Misuse of the Potential of the Conveyor Metaphor: Recognition of the Circular Dynamic Essential to its Operation

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Abstract

The conveyor belt is used metaphorically in the light of the common experience of people conveyors. That experience 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. A comparison is made between the application of the metaphor to spiritual development and to an understanding of the operation of ocean conveyors – most notably the Gulf Stream. In both cases the impoverishment of the metaphor, as currently used, fails to reinforce an understanding of the vital circular dynamic (with its necessary transformative twists). These may be essential to more insightful strategic responses to situations, such as the drugs trade, where the metaphor may typically be used as a simplistic explanatory device -- reinforcing articulation of simplistic strategies.

Keywords: conveyor belt, metaphor, epistemology, Möbius strip, comprehension, spirituality, strategy, population dynamics, demography, circular time, interfaith relationships, ocean conveyor, Rainbow Serpent, Ouroboros, Armageddon, right of return, identity, religion.

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 (1980) of the implicit cognitive framing associated with common use of the "container" and "conduit" metaphors.

Conveyor Belt Metaphor

Ken Wilber (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 psycho-spiritual 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).

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 (1997). 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;
- the expression "global conveyor belt" has been applied to the movement of qualified health personnel from developing countries;
- the expression "conveyor belt artists" has been applied where too many graduates want to be famous artists without first learning their trade;
- a "conveyor belt" has been used to describe the process of recruiting and indoctrination of Christian Patriots;
- labour exploitation has been described in terms of the metaphor, as by Christa Wichterich (1998) whose chapter on 'The Global Conveyor-belt', looks at women's work in labour-intensive production. Also Amarjit Kaur (2000);
- the Director of the Center for Eurasian Policy of the Nixon Center, Zeyno Baran

(2004) asserted that Hizb ut-Tahrir, an international Islamist organization, is a "conveyor belt for radicalism and terrorism."

- Hans von Sponeck and Denis Halliday (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.

Cognitive "twist"

Curiously a form of non-linearity was in fact associated with some conveyor belts from the beginning of the industrial revolution. 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 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.

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"?

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. The metaphor is also employed with respect to the manner whereby space "weather" is brought to the planet by solar wind and to the manner in which sunspots are moved across the surface of the sun prior to erupting into solar storms.

The fundamental distinction from conventional "linear" thinking is however exemplified by the contrast between the "Gulf Stream" (readily described and under-

stood 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)

- Environmental Literacy Council, *The Great Ocean Conveyer Belt*, 2007
- Stefan Rahmstorf, *The Thermohaline Ocean Circulation*, 2003
- UNEP, *Great Ocean Conveyor Belt* (schematic)
- Detailed world map of *Ocean Currents* (enlargeable and zoomable)

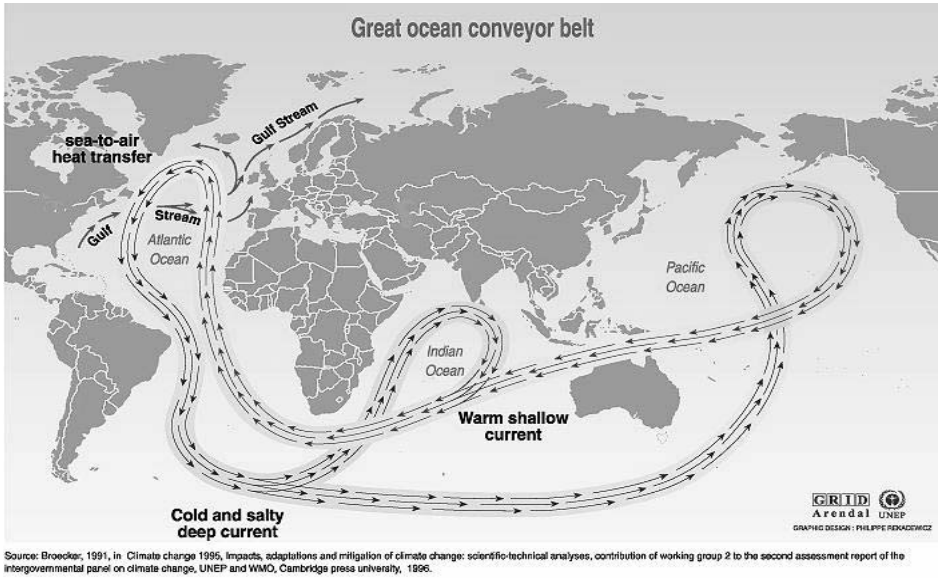

Figure 1. Great ocean conveyor belt (UNEP, Arendahl)

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). 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, 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.

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 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 up-going cabin after it had reached the top floor or in a down-going 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!

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.

Linear View of Time: another Conveyor Belt?

Citing Edward Hall (1983, pp. 78-9), Steve Randall (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 (1980), noting that time may be understood as a line or space moving past the observer like a conveyor belt or stream.

Randall has also explored other views of time. 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, 1999). G. F. Oster (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) Mark Jeantheau 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 (1998) with regard to the movement of species around the globe:

> *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 inadver-

tently or deliberately to ensure early fulfillment of various scriptural prophecies, as noted above.

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 (Delaney, 2003). 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 (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. 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 (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, 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"

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 (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 (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 pregiven 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". (1997, 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 (1991). It has been an important theme since the work of Alfred North Whitehead (1929) and Nicholas Rescher (1995), as exemplified by Michel Weber (2004).

The possible application of such a metaphor to religion is reinforced by the arguments of Harry Cleaver (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 (1997-98) 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 (1980, 1996, 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 (Anthony Judge, 1993a). Subsequently the Sigma Two Group (2003) developed graphs and charts 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 driv-

ers of the ocean currents within the global ocean conveyor. Ocean currents 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
- Ouroboros, as one of the oldest mythological symbols of circularity and continuity – of a snake biting its tail

These have been reviewed from an indigenous perspective by Jeremy Narby (1999).

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 (1999) 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 (Osmond, 2005). The challenges of such modelling have resulted in the generation of compact virtual reality models from the necessary supercomputers.

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. 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 (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.

As with any mandala-like construct, 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".

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

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 Zorastrianism; 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. 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.
- 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 (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:

Table 1
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 (Anthony Judge, 1993b). 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 (1988). Systemically, as complementary categories, the approach is also consistent with explorations by Anthony Judge regarding the coaction cardioid (2005a).. 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

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 (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 (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.

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, 2007; Anthony Judge, 2003, 2004). The dynamic of the *Gateless Gate*, which a hypersphere may be used to represent, 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"

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. 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, 1998). 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" (Judge, 2006a). 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, 2004).

A sense of sustainable "right of return" is also offered in the contrast between finite and infinite games made by James P. Carse (1986).

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. 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, 2006). Whilst conventional architecture is also recognized as an important "conveyor of identity" (Popescu, 2006), it is appropriate to ask what role knowledge architecture (on the web) may come to perform in this respect.

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"

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).

The relevance of a toroidal representation of these contrasting dynamics is also discussed elsewhere (Judge, 2006b), with the inclusion of a virtual reality model 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" (Stenger, 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

Kenneth Boulding (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)*

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" of John Ralston Saul (1997), 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 (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 (1955, p.11) 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 ambigously far beyond any simplistic characterization as "positive" or "negative" (Joseph Campbell (1988). Karen Armstrong (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 (Anthony Judge, 2005b). 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.

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 (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.*

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Notes

1. Additional web resources are indicated in the version of the article available at http://www.laetusinpraesens.org/musings/conveyor.php

References

Almeida, Jose B. (2004). An hypersphere model of the universe: the dismissal of dark matter. Retrieved May 2, 2007, from http://arxiv.org/abs/physics/0402075

Armstrong, Karen. (2005). *A short history of myth.* Melbourne: Canongate.

Atkin, Ron. (1977). *Combinatorial connectivities in social systems: An application of simplicial complex structures to the study of large organizations.* Base: Birkhäuser.

Atkin, Ron. (1981). *Multidimensional man: Can man live in 3-dimensional space?* London: Penguin.

Baran, Zeyno. (2004). *Hizb ut-Tahrir: Islam's political insurgency.* Washington, DC: The Nixon Center.

Boulding, Elise. (1977). *The underside of history: A view of women through time.* Boulder: Westview.

Boulding, Kenneth. (1978). *Ecodynamics: A new theory of societal evolution.* London: Sage.

Brown, Jason W. (1998). Foundations of cognitive metaphysics. *Process Studies, 21* (1-2).

Buber, Martin. (1923/1937). *Ich und Du / I and Thou.* Darmstadt: Wissenschaftliche Buchgesellschaft.

Buber, Martin. (1955). *The legend of Baal-Shem.* Princeton: Princeton University Press.

Buber, Martin. (1998).The goblet of grace: Hitlahavut as the key to life. *Parabola, 23* (2).

Campbell, Joseph. (1988). *The power of myth.* New York, Random House: Broadway

Carse, James P. (1986). *Finite and infinite games: A vision of life as play and possibility.* New York: Free Press

Cleary, Thomas. (Tr.) (1991). *The secret of the golden flower.* San Francisco: Harper.

Cleaver, Harry. (2006). Deep currents rising: some notes on the global challenge to capitalism. University of Texas.

David Suzuki Foundation. (2007). The great ocean conveyor: The Achilles heel of the climate system? Retrieved May 2, 2007, from http://www.davidsuzuki.org/Climate_Change/Science/Conveyor.asp

de Bono, Edward. (1991). *I am right-you are wrong: From rock logic to water logic.* London: Penguin.

de Gans, Henk A. (1999). *Population forecasting 1895-1945: The transition to modernity.* New York: Springer.

Delaney, David M. (2003). Overshoot in a nutshell (Malthus was an optimist). *Energy Bulletin,* Retrieved May 2, 2007 from http://www.energybulletin.net/4735.html

Diamond, Jared. (2005). *Collapse: How societies choose to fail or succeed.* New York: Viking.

Ferrer, Jorge Noguera. (2002). *Revisioning transpersonal theory: a participatory vision of human spirituality.* Albany: State University of New York Press.

Galtung, Johan. (1997-98). Religions, hard and soft. *Cross Currents, 47*(4).

Gangadean, Ashok K. (2004). Awakening global consciousness: Why it is vital for cultural sustainability. *Kosmos: an integral approach to global awakening, 3*(2).

Hall, Edward Twitchell. (1983). *The dance of life.* New York: Doubleday.

Hartmann, Silvia. (2003). Thought flow technique instructions. Retrieved May 2, 2007, from http://sidereus.org/main/article.php?sid=134

Hesse, Hermann. (1930). *Narcissus and Goldmund.* London: Peter Owen.

Hofstede, Geert. (1980). *Culture's consequences: International differences in work-related values.* Beverly Hills, CA: Sage.

Hofstede, Geert. (2003). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations.* Beverly Hills, CA: Sage.

Hofstede, Geert. (2004). *Cultures and organizations: software of the mind – intercultural cooperation and its importance for survival.* New York: McGraw-Hill.

Ionta, Matteo (2006). Nation building: A literature review. *Regional media and identity in Sardinia*, (ch II.4). Retrieved May 2, 2007, from http://www.sotziulimbasarda.net/novembre2006/RegionalMedia.pdf

Judge, Anthony. (1993a). Facilitation in a cross-cultural environment. Retrieved May 2, 2007, from http://www.laetusinpraesens.org/docs/conftran/xfacil.php

Judge, Anthony. (1993b). Systems of categories distinguishing cultural biases. Retrieved May 2, 2007, from http://www.laetusinpraesens.org/docs/cultcat.php

Judge, Anthony. (2003). Hyperspace clues to the psychology of the pattern that connects. Retrieved May 2, 2007, from http://www.laetusinpraesens.org/docs00s/taote5.php

Judge, Anthony. (2004). Engaging macrohistory through the present moment. *Journal of Futures Studies: epistemology, methods, applied and alternative futures, 9*(1), 3-12.

Judge, Anthony. (2005a). Cardioid attractor fundamental to sustainability: 8 transactional games forming the heart of sustainable relationship. Retrieved May 2, 2007, from http://www.laetusinpraesens.org/docs00s/cardioid.php

Judge, Anthony. (2005b). Playfully changing the prevailing climate of opinion: Climate change as focal metaphor of effective global governance. Retrieved May 2, 2007, from http://www.laetusinpraesens.org/musings/climate.php

Judge, Anthony. (2006a). Enactivating a cognitive fusion reactor: Imaginal transformation of energy resourcing (ITER-8). Retrieved May 2, 2007, from http://www.laetusinpraesens.org/iter/iter8.php

Judge, Anthony. (2006b). Comprehension of requisite variety for sustainable psychosocial dynamics: Transforming a matrix classification onto intertwined tori. Retrieved May 2, 2007, from http://www.laetusinpraesens.org/musings/torus.php

Kaur, Amarjit. (2000). Working on the global conveyor belt: Women workers in industrialising Malaysia. *Asian Studies Review, 24*(2), pp. 213-230(18).

Lakoff, George & Mark Johnson. (1980). *Metaphors we live by.* Chicago: University of Chicago Press.

McNeil, Donald H. (2004). What's going on with the toplogy of recursion? *S.E.E.D. Journal: Semiotics, Evolution, Energy, and Development, 4*(1).

Mushakoji, Kinhide. (1988). *Global issues and interparadigmatic dialogue.* Torino: Albert Meynier.

Narby, Jeremy. (1999). *The cosmic serpent: DNA and the origins of knowledge.* London: Phoenix Press.

Osmond, Karen (2005). Final report: Parallel interactive scalable visualisation of ocean currents. Retrieved May 2, 2007, from http://www.doc.ic.ac.uk/~klo01/klo01-finalrpt-05.pdf

Oster, George F. (1974). A Simple Analog for Teaching Demographic Concepts. *BioScience, 24*(4), pp. 212-213

Pickover, Clifford A. (2006). *The Mobius strip: Dr. August Möbius's marvelous band in mathematics, games, literature, art, technology, and cosmology.* New York: Thunder's Mouth Press.

Popescu, Carmen. (2006). Space, time: Identity. *National Identities, 8*(3), 189-206.

Quinn, Matthew. (2005). Automatic illustration of ocean currents. Skidmore College, Thesis: Master of Science in Computer Science

Rahmstorf, Stefan. (2003). The thermohaline ocean circulation: a brief fact sheet. *Potsdam Institute for Climate Impact Research.*

Randall, Steve. (1996). Linear time: The cultural 'Norm'. Retrieved May 2, 2007, from, http://members.aol.com/rslts/linear.html

Rescher, Nicholas.(1995). *Process metaphysics: An introduction to process philosophy.* New York: State University of New York Press.

Saul, John Ralston. (1995). *The unconscious civilization.* Toronto: House of Anansi Press.

Sigma Two Group. (2003). Geert Hofstede dimensions by predominant religion. Retrieved May 2, 2007, from. http://www.geert-hofstede.com/hofstede_resources/hofstede_religion_1.shtml

Stenger, Victor J. (2001). The Breath of God: identifying spiritual energy. In: Paul Kurtz (Ed.), *Skeptical odysseys* (pp. 363-74). Amherst New York: Prometheus Books.

von Sponeck, Hans & Denis Halliday. (2001). A 'new' Iraq policy: what about international law and compassion? Canadian Network to End Sanctions on Iraq. Retrieved May 2, 2007, from http://canesi.org/Engl/vonsponeck.html

Trungpa, Chogyam. (1973). *Cutting Through Spiritual Materialism.* Boulder: Shambhala.

Weber, Michel (Ed). (2004). *After Whitehead: Rescher on process.* Franfurt: Ontos Verlag .

Whitehead, Alfred North. (1929). *Process and reality: An essay in cosmology.* Free Press.

Whitlock, Greg. (1995). Digging into science: Archaeoastronomy in a multicultural science curriculum. *Mercury*, July/August.

Wichterich, Christa. (1998/2000). The globalized woman: Reports from a future of inequality. Melbourne: Spinifex Press. Retrieved May 2, 2007, from http://www-english.tamu.edu/pers/fac/andreadis/474H_ahapw/Rev._Globalized%20Woman_.html

Wilber, Ken. (1997). An integral theory of consciousness. *Journal of Consciousness Studies, 4* (1), 71-92.

Wilber, Ken. (1997). *Integral spirituality: A startling new role for religion in the modern and postmodern world.* Boulder: Shambhala. (Chapter 9: The Conveyor Belt)

World Resources Institute. (1998). A biological conveyor belt. Retrieved May 2, 2007, from http://pubs.wri.org/pubs_content_text.cfm?ContentID=1533

Wolfreys, Julian. (2007). The reiterable circularity of being: Poetics, selfhood, and the singular witness that is "I". *Parrhesia*, 2, 79-88.