2006) who introduces, as follows, a remarkably extensive discussion of the metaphor of ocean currents to understanding socio-political movements:

An alternative metaphor for thinking about the ceaseless movement that forms the political life and historical trajectory of those resisting and sometimes escaping the institutions of capitalism, is that of water, of the hydrosphere, especially of ever restless ocean currents. Currents are masses in motion, not just masses of homogeneous water but of whole ecologies of differentiated water molecules and the myriad forms of life that thrive and perish amidst them - floating or swimming with the flow or struggling across or against it. Everything is in motion, nothing is stable, deterritorialization is virtually constant, there is no 'safe haven', no 'secure foundation' other than familiarity with the ever rushing, ever changing flow

Global Conveyor, Rainbow Serpent and Ouroboros

If religions are to be distinguished dynamically in some way -- in the spirit of process thinking -- what then are required as parameters that function as "drivers" for "religious currents" as they weave around the world? The parameters are perhaps those analogous to temperature, density and salinity -- which have all been used as metaphors in distinguishing religions. To what degree can interfaith relations then be modelled by [thermohaline circulation](#)?

One point of departure is the exercise by [Johan Galtung](#) (*Religions, Hard and Soft, Cross Currents*, 1997-98, 47, 4) who notes, in comparing the world's religions, that there is:

...an extreme variation in religious experience, *and* that there is a geographical logic to this variation. It varies with the longitude rather than with the latitude. As we move eastward God dies somewhere between Hinduism and Buddhism. Before that, between Islam and Hinduism, Satan has already perished. Faith loosens up: rather than *the occidental either-or*, this faith or that, there is an *Oriental both-and*, this faith and that one. And the faith(s) chosen or grown into are no longer seen as universally valid; validity for me/us does not imply validity for all. The individual soul is gradually deemphasized, from a knot of individual ownership in this life, via shared ownership with others in a series of reincarnations, to a vague dispersal of the ego into the net with others, the sum total of all relations with other beings, past, present and future. Life goals change dramatically: from an eternal continuation of individual existence, next to God, to transcendence to a higher existence devoid of individual and permanent identity, *nibbana*.

Beyond his gross comparison of the main religions, potentially to be understood as parts of the "global conveyor", there are of course the many variants -- perhaps to be understood as "eddy currents" with special "geographic" characteristics.

Another point of departure, in the light of Galtung's insight, is that of [Geert Hofstede](#) (*Culture's Consequences: international differences in work-related values*, 1980; *Cultures and Organizations: software of the mind -- intercultural cooperation and its importance for survival*, 1996; *Culture's Consequences: comparing values, behaviors, institutions, and organizations across nations*, 2003).

Hofstede distinguishes cultures in terms of five indexes: Power Distance Index (PDI), Uncertainty Avoidance Index (UAI), Masculinity index (MAS), Individualism (IDV), Long-Term Orientation (LTO). In preparation for the Parliament of the World's Religions (Chicago, 1993), these were used to explore possible implications for dialogue between religions (*Facilitation in a Cross-cultural Environment*, 1993). Subsequently the [Sigma Two Group](#) developed graphs and charts (*Geert Hofstede Dimensions by Predominant Religion*, 2003) that help to focus further exploration.

When associated with religions, value differences, whether identified by Hofstede's indicators, as value polarities by the [Human Values Project](#), or through the [World Values Survey](#), would also provide a more dynamic sense of:

- where each religion believes it is "going", in relation to other faiths
- what differences are "driving" that movement

Hofstede's indicators may come closest to providing a correspondence to the drivers of the ocean currents within the global ocean conveyor. Ocean currents (see [checklist](#)) are generated from the forces acting upon the water like the earth's rotation, the wind, the temperature and salinity differences and the gravitation of the moon.

It is intriguing to note that whereas the individual ocean currents may indeed be distinguished (as part of the global conveyor), the claim by their religious analogues to global universality is then comprehensible and justified -- understood in terms of their participation in a continuous circumterran flow.

It is appropriate to note the degree to which such an understanding is in sympathy with traditional mythological insights such as:

- [Shesha](#) is one of the primal beings of creation within the Hindu (Vedic) tradition, sometimes referred to as "Ananta-Shesha", namely "Endless Shesha." Generally depicted as a massive form floating coiled in space, or on the universal ocean; more commonly as a many hundred-headed serpent, sometimes with each head wearing an ornate crown.
- [Jörmungandr](#) of Norse mythology, alternately referred to as the Midgard Serpent or the World Serpent.
- [Rainbow Serpent](#), a common theme in all Australian Aboriginal tradition -- a 'great energy current' that travels the world (cf [Rainbow Serpent Project](#)). If the ocean current temperature at different locations were to be indicated by colour coding (as viewed in infra red), the rainbow effect of the ocean conveyor would indeed be apparent
- [Ouroboros](#), as one of the oldest mythological symbols of circularity and continuity -- of a snake biting its tail (cf [Ouroboros Research and Education Trust](#))

These have been reviewed from an indigenous perspective by Jeremy Narby (*The Cosmic Serpent: DNA and the origins of knowledge*, 1999). Any such sense of "coiling" is of course consistent with the perception that argument regarding the spiritual dimension is "convoluted".

Representing the set of spiritual traditions

It is worth reflecting on the tendency to represent the set of religions as a simple checklist, a set of cells in a simple matrix (Galtung), data points in a cartesian coordinate system (Hofstede) -- or symbolically garbed speakers suitably configured at an interfaith gathering.

There is a case for considering their representation as (surface) area charts, with overlapping commonalities, or as (non-linear) vectors. The latter come closest to any correspondence with a mapping of meandering ocean currents on a spherical surface -- ignoring the need for any topological continuity between vectors at different levels through the ocean depths. Further possibilities follow from research on

illustration of ocean currents such as that of Matthew Quinn (*Automatic Illustration of Ocean Currents*, 2005) which notably sought an aesthetic and demonstrative quality in three dimensions through the use of geometrical objects called super-streamlines, smoothing their shape, and rendering them as a series of variable-width ribbons or tubes.

Potentially of even greater interest is to benefit from sophisticated simulation and modelling systems used to simulate the dynamics of ocean currents and offer interactive visualizations of the output as with the *MayaVi Data Visualizer* application (Karen Osmond, *Final Report: Parallel Interactive Scalable Visualisation of Ocean Currents*, 2005). The challenges of such modelling have resulted in the generation of compact virtual reality models from the necessary supercomputers (cf Albert J. Hermann, et al. *Serving 3-D Rendered Graphics of Ocean Model Output using LAS and VTK*).

Also of interest are mathematical insights into **multidimensional currents** -- potentially offering the requisite complexity to transform the static territoriality (typical of conflict between religions) into a dynamic form capable of honouring their respective identities more appropriately (*And When the Bombing Stops? Territorial conflict as a challenge to mathematicians*, 2000). A toroidal meandering ocean conveyor, or a coiled Rainbow Serpent, may offer the most comprehensible approximation in three dimensions.

To the extent that religion is a cognitive challenge in recursive self-reflexivity, it is appropriate to note the insightful summary of Donald H. McNeil (*What's Going on with the Topology of Recursion? S.E.E.D. Journal: Semiotics, Evolution, Energy, and Development*, 4, 1, 2004). This highlights the fundamental representational role of the torus beyond that of the sphere. Topologically the torus as commonly known is described as a 1-torus. The 0-torus -- of lesser complexity -- is the commonly known sphere. Other more complex constructs, such as the **hypersphere**, of potentially greater relevance are explored (J. Gratus, *A noncommutative geometric analysis of a sphere-torus topology change*, *Journal of Geometry and Physics*, 49, 2, February 2004; Douglas DeCarlo and Jean Gallier, *Topological Evolution of Surfaces*, *Graphics Interface*, 1996; Erica Klarreich, *If It Looks Like a Sphere...*, *Science News*, 14 June 2003; Thomas S. Briggs, *Exploring Hyperspace with the Geometric Product*; Jeff Fuquay, *Visualizing the Hypersphere*)

As with any mandala-like construct (including the logo on this page), Wilber's basic **four-quadrant set of concentric circles** (AQAL) might then be an intuitive understanding of the view **along** the axis of a torus through which the flow of such "cognitive plasma" is magnetically centred and contained - through meditative disciplines focusing attention. It might even be argued that the cutaway 3D representation of the AQAL system as concentric spheres -- used as the logo of Wilber's *Integral Encyclopedia Wiki* -- obscures operational insights analogous to those requiring a toroidal (rather than a spherical) "vessel" for successful nuclear fusion. As a context, a torus can sustain a cyclic operation in time, whereas a sphere can only do so momentarily, in principle, or "outside time" (cf *Comprehension of Requisite Variety for Sustainable Psychosocial Dynamics: transforming a matrix classification onto intertwined tori*, 2006).

The experiential quality of movement **along** the axis of the toroidal "ocean conveyor" may well resonate with what has been ambiguously translated as the *Gateless Gate* -- whose nature is indicated through a classic collection of 48 Zen koans (*Mumonkan; Wumenguan*) and their many **commentaries**. As with the circular movement of plasma in a fusion reactor, or around a particle accelerator, the issues of concentration are challenging and resist description in logical terms, as this quotation from the preface by the compiler Mumon (or **Wumen**) indicates:

*The great path has no gates,
Yet thousands of roads enter it.
When one passes through this gateless gate,
He walks freely between heaven and hell.*

Whether the focusing ("magnetic") constraints are a single polarity, or a configuration of multiple polarities, the ambiguous nature of experience of them is well-indicated by effort to move a metal object between two magnetized pillars. The capacity to do so is then well-indicated by the ability to "walk freely between heaven and hell" (between "positive" and "negative" forces) or other variant translations. As with toroidal particle accelerators, a particle is only to be understood as "conveyed" along this path in a most limited sense that obscures the nature of their operation.

Mapping spiritual traditions onto ocean currents: a tentative exploration of possibilities

This speculative exercise follows from earlier concerns (*The Territory Construed as the Map: in search of radical design innovations in the representation of human activities and their relationships*, In: *Forms of Presentation and the Future of Comprehension*, 1984).

For the purposes of a very simplistic initial exploration -- necessarily speculative -- some of the elements noted above could be used to associate religions with distinct ocean currents forming part of the Great Ocean Conveyor. Key features that may serve in this respect are:

- **Temperature:** Oceans are typically warmed by the sun -- in tropical zones. Fire as a manifestation of heat and warmth on earth was long worshipped by religions. It was the central symbol of Zoroastrianism; candles continue to feature in places of worship. Religions are commonly distinguished in terms of their relative "warmth" or "austerity"
- **Salinity:** Salinity is variously distributed in the oceans, being highest in the Arabian Sea, Mediterranean and North Atlantic -- and lowest in the polar regions.. Salt has been a key symbol in many religions (*What does salt symbolise, in the Bible?*; John H. Hampsch, *Blessed Salt* ; James E. Latham, *The Religious Symbolism of Salt*). In alchemy, in addition to four elements, there were three alchemical 'principles': sulfur, salt, and mercury; salt represented the contractive force, condensation, and crystallization.
- **Density:** Just as sea water density depends on temperature and salinity, it might be argued that the "density" of a religion is well-

characterized by the "density" of its scriptures -- the least dense being those that rely least on extensive scriptural commentary

- **Depth vs Superficiality:** Spiritual traditions may be distinguished in terms of their relative "depth" or "superficiality". Possibly "depth" may be associated with a degree of fundamentalism, and the consequent "pressure" on believers in contrast with a more easy-going attitude. Depth would tend to be associated with high density. As argued by Catherine Keller (*The Face of the Deep: reflections on the ecology of process thought*, 1999): "The deep is *tehom*, the Hebrew for ocean, for depth as saltwatery first stuff of the universe; for depth as a dimension; and for chaos... I claim that classical Christian theology has fostered a dread of the deep, which we might call *tehomophobia*."
- **Sinking vs Upwelling:** Water sinks in cold regions (deep water formation) and then spreads. Upwelling of such waters may also occur.
- **Near-surface currents:** Required to close the flow

A relevant binary contrast between different religious styles has been made in fictionalized form by Nobel Laureate [Hermann Hesse](#) (*Narcissus and Goldmund*, 1930). A very useful effort to compare and distinguish many religions succinctly, notably those of East and West, has been made by the Himalayan Academy (*Truth is One, Paths are Many*) -- originally presented at the Parliament of the World's Religions (1993).

Following from Galtung's **longitudinal** distinctions (above), a case might be made for a 4-quadrant **polar view** of the globe as follows:

4-Quadrant Geographical Distribution of Religious Modes (polar view) (as an alternative to Galtung's terminology, "God" might be replaced by a form of unitary integrative belief, and "Satan" by unbelief, uncertainty or atheism)		
	Western hemisphere	Eastern hemisphere
East-most	"God and Satan" (Christianity, Islam, Judaism)	"Neither God nor Satan" (Taoism)
West-most	"No God -- Godlessness" (Pagan, Voodoo, Wiccan, Animism, Atheism?)	"God; no Satan" (Hinduism)

Subtler distinctions of this kind might be made in terms of Wilber's AQAL, Magoroh Maruyama's [mindscapes](#), or others (*Systems of Categories Distinguishing Cultural Biases*, 1993). One such, of relevance to Galtung's geographical approach (Richard E Nisbett, *The Geography of Thought: how Asians and Westerners think differently...and why*, 2003), argues that:

as one moves West from India, the number of possible states after death lowers drastically -- from the near infinity of reincarnations of Hinduism and Buddhism to the multiple levels of Catholic purgatory and circles of hell to the binary possibility of the Calvinist.

In exploring the implications of Ferrer's "Ocean of Emancipation", it is appropriate to note the extent to which it may be associated with widespread reports of an "oceanic feeling" by mystics and users of psychedelic drugs. Since Sigmund Freud (*The Future of an Illusion*, 1927), the experience of an "[oceanic feeling](#)" has been well-recognized by psychoanalysis (cf Jeffrey Moussaieff Masson, *The Oceanic Feeling: the origins of religious sentiment in Ancient India*, 1980; Jon Mills. *The Ontology of Religiosity: the oceanic feeling and the value of the lived experience. Religious Humanism*, 1999; William B Parsons. *The Enigma of Oceanic Feeling: revisioning the psychoanalytic theory of mysticism*, 1999; Mark Epstein, *Beyond the Oceanic Feeling: psychoanalytic Study of Buddhist meditation, International Review of Psycho-Analysis*, 1990). But are there "currents" of feeling within such "oceanic feeling", as intimated by David S. Miall (*Feelings in literary response, REDES*, 2004) with reference to catharsis -- or is it currents of meaning, curiously invoking the dimension of time through shifting patterns of "current opinion"?

Such reports point to the strengths and weaknesses of particular languages and epistemological frameworks in representing this understanding meaningfully. On this point, and in addition to the above author's, the work on a biocultural paradigm merits attention (Maria M Colavito. *The Heresy of Oedipus and the Mind/Mind Split: a study of the biocultural origins of civilization*, 1995; Antonio T de Nicolas, *Religion: the last weapon of discrimination and the bio-cultural corrective*, 2007; *Neurobiology, Communities, Religion: a bio-cultural study*, 1998). This is valuable, whether in terms of the challenging interplay of five modules of the human brain or of the need for distinct, but complementary, languages to order experience of richer significance (*12 Complementary Languages for Sustainable Governance*, 2003). Particularly relevant to any ocean metaphor is the challenging fluidity through which the neural networks associated with distinct brain modules must necessarily be employed.

This fluidity is well illustrated by the interplay of the distinct instruments in a musical quartette or in an improvising jazz group. Each instrument may indeed complement or reinforce the other in some way -- achieving the depth of perspective recognized by Maruyama's advocacy of "polyocular vision". It may also challenge and undermine the other's mode of expression by introducing an alternative beyond the scope of the others -- especially that whose expression is currently dominant.

Any such framework raises interesting questions about how meaning is "conveyed through a complex musical work. The phases in the movement of the ocean conveyor -- its currents -- might then be fruitfully compared to the complexities of the "movements" of such a work -- and the manner in which it constitutes a totality. Composers might be encouraged to represent the ocean conveyor in this way to enable wider comprehension (cf *A Singable Earth Charter, EU Constitution or Global Ethic?* 2006).

In particular, the pattern as a whole might be nested (recursively) within each cell of the above table. The distribution of quadrants is reminiscent of the quadrilemma of Kinhide Mushakoji (*Global Issues and Interparadigmatic Dialogue*, 1988) especially in the light of his *In Search of a Theory of Cycles: for a transfinite mathematical treatment of recurrence in social and natural processes* (1988). Systemically, as complementary categories, the approach is also consistent with explorations in *Cardioid Attractor Fundamental to*

Sustainability: 8 transactional games forming the heart of sustainable relationship (2005). This points to the nature of a non-dualistic integrating process -- modelled by the global conveyor -- through which such modes are interrelated, and potentially characteristic of complex adaptive systems (*Psycho-social Significance of the Mandelbrot Set: a sustainable boundary between chaos and order*, 2005).

Another possible approach is to focus on the development over historical time of one religion from another, through schismatic processes -- to be modelled either by branching ocean currents, or by changes in "density" ("temperature" and/or "salinity") resulting in a degree of fundamentalism ("deep water formation"). The global ocean conveyor in this sense functions more like a "standing wave".

A related approach would be to assume that the emergence of new spiritual understanding in an individual depends not only on any initial religious education but to some degree on movement along the succession of developmental phases of religions as modelled by a "global ocean conveyor". As noted by Greg Whitlock (*Digging into Science: archaeoastronomy in a multicultural science curriculum*, Mercury, July/August 1995):

If, by analogy to biology, ontogeny replicates phylogeny, then we can use the history of cosmology to teach modern ideas to our students. Instead of just telling them that the Earth goes around the Sun, we can explain how, and among whom, this idea arose....The progression from cosmology to early modern science is the great nexus of connections between the sciences and humanities, for no other reason than they were in ancient times inseparable. Modern science has an organic relation to the entire history of humanity; its roots go to the first human inquiry.

More powerful support for an approach of this kind, in the light of process philosophy (mentioned above), is offered by Jason W. Brown (*Foundations of Cognitive Metaphysics, Process Studies*, 21:1-2, Spring-Summer, 1998) in terms of microgenetic theory:

Gradually, it became clear that it is not the stages or the behaviors that are reproduced but the configural properties of the process through which they actualize, that is, the process is revived, not the actual elements into which it deposits. Moreover, the earlier concept of a collapse of the millions of years of phylogeny, or the lifespan of ontogeny, into the milliseconds of a cognition, or the idea of a process that continued over evolutionary, lifespan and cognitive durations was replaced by the concept of an iteration of a single process or pattern that binds together the different time frames.

More precisely, the duration of phyletic or ontogenetic process is not the evolutionary (maturational) history of a species (organism); the former is more accurately the sum of its ontogenies. Evolution is a population dynamic, ontogeny the life story of an individual. From the individual standpoint, evolution is the antecedent line of all prior ontogenies for that organism. Thus, the question, what exactly is an ontogeny? The conventional view is of a process that extends over the lifespan. But there is a way of regarding ontogeny as a moment of growth that is cyclically revisited. What is the lifespan if not a temporal aggregate that is woven by the mind into a seamless thread from the series of discrete momentary actualities.

To the extent that the adaptive cycle fundamental to complex systems (illustrated earlier) offers an approach to the relationship between the religions, it would be interesting to explore how the various religions might be distinguished in terms of the three dimensions within which it is mapped: connectedness, potential and resilience. Are they each in some way characteristic of some part of the cycle as might be inferred from discussions of resilience in social systems by Nick Abel, et al (*Collapse and Reorganization in Social-Ecological Systems: questions, some ideas, and policy implications. Ecology and Society*, 2006, 1) and from Lance H. Gunderson and C.S. Holling et al. (*Panarchy: understanding transformations in human and natural systems*, 2002):

In addition to this creative role, Pan has a destabilizing role that is captured in the word panic, directly derived from one facet of his paradoxical personality. His attributes are described in ways that resonate with the attributes of the four phase adaptive cycle; as the creative and motive power of universal nature, the controller and arranger of the four elements- earth, water, air and fire (or perhaps, of K, alpha, r and omega!). He therefore represents the inherent features of the synthesis that has emerged in this comparison of ecological and social systems.

Panarchy has been proposed as a useful way of thinking about cross-scale dynamics in complex adaptive systems. Based on that work, Brian Weeks, Marko Antonio Rodriguez and J.H. Blakeslee (*Panarchy: Complexity and Regime Change in Human Societies*, Santa Fe Institute Complex Systems Summer School Proceedings - August 2004), investigate processes of socio-political change (including reference to religion) in light of the adaptive cycle and its four phases:

- exploitation (organization of a political system from remnants of the old system);
- conservation (maintenance and proliferation of the new system);
- release (revolution); and
- reorganization (regime change/a new paradigm).

Reinforcing the above argument for the potential value of the relationship between the ocean conveyor and the set of religions, the authors conclude:

... ecological models can provide social research with a new and broader means of expression and perhaps lead up to more complete and conclusive understandings of past and present events.

Are particular religions -- or phases of religious insight -- to be considered as more closely associated with particular phases of the adaptive cycle?

Plasma conveyors and cognitive fusion: the interfaith challenge?

It is appropriate to note that the largest circulating "conveyor belt", the so-called Great Conveyor Belt, is a massive circulating current of fire (hot plasma) within the Sun. It has slowed to its lowest point in many years. It has two branches, north and south, each taking about 40 years to perform one complete circuit. Researchers believe the turning of the belt controls the sunspot cycle, and that is why the slowdown is important (Tony Phillips, *Long Range Solar Forecast*, NASA, 5.10.2006) [more].

Whereas there is a clear cyclic sense in this movement of plasma, on an even larger scale Sylvain Veilleux, *et al* (*Colossal Galactic Explosions*, *Scientific American*, 1998) might be understood to raise the question of the remaining part of the conveyor belt cycle in the following extreme case:

Although astronomers now understand the basic principles of operation of the engines that drive active galaxies, many details remain unclear. There is a vigorous debate about the nature of the processes that ignite a starburst or form a central black hole. What is the conveyor belt that transports fuel down to the pointlike nucleus?

However plasma does indeed offer an accessible way of understanding the pattern of circular continuity of process through many phases. For example, a 'conveyor belt' effect is also well known in accelerator storage rings [more | more]. But it is appropriate to note the importance to current research on controlled nuclear fusion of the oscillation of a so-called plasma "snake" or "serpent" in reactors. A new self-regulated plasma state, fundamental to "global energy confinement", has recently been named the "Serpens mode" (J Miyazawa, *et al*. *Self-sustained detachment in the Large Helical Device*, *Nuclear Fusion*, 46, 2006, 5). Given the focus on toroidal confinement of plasma in tokamaks -- as the key to controlled continuous nuclear fusion -- clearly such a plasma snake can be usefully understood as "biting its tail" (when appropriately contained). In such environments, the role of plasma as an energy carrier -- a carrier wave -- is increasingly understood as essential to the fusion process.

The relevance of such research to more fundamental integrative thinking -- any "global awakening" as envisaged by religions -- has been explored with respect to the possibility of cognitive fusion (*Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006; *Cognitive Fusion through Myth and Symbol Making: archetypal dimensions*, 2006). The challenge of managing plasma is there seen as modelling the challenge of enhanced management of attention -- whether individually or collectively.

Right of return: an "identity conveyor"?

There is an opportunity to transform the sense of being on a mechanical conveyor through time by a recognition of how time may be expressed in the associated cyclic flow. An existential time-binding sense (beyond that proposed in *general semantics*) is exemplified by the classic quote of T S Eliot (*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 it for the first time.*

This accords with the sense of return exemplified by the Ouroboros "biting its tail" -- as with the ocean conveyor. It points to the possibility of being in the moment rather than dependent for a sense of identity on being transported onward "elsewhere" and "elsewhen" (Julian Wolfreys, *The Reiterable Circularity of Being: poetics, selfhood, and the singular witness that is "I"*, *Parrhesia*, 2, 2007; *Engaging Macrohistory through the Present Moment*, 2004; *Hyperspace Clues to the Psychology of the Pattern that Connects*, 2003). The dynamic of the *Gateless Gate*, which a hypersphere may be used to represent (see *model*), may then be understood as collapsing intensively into the moment (as a standing wave) the flow of attention otherwise conveyed extensively through some form of toroidal "cognitive reactor" (Thomas S. Briggs, *Exploring Hyperspace with the Geometric Product*; Jeff, Fuquay, *Visualizing the Hypersphere*).

Of great potential collective significance is the reframing the "conveyor" then offers to any special sense of "return", especially a "right of return". This of course applies to displaced populations ("indigenous", Palestinians, Jews, etc), to any return to family (the archetype of the "prodigal son"), to community, or to a belief in God. It points to more profound significance conflating various understandings of "reclaiming one's heritage", reproduction, restitution, reparation, rebirth, karmic reincarnation, and at-one-ment.

Such intuitive understanding is a powerful psychosocial driving force when fundamental to *religious ecstasy* experienced by mystics (*Parabola*, 23, 1998, 2). It is especially well-modelled as a form of plasma-like "cognitive fusion", transcending space and time, as exemplified in Jewish mysticism by the exceptional experience of *hitlahavut* (Martin Buber, *The Goblet of Grace: Hitlahavut as the key to life*. *Parabola*, 23, 1998, 2). This is variously translated as the burning ardour of ecstasy, spiritual enthusiasm or passion -- namely an inner spark or flame through which the meaning of life is unlocked, embracing God beyond time and space. It might be said to correspond to the Christian understanding of rapture and the ecstasy of Islam as articulated by its Sufi mystics. To the extent that the central importance of such a dynamic experience implies a cyclic process of "return", it is clear that simplistic understandings of it may drive socio-political processes that do not honour its transcendental nature.

Intriguingly the molecular dynamics of protein folding are now rendered comprehensible through simulation on a hypersphere -- suggesting the merit of its use for the equally fundamental psychosocial dynamics explored by Julian Wolfreys with respect to the "reiterable circularity of being", neatly modelled by the circular breathing required for the didjeridoo (as noted above). Hence the arguments for *Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)* (2006). Furthermore, to the extent that "dark matter" is in any way to be considered as symbolic of "godlessness" or "negativity", it has been suggested that comprehension of the universe in terms of a 4-dimensional hypersphere results in its elimination (Jose B. Almeida, *An Hypersphere Model of the Universe: the dismissal of dark matter*, 2004).

A sense of sustainable "right of return" is also offered in the contrast between finite and infinite games made by James P. Carse (*Finite and Infinite Games: a vision of life as play and possibility*, 1986). Discussion of the *Philosophical Implications of the Theory of Everything* (2007) includes reference to the necessary flexibility of movement implied by such infinite games on a hypersphere and by the Ouroboros mythologies that privilege an understanding of the Universe as "existing" in a state of "Absolute Being". This is then considered as being "acceptable as a counterpoint to the predefined concept of a non-existent state of 'Absolute Nothing'" -- with "Whether a Creator is implicitly part of the Creation can be left to further discussion".

Especially interesting, however, is the emphasis placed in Buddhism (cf *The Itivuttaka; the Buddha's sayings*) on "non-returning" in contrast with the pattern of "returning". The latter is sustained by the processes of greed, hate, delusion, anger, contempt and conceit -- with which many other religions are also concerned (*Navigating Alternative Conceptual Realities: clues to the dynamics of enacting new paradigms through movement*, 2002). The "pathological" self-referential "return" engendered by these processes can be understood as fundamental to sustaining the illusory nature of identity -- arising from what is effectively an "identity conveyor" of low dimensionality -- that Buddhism in particular seeks to transcend.

The role of language and religion has been recognized as a collective "identity conveyor" prior to this being primarily associated with the geographical boundaries of the nation state -- still supported, however, by extensive use of symbolism (see Matteo Ionta, *Nation Building: a literature review*, in: *Regional Media and Identity in Sardinia*, 2006, ch II.4). Whilst conventional architecture is also recognized as an important "conveyor of identity" (Carmen Popescu, *Space, Time: Identity*, *National Identities*, 8, 3, September 2006), it is appropriate to ask what role knowledge architecture (on the web) may come to perform in this respect (cf Joseph Nechtval, *Immersive Ideals / Critical Distances: a study of the affinity between artistic ideologies based in virtual reality and previous immersive idioms*, 1999).

Establishing and sustaining identity may also be seen in the light of game-playing. Framing relationships as the capacity to "convey" bombs or terror to another country loses sight of the degree to which this necessarily evokes a right of return -- recognized in competition and game theory as a "return match". Unfortunately this "one-way" relationship mindset has been replicated in the "bullet points" defining programmes of every kind, even when understood as in the best interests of the "targets" (*Missiles, Missives, Missions and Memetic Warfare: Navigation of strategic interfaces in multidimensional knowledge space*, 2001; *Enhancing Sustainable Development Strategies through Avoidance of Military Metaphors*, 1998).

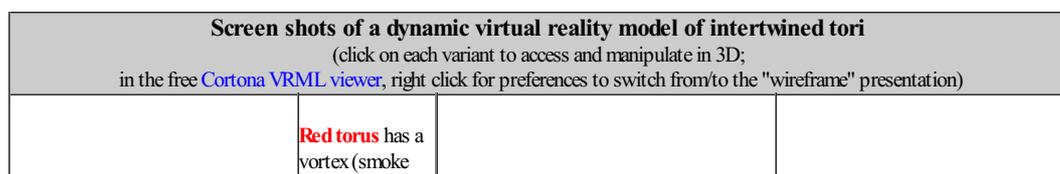
Daniel Goleman (*Social Intelligence: the new science of human relationships*, 2006) summarizes a wide range of research on social neuroscience indicative of the manner in which identity is established and sustained by cyclic psychosocial processes. Whereas the circulatory system is a closed loop, the emotions are an open loop system sustained by cognitive processes that allow others to help manage individual emotions more appropriately. Goleman uses the term "looping", which readily recalls the anxiety that people may feel to be "kept in the loop". Empathy creates a feedback loop as people work towards a "fit" between their own perceptions and the reality of another -- such that looping enables a person to feel within themselves the distress expressed by another. On the other hand, looping too tightly -- excessive mutual entrapment -- can be experienced as suffocating in a relationship. He distinguishes between "positive" and "negative" (or toxic) loops.

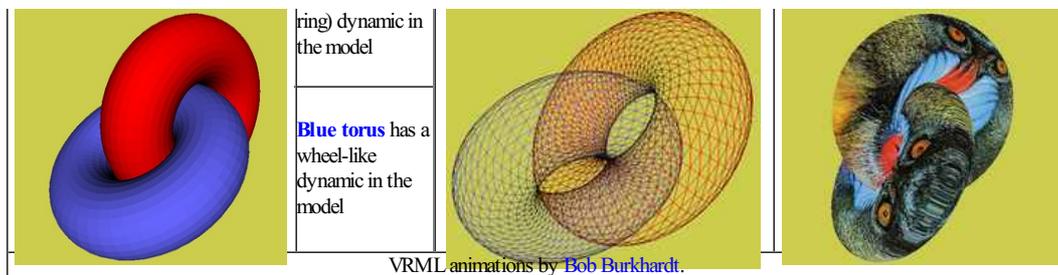
In generic terms, the challenge would appear to be that of distinguishing between cyclic processes fundamental to necessary concentration (to achieve cognitive fusion and control of the "serpent" through "tail-biting") and the ability to "walk freely between heaven and hell" associated with the *Gateless Gate* (above). If an understanding of nuclear fusion is currently dependent on a **Standard Model** of **particle physics** recognizing 6 "flavours" of leptons and of quarks -- of which one is termed "charm" -- perhaps useful insights into the dynamics of the 6 fundamental processes of the "standard model" of religions ("greed", "hate", etc) might benefit from an analogous clarifying formalism in order to facilitate "cognitive fusion" (cf *Towards a logico-mathematical formalization of "sin": fundamental memetic organization of faith-based governance strategies*, 2004).

The distinction to be made might then be caricatured as between a "right of return" arising from misplaced concreteness and one which does not lend itself to description. Some formal insights into the geometry by which the dynamics of such comprehension and communication are constrained are helpfully provided in terms of **q-analysis** by Ron Atkin (*Multidimensional Man; can man live in 3-dimensional space?* 1981). A review of the relevance of such insights to an understanding of the psychology of operating in complex communication spaces is given separately (*Comprehension: social organization determined by incommunicability of insights*). Peter Jackson explores their relevance to education (*The Geometry of Intention: values in the creation of curriculae*).

The relevance of a toroidal representation of these contrasting dynamics is also discussed elsewhere (*Comprehension of Requisite Variety for Sustainable Psychosocial Dynamics: transforming a matrix classification onto intertwined tori*, 2006). This includes a virtual reality model (below) clarifying the intimate relationship between:

- identity embodied and sustained in the moment by the dynamics of a **vortex ring** -- a "smoke ring", by whatever higher dimensional "divine breath" (or "Breath of God") this is understood to be "blown" (cf Victor J. Stenger, *The Breath of God: identifying spiritual energy*, 2001)
- identity associated with the conveyor-like orbital cycle of return typical of particle accelerators and tokamaks -- with the challenge of "tail-biting" simultaneity as expressed symbolically by the Ouroboros or by being "bound" to a karmic wheel of reincarnation or rebirth, until "non-returning" is achieved





These patterns suggest a possible relationship to those discussed earlier (*Present Moment Research: exploration of nowness --Presenting the Future*, part 5, 2001) in relation to Francisco Varela's analysis of a central 3-fold relationship (*The Gesture of Awareness*, 1999) [see also Claus Otto Scharmer. *Three Gestures of Becoming Aware: Conversation with Francisco Varela January 12, 2000*]. He proposes a 3-fold cycle at the core of the act of becoming aware in the moment : "an initial phase of *suspension* of habitual thought and judgement, followed by a phase of *conversion* of attention from 'the exterior' to 'the interior', ending with a phase of *letting-go* or of receptivity towards the experience." (see below). Varela sees the phenomenological *epoché* as "the ensemble of these three organically linked phases", for the simple reason that the second and third are always reactivated by, and reactivate, the first. He provides a valuable discussion of the three interlinked cycles and the obstacles traditionally recognized to some of their processes. Borromean rings (notably of significance to psychoanalyst *Jacques Lacan*) and one traditional Celtic pattern may also be understood as ways of representing in two dimensions any such intuitive understanding of a multi-dimensional process..

Borromean rings and knots	Phenomenological epoché (Varela)	Traditional Celtic spiral pattern

Kenneth Boulding (*Ecodynamics; a new theory of societal evolution*. Sage, 1978) helpfully cautions against rejecting such metaphors in the following terms:

Our consciousness of the unity of the self in the middle of a vast complexity of images or material structures is at least a suitable metaphor for the unity of a group, organization, department, discipline, or science. If personification is only a metaphor, let us not despise metaphors - we might be one ourselves. (p.345)

Spiral staircases and screw conveyors

The above argument would appear to be undermined in interesting ways by the operation of the screw conveyor (or *Archimedean screw*) that has been used for transferring water from a low-lying body of water into irrigation ditches (see *animations*). As a screw conveyor within a tube, material at one end is delivered to the other through rotation of the screw. Most screw conveyors currently in use have a single blade, while modern Archimedes screws typically have two or three blades.

The process of "return" discussed above is seemingly absent from this form of conveyor. Interestingly the spiral staircase is one favoured adaptation of the mythical "ladder" of "spiritual development" to "heaven", notably as used by Karen Armstrong (*The Spiral Staircase: my climb out of darkness*, 2004) -- inspired by T S Eliot's poem *Ash Wednesday* (1930) and by Dante Alighieri's *Divine Comedy*, especially the *Purgatorio*. In both the spiral staircase and the screw conveyor it is the "material" that moves, either of its own accord (as on the staircase) or as an effect on "static" material of a rotating screw. In this sense the conveyor rotates on its axis; its ends do not meet in any "tail-biting". In effect the conveyor then acts as a form of "timeless" standing wave; it is only the material that has a temporal experience. As a metaphor this accords better with *Spiral Dynamics* (as discussed above). Curiously the spira; staircase is often used as an example of a phenomenon that cannot be adequately communicated with words -- making the use of images (even gestures) essential to comprehension.

However Armstrong explores the challenging experience of a spiral staircase in her development "out of darkness" over time:

I am trying to describe an experience that has nothing whatever to do with words or ideas and is not amenable to the logic of grammar and neat sentences that put things into an order that makes sense... It is as though a comforting veil of illusion has been ripped away and you see the world without form, without significance, purposeless, blind, trivial, spiteful and ugly to the core. T S Eliot describes something similar in gthe third poem of *Ash Wednesday*. He is climbing a spiral staircase, a mythical image of the 'ascent' of the mind and heart to spiritual enlightenment. But *At the first turning of the second stair* he sees a shape twisted into the bannister, surrounded by vaporous, foetid air, and he is forced to struggle with the *devil of the stairs*. He leaves these convoluted forms behind, and at the next turning finds only darkness: *Damp, jagged, like an old man's mouth drivelling, beyond repair. Or the toothed gullet of an aged shark*, the underbelly of consciousness that lurks in the basement of our minds. (p. 75)

The figure on any such spiral staircase (given the parallel to the screw conveyor) is of course appropriately named as *Screwtape* by C S Lewis (*The Screwtape Letters*, 1942). As Armstrong later notes with regard to Eliot's poem:

There was a complete and satisfying 'fit' between my inner and outer worlds. The poem, with its quiet, haunting accuracy, perfectly expressed my own state, and endorsed it, showing that I had... somehow stumbled upon a truth about the human consciousness and the way men and women work.... In the very first poem of the sequence... the verse constantly turns upon itself in repetition of word, image and sound. Repeatedly the poet tells us, *I do not hope to turn again*, and yet throughout the poem, he is doing just that, slowly ascending to one insight after another. And even though he insists that he has abandoned hope, I felt paradoxically encouraged. (p 164-5)

Whilst this is an admirable experiential account, it somehow seeks to design out the significance of what she elsewhere describes as the "ghost" on that spiral staircase. Emphasis is placed on overcoming the illusion of despair through discovery of appropriate hope -- however paradoxical.

The challenge may however lie in an overly simplistic understanding of the essentially "static" staircase metaphor -- as partially indicated by the challenge of understanding the "dynamics" of the screw conveyor and how it "works". Understanding it simplistically may indeed evoke encounters with "traffic" in the opposite direction -- "going downstairs". Any "ascent" of the mind and heart to spiritual enlightenment is then necessarily matched by the "descent" of forms of attachment variously imagined.

Armstrong herself equates the segregation she chose to undergo through her novitiate in a convent as a type of isolation central to rituals of initiation practiced in many cultures:

It is a process of death and resurrection: initiates die to their childhood and rise again to an entirely different life as mature human beings... The idea is that in these extreme circumstances, the young discover inner resources that will enable them to serve their people as fully functioning adults. The purpose... is thus to transform dependent children into responsible self-reliant adults... and if necessary to die in order to protect their people. (p 45)

Again the error may lie in focusing inappropriately on the nature of "enlightenment" when a more appropriate understanding is only achieved, paradoxically, "in the light" of "endarkenment" (*Enlightening Endarkenment selected web resources on the challenge to comprehension*, 2005). In relying on simplistic understanding of the spiral staircase metaphor to communicate the fundamental means of conveyance to greater insight, the nature of this "error" may best be highlighted by contrasting this pattern with that of the uncontestedly fundamental pattern of DNA (*DNA Supercoiling as a Pattern for Understanding Psycho-social Twistedness*, 2004 -- annex to *Engaging with Questions of Higher Order: cognitive vigilance required for higher degrees of twistedness*, 2004).

The features missing from the metaphor of the spiral staircase, or of the screw conveyor, are then more likely to be found in the structure and dynamics of the supercoiling of DNA as the conveyor *par excellence* of information across generations. The existentially challenging illusions may then be understood in terms of a misplaced "impossible fusion" of the two right spiralling strands of the DNA double-helix or its **conformations**. It is appropriate to note that the theory of *Spiral Dynamics* was based on the work of **Clare W. Graves** (*The Emergent, Cyclical, Double-Helix Model of the Adult Human Biopsychosocial Systems*, 1981).

Consistent with the complex spiraling of DNA is the **double spiral staircase** which might offer more appropriate "staircase" metaphors for spiritual development. A second helical staircase can indeed be interwoven with the first (as with DNA) -- as explored by both Leonardo da Vinci and M C Escher. It is a notable feature in the **Vatican Museum**, and at **Chambord**, allowing one person to ascend and another to descend without encountering (or even seeing) each other. It also features in one old English country house -- to ensure that residents and guests did not need to encounter servants. Perhaps more significant is the fact that fire escapes, though built with landings and straight runs of stairs, are often functionally double helixes, with two separate stairs intertwined.

The cognitively twisted nature of any illusions arising from inappropriate conflation would of course be even more appropriately represented by a combination of right- and left-spiraling "stairs" -- only possible in a space of more than three dimensions. It is perhaps such a pattern that characterizes the spiraling channels (*ida* and *pingala*) entwined around the spinal *sushumna* (discussed above), with their particular points of intersection, or by the **caduceus** of western tradition -- an example of the double spiral symbol common to many cultures.

Turning and turning in the widening gyre
The falcon cannot hear the falconer;
Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.

from W B Yeats (The Second Coming)

Conclusion

The point was made that it needs both "positive" and "negative" currents to illuminate a light bulb -- focusing on the "positive" as the source of light being indeed a mistake. Similarly it takes two of opposite gender to "make a baby" -- despite any unisex fantasies of either

sex. As a pattern of *The Unconscious Civilization* (1995) of John Ralston Saul, it is possible that the "one-sided" failure to recognize the larger system, in which dynamics described by the conveyor belt metaphor are embedded, can be crudely compared to the failure to recognize the role of women in history. This is exemplified by the title of the work of Elise Boulding (*The Underside of History: a view of women through time*, 1977).

The challenge to comprehension of "engulfing" dynamics is exemplified in a comment by the author of *I and Thou* (1923) in recognizing the role of myth -- as with the encompassing dynamic of the "world serpent" in various cultures. Martin Buber (*The Legend of Baal-Shem*, 1955) remarks:

All positive religion rests on an enormous simplification of the manifold and wildly engulfing forces that invade us: it is the subduing of the fullness of existence. All myth, in contrast, is the expression of the fullness of existence, its image, its sign; it drinks incessantly from the gushing fountain of life. Hence religion fights myth where it cannot absorb and incorporate it.... It is strange and wonderful to observe how in this battle religion ever again wins the apparent victory, myth ever again wins the real one.

It is myth that offers an understanding of complex relationships whose nature extends ambiguously far beyond any simplistic characterization as "positive" or "negative" (Joseph Campbell (*The Power of Myth*, 1988). Karen Armstrong (*A Short History of Myth*, 2005) addresses the curious status of myth in industrialized societies, its long-demonstrated functions:

Another peculiar characteristic of the human mind is its ability to have ideas and experiences that we cannot explain rationally.... imagination is the faculty that produces religion and mythology. Today mythical thinking has fallen into disrepute; we often dismiss it as irrational and self-indulgent. But the imagination is also the faculty that has enabled scientists to bring new knowledge to light and to invent technology that has made us immeasurably more effective.... Mythology and science both extend the scope of human beings. Like science and technology, mythology...is not about opting out of this world, but about enabling us to live more intensely within it..

Given the challenge of climate change to humanity and the planet, richer understanding of the complexities of the ocean conveyor is appropriate (cf. *Playfully Changing the Prevailing Climate of Opinion: climate change as focal metaphor of effective global governance*, 2005). Given the challenge to humanity of some form of faith-based "clash of civilizations", there is a case for a richer understanding of the relationships between the faiths and their respective psychodynamic roles -- especially in the light of efforts to communicate this role in terms of the conveyor belt metaphor. There is a possibility that the cognitive pattern required for a richer comprehension of the first may reinforce efforts to comprehend the second -- and *vice versa*. It may well be that through this pattern more appropriate and credible strategies can emerge for effective engagement with both -- the "light" may then finally shine. Similar conclusions may be drawn with respect to the dynamics of the market, to the experience of time, and especially with respect to the crucial challenge of population dynamics, as discussed above.

More generally it might be asked whether the conveyor metaphor (as misapplied) is an example of inappropriate conceptual "linearity", notably with respect to a dogmatic "line" of argument. Beyond male fascination with sexually attractive "curves", there is indeed a need to understand "curvature" and circularity -- as is evident in research on sustainable plasma containment as a future source of energy. Rather than being limited to spiritual development, more complex metaphors may offer insights into sustainable development of any kind.

It is appropriate that belief systems should be understood dynamically rather than statically -- especially in identifying more powerful metaphors for interfaith dialogue. Such systems may well come to be understood as evolving "currents of opinion" well-modelled in relation to each other by the ocean currents weaving together around the globe -- through mysterious transformations from one to the other beneath the surface of the sea. **There is even the possibility that the (inappropriately perceived) distinct segments of what is a moving global continuum of currents could fruitfully model the process relationship between "distinct" religions.** More generally there is some possibility that meteorological systems may be of requisite complexity to symbolize -- if not elegantly to model -- the mix of global and local decision-making processes (justifying the mnemonic wordplay of a complementarity between "weather" systems and "whether" systems !).

This approach focuses on the psycho-spiritual **dynamics** within Jorge Ferrer's "Ocean of Emancipation" -- rather than emphasizing some form of homogeneous (and essentially **static**) global or planetary consciousness. Perhaps this is a way of giving significance to the suggestion of Ashok K. Gangadean (*Awakening Global Consciousness: why it is vital for cultural sustainability*, *Kosmos: an integral approach to global awakening*, 3, 2; Spring/Summer 2004) that:

When we enter the integral space where diverse worldviews originate and meet we gain critical distance from the localized perspectives and new and astounding dynamics and global patterns across and between worldviews come into focus. We arrive at the deeper common ground that is the generative source of all worldviews.

*Is global communication enabled by
currents of feeling in an ocean of meaning
-- or is it currents of meaning in an ocean of feeling?
Or both?*

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