20th June 2012 | Draft

Exploring the Hidden Mysteries of Oxfam's Doughnut

Recognizing the systemic negligence of an Earth Summit

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Introduction

Oxfam has released a discussion paper produced by Kate Raworth (*A Safe and Just Space for Humanity: can we live within the doughnut?*, Oxfam, February 2012). The paper presents a single visual framework - shaped like a doughnut - that represents a space within which humanity can thrive. This doughnut-like area is defined by combining the much-debated set of 9 "planetary boundaries" with a new set of 11 social boundaries, based on the 11 dimensions of human deprivation that emerged from the issues raised by governments in their Rio+20 submissions.

The nine Earth-System boundaries are associated with nine natural processes - including the freshwater cycle, climate regulation, and the nitrogen cycle - which are critical for keeping the planet in the stable state that has allowed civilizations to arise and thrive over the past 10,000 years. The area within the nine Earth-system boundaries was called "a safe operating space for humanity". This has been widely recognized as a powerful means of giving comprehensible visual focus to the limits that conventional growth economics is widely acknowledged to have failed to recognize.

For Oxfam, however, something critical is still missing from this representation. This "safe operating space" may serve to protect the environment, but it speaks little to the millions of people living in extreme poverty.

As Raworth notes, the concept of social boundaries therefore needs to be added to the picture. Just as there is an environmental ceiling of resource use, above which lies unacceptable environmental degradation, so too there is a social foundation of resource use, below which lies unacceptable human deprivation including hunger, ill-health, income poverty and energy poverty. Resource use has both an environmental ceiling and a social foundation, below which lies deprivation, but the doughnut-shaped space between the two demands attention. This "doughnut" is understood as bringing fresh meaning to the idea of sustainable development, because pictures have the power to reshape the way we think. The simple image of planetary boundaries and social boundaries is seen as a neat way of articulating a goal for 21st-century prosperity: meeting everyone's human rights within the planet's critical natural thresholds (Kate Raworth, *The doughnut can help Rio+20 see sustainable development in the round*, *The Guardian*, 16 June 2012). The "doughnut" framework has been endorsed by various NGOs and is now the focus of a new blog to encourage debate on "Doughnut Economics".

In its focus on a visual framework, the Oxfam doughnut contrasts markedly with the report to the Earth Summit of the UN Secretary General's High Level Panel on Global Sustainability (*Resilient People, Resilient Planet: A Future Worth Choosing*, 2012) -- which proved

unable to embody its comprehensive vision in any visualization of significance.

In the spirit of recognizing both the value of a visual representation and what was missing from the environmental boundaries, the following is an exploration of the limitations of both the doughnut form and what is missing from the social dimensions it currently incorporates. As noted both with respect to Earth-System planetary boundaries and the Earth Summit preoccupations added by Oxfam, the concern is now how any significant political action is to be engendered -- hopefully at the Earth Summit in Rio de Janeiro at this time. In that respect there is widespread recognition of the inadequacies of outcomes of past Earth Summits and significant concern at the probability of major inadequacies as a consequence of the current event (Richard Black, *Uncertainty Hampers Rio+20 Talks*, *BBC News*, 16 June 2012).

It was for this reason that a previous comment on the Earth-System boundaries resulted in a focus on the "boundaries" to any effective political action (*Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity*, 2009). However the concern here with what might be "missing" from a "doughnut" representation goes further. The question, notably highlighted by the current global financial crisis, is **how "thoughtlessness" is to be appropriately associated with a "doughnut" form** -- if only in ignoring factors which inhibit strategic action. To what extent is global civilization effectively "unconscious", as suggested by John Ralston Saul (*The Unconscious Civilization*, 1995) -- or constrained in the application of its ingenuity, as argued Thomas Homer-Dixon (*The Ingenuity Gap*, 2000)?

From such a perspective is there some kind of "cognitive hole" which undermines the ability for coherent political action, as previously discussed (*Unthought as Cognitive Foundation of Global Civilization*, 2012)? The Oxfam report specifically attributes "critical human deprivations" to the central hole of the doughnut. The question explored further here is whether these "deprivations" have a cognitive dimension associated with thoughtlessness, carelessness and negligence.

Is there a danger that the Earth-System focus on a "a safe operating space for humanity" and the doughnut focus on a "a safe and just space for humanity" simply ensure together a space for modes of behaviour which are inherently unsustainable -- but to which the doughnut form fails to draw attention in the more comprehensive overview it offers? **What vital significance might be attributed to the hole in the doughnut** with respect to effective strategic action -- and the assiduous avoidance of its consideration?

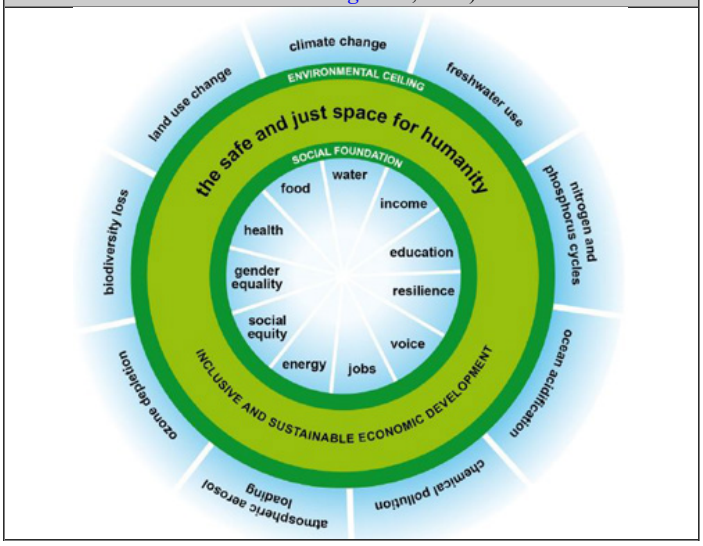
Visual representations of the challenge of sustainability

As noted above, the report to the Earth Summit of the UN Secretary General's High Level Panel on Global Sustainability (*Resilient People, Resilient Planet: A Future Worth Choosing*, 2012) proved unable to embody its "vision" in a comprehensive "visualization" despite the emphasis placed on choosing such a vision for the future:

> Our mission as a Panel was to reflect on and formulate a new vision for sustainable growth and prosperity, along with mechanisms for achieving it.... People are at the centre of our vision of sustainable development.

In a global civilization of many languages, it might be assumed that visualization offered a device to ensure the communicability of any vision around the world and to sectors of society variously resistant to text. As noted above, this contrasts markedly with the visual framework central to the Oxfam presentation -- the doughnut represented as follows. Although the Oxfam report refers to the diagram as a "compass", in enabling the strategic vision implied by the UN Panel report, it might also be understood as having the functions of an "eye" -- a metaphor explored further below.

Oxfam Doughnut
(from Kate Raworth, *A Safe and Just Space for Humanity: can we live within the doughnut?*, 2012).



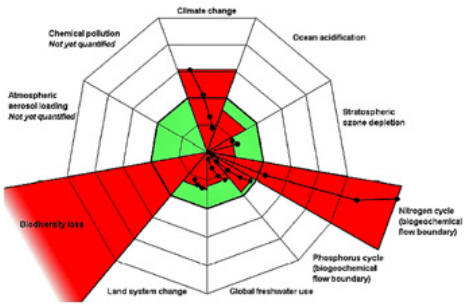
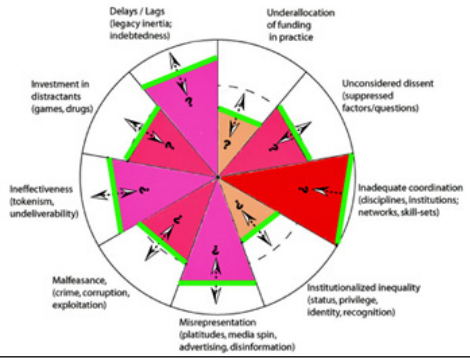
The doughnut framework above helpfully clarifies **what people "want"** -- how they would like the system to be, if only appropriate action could be taken. **It does not attempt to indicate why that action is unlikely to be taken in the light of past articulations of the challenge**. Especially questionable in the above diagram is the manner in which the desirable space for humanity is visually confined to a circular track -- or perhaps a tube, when understood in three-dimensional doughnut form. The image elegantly offers an

"enlightened" central focus -- but without indicating what might be mysteriously hidden in that "hole" as characteristic of that "enlightenment", although confusedly it associates that hole with "critical human deprivations". The challenge for the deprived is then framed as one of getting out of the "hole" and into the circular track.

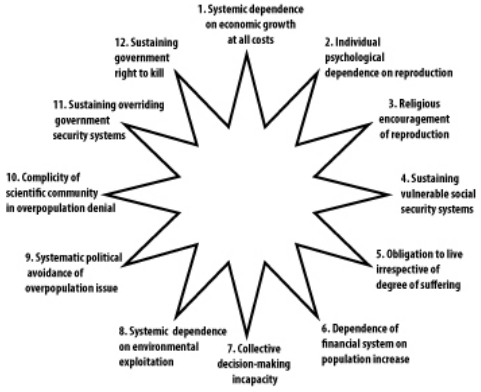
Strangely, although implying three-dimensionality, the doughnut resembles more closely a racetrack circuit -- with natural scientists in the observational stands on the outside and social scientists on the inside, and neither able to cross the track around which the population is speeding. As a tube, **the doughnut suggests a tunnel of avoidance and denial with those within encouraged to avoid any contact with its boundaries** (a design requirement discussed below with respect to sourcing energy from a toroidal nuclear fusion reactor).

Especially questionable, in the light of the following argument, is the manner in which the doughnut reinforces a "positive thinking" trap by implying that failure to ensure the safe place is the responsibility of others (as discussed below). The possible nature of any failure of coordinated response, omitted from the image, then ensures that any "negativity" can be safely associated solely with those others -- from which humanity's "good guys" are somehow assumed to be safely dissociated.

The following pair of images use the pattern of "planetary boundaries" as a means of identifying a pattern of factors which inhibit remedial action. This pattern applies as much to the Earth-System boundaries as to the "social boundaries" highlighted in the image above in the doughnut framework.

Contrasting the Earth-System boundaries with the boundaries of Remedial Action capacity (from *Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity*, 2009)	
Nine planetary boundaries (from *Planetary Boundaries: exploring the safe operating space for humanity*, 2009) [click image for enlargement]	**Nine remedial capacity boundaries** using the representational pattern of the *Planetary Boundaries* (from 2009) [click image for enlargement]
	

The question is then how to enable recognition of the functions so systemically ignored, remembering that denial of their relevance is a significant factor in the inability to address them effectively. The following images endeavour -- circumspectly, as is required by their nature -- to indicate the central location of a form of "cognitive hole" whose recognition is systematically avoided. That might be said to be its primary characteristic within an "unconscious civilization", as further explored below.

Towards identifying an underlying central function of systemic negligence (from *Scientific Gerrymandering of Boundaries of Overpopulation Debate Review of The Royal Society report -- People and the Planet*, 2012)	
Mapping neglected systemic interdependencies (from *Map of Systemic Interdependencies None Dares Name*, 2011) [click image for enlargement]	**Mapping a neglected "global underground"** (from *Mapping the Global Underground*, 2010) [click image for enlargement]
	

Thoughtlessness and carelessness within humanity's comfort zone

As noted above, the global financial crisis could be seen as a consequence of "thoughtlessness" -- an absence of cognitive vigilance

characterized by "carelessness", evident both in the tendency to "live beyond means" and the inability of governance to recognize and address that tendency. This is considerably exacerbated by the complicity of various disciplines and professions. A play on words might suggest an even more fundamental tendency, namely to "live beyond what is meaningful".

The doughnut framework does little to clarify this tendency, since it focuses on what is wanted without taking into consideration what so demonstrably undermines the achievement of those desires. Worse still, it fails to recognize how there are behaviours and attitudes associated with the "safe space" which ensure that humanity engages in forms of "behaviour-as-usual", undermining the viability of that space -- and rendering the system unstable to the extent they are achieved. The message is: **the space is what we want, provided it allows us to behave as usual**. The space might be caricatured as what would ensure human contentedness were humans to be managed (if not "farmed") by an apparently benevolent system of governance -- unencumbered by the contentiousness characteristic of democratic processes.

The challenge of taking on board the consequences of this behaviour are relegated to some other realm of responsibility -- preferably to be ignored, denied or disputed, as in the past. The doughnut therefore embodies a paradox of contradictions -- exemplified by the strategic dilemmas which characterize any Earth Summit in quest of "sustainable development". The space might be understood as the "comfort zone" of humanity, without suggesting the nature of the challenges in moving outside it. Where does necessary discomfort fit in -- beyond wanting it all, and wanting it now?

The dilemma is well-articulated by current concerns with ensuring bailouts for economies that have been based on thoughtless strategies ensuring carelessness. Little is said specifically about how behaviours could, would, or need to be changed subsequent to such bailouts -- and whether this change would be considered acceptable, or as an infringement on those behaviours which would replicate the problem.

If there are to be necessary constraints, then how are they to be enabled, especially if acknowledgement of the behaviours is avoided? If these call for challenges to comprehension, then how are these to be recognized?

Identifying dimensions of thoughtlessness: nature of the "cognitive hole"?

The doughnut is of course most valuable in complexifying the far more simplistic portrayal of tangible "planetary boundaries". It explicitly extends the 9 "dimensions" characteristic of those boundaries by the addition of a further 11 to whose intangible nature environmental scientists are entirely insensible. With physicists exploring the need for defining the universe in terms of 26 "dimensions" of an emergent Theory of Everything, it might be asked whether more "dimensions" are necessary for an adequate comprehension of sustainability. Perhaps a further 9, or even 12, to incorporate the constraints on remedial action noted above? A strategy for global sustainable development should surely be considered comparable to a Theory of Everthing from a governance perspective.

Operational feasibility of remedial action: The doughnut model offers an enhanced degree of comprehensibility. However **the visual integration of needs does not endeavour to highlight issues of operational feasibility**. It is noteworthy that, whether tangible or intangible, the "dimensions" identified tend to be the preoccupation of particular intergovernmental institutions, government departments and disciplines, all of which have long been challenged to articulate, coordinate and sustain integrative initiatives. This is as likely to be true at the local level and for individuals. A valuable articulation of the challenge in relation to a "hole" in communication space has been formulated in mathematical terms by Ron Atkin (*Multidimensional Man; can man live in 3-dimensional space?* 1981) as separately discussed (*Social organization determined by incommunicability of insights*, 1995)

Following the earlier argument (*Unthought as Cognitive Foundation of Global Civilization*, 2012), what might be some of the necessarily uncomfortable dimensions of the "cognitive hole" which suggest the need for a more complex visual representation of the challenge?

"Orifices": The toroidal form of the doughnut is remarkably suggestive of the physiology of the simpler animals. The central hole of the doughnut is then reminiscent of the digestive tract. The "orifice" on one side then serves for ingestion and that on the other side for ejection of waste -- although the Oxfam doughnut does not invite interpretation as to the significance of its underside. However these orifices can also be recognized as intimately associated with other psychosocial functions -- raising the question as to whether these are together indicative of unconscious functions missing from the Oxfam articulation:

.	Functions	Tangibles		Intangibles	
		Biological	Artefacts	Information	Knowledge
"Upper" orifice	over-consumption (resources)	food (obesity, malnutrition)	products (non-renewable resources)	information, entertainment, credit, "lies", "spin"	skills, learning, wisdom
	over-production	emissions	words (information overload)	information, entertainment, "hot air", "lies", "spin"	skills, learning, wisdom
"Lower" orifice	production	waste, CO2 emissions	waste and its disposal) (food, packaging, broken, etc)	information waste? information effluvia?	useless knowledge?
	consumption	pleasure (hedonism, etc)	progeny (overpopulation)	derivative ideas? factoids?	fantasies?

Fourfold "orifice" for the doughnut? Given the temporal implications of thoughtlessness, it is possible that a useful clustering of the fundamental dimensions characterizing the cognitive hole could be as follows:

- ***thoughtless borrowing from future generations***, as is especially evident through bailout schemes from the pockets of taxpayers, effectively enslaved through debt bondage over decades to come. This cluster could be extended to include the exploitation of

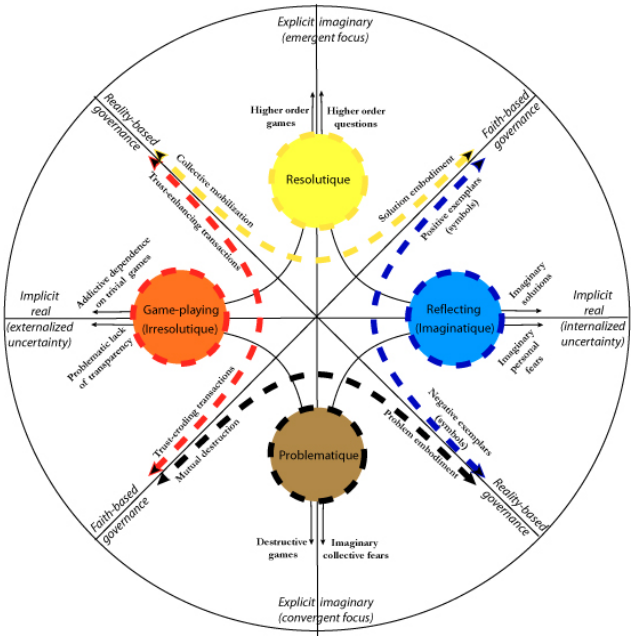
non-renewable resources. It could also include the pattern of restrictive intellectual copyright ensuring that present innovation continues to be rewarded by the future at all costs, irrespective of any urgent needs for creative insights.

- ***thoughtless wasting of the future***, in the sense of both laying waste to the natural environment and depositing unprocessed waste wherever possible -- basically "polluting the future" or "trashing the future". This cluster could be extended to include the wastage of opportunities to respond in a more creative, timely and proactive manner to challenges foreseen and unforeseen
- ***thoughtless multiplication of quantitative challenges***, in the sense of ill-considered encouragement of population increase and the corresponding difficulties of governance faced with too much to manage and systemic vulnerability to destabilization. This cluster could be extended to include the exponential explosion of information and the limited capacity to process it through overloaded channels of interpretation of significance. The cluster is well exemplified by the backlogs of unprocessed legal cases in many jurisdictions and the associated issue of overloaded prison facilities.
- ***thoughtless multiplication of qualitative challenges***, in the sense of the multiplication of worldviews seeking expression, variously endeavouring to convince others of the unique merits of their particular perspective -- and thereby undermining any possibility of the emergence of coherent patterns of governance. The cluster is exemplified by the unfruitful nature of debate on controversial issues from which "consensus" is naively hoped to emerge. Irrespective of the number of religions and political ideologies, this cluster is perhaps caricatured by:
    - the number of "doctors" purportedly having capacity to "fix" the world
    - the number of "professors" purportedly professing insights into how the world might be fixed
    - the number of "leaders" purportedly enabling the emergence of strategic coherence
    - the number of specialists in dialogue processes purportedly offering skills to reconcile any differences in perspectives

Complexity: There is no lack of acknowledgement that the challenge is complex. It might then be asked how recognition of complex system dynamics and the challenges of its comprehension are integrated into the Oxfam doughnut. One approach to the non-linearity of such complexity is expressed in the following diagram in which the above four dimensions could be related to an extension of the Club of Rome recognition of a "problematique" and a "resolutique" -- to include an "irresolutique" and an "imaginatique", giving the following potential associations:

- ***thoughtless borrowing***, understood as gambling with the future, namely a form of "irresolutique" ("fiddling while Rome burns")
- ***thoughtless wasting***, understood as inadequate recognition of the implications of the long-anticipated "crisis of crises", namely the "problematique"
- ***thoughtless strategic initiatives***, namely asystemic undertakings jeopardized by increasingly quantitative complexity, namely the "resolutique"
- ***thoughtless engagement with variously imagined conflicting worldviews***, variously seeking dominance, namely the "imaginatique"

Interrelating problematique, resolutique, "imaginatique" and "irresolutique" (tentative)
(from *Imagining the Real Challenge and Realizing the Imaginal Pathway of Sustainable Transformation*, 2007)



The structure and labels can be most fruitfully understood as evoking "**questions**" rather than as indicative of closure on a definitive pattern of "**answers**". For example it raises issues of how seemingly "positive" or "negative" qualities are best reflected therein -- especially as valued by mutually opposed constituencies -- and to what extent these may be otherwise understood. Similarly to what extent does "reality" depend on prior "imagination" for it to exist, whether within a "faith-based" or a "reality-based" commitment?

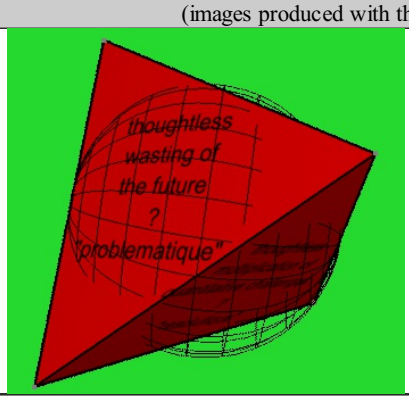
Configuration containing a "cognitive hole" of thoughtlessness within the Oxfam

doughnut

The concern here is what visualization might help to comprehend the inherently incomprehensible nature of any "cognitive hole". This follows from previous explorations (*Engaging with the Inexplicable, the Incomprehensible and the Unexpected*, 2010; *Unthought as Cognitive Foundation of Global Civilization: implications of God, debt, overpopulation, waste, negligence, encroachment and death?* 2012; *Way Round Cognitive Ground Zero and Pointlessness? Embodying the Geometry of Fundamental Cognitive Dynamics*, 2012).

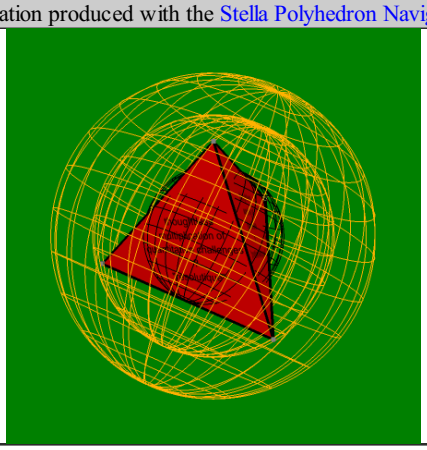
Tetrahedral container: In the following visual experiments the four aspects of thoughtlessness (above) are mapped onto a tetrahedron: borrowing ("irresolutique"), wasting ("problematique"), asystemic strategic initiatives ("resolutique"), and competitively conflicting worldviews ("imaginatique"). Each offers a form of gateway to the underlying and inaccessible complex "cognitive hole" variously "buried" within the tetrahedron and contained by it -- represented here by an inner sphere.

Alternative representations of a central magma of thoughtlessness within a fourfold set of gateways
(images produced with the Stella Polyhedron Navigator)



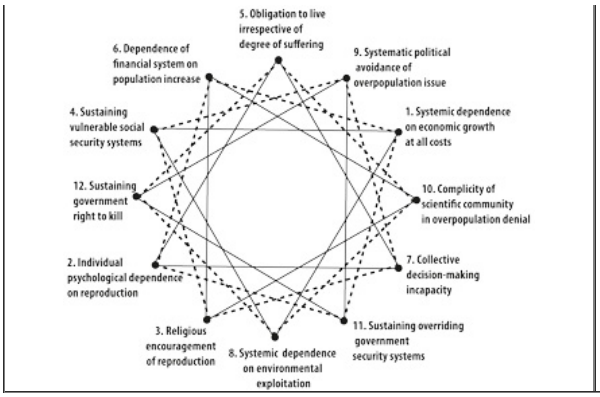
The visual argument can be taken further in relation to the Oxfam doughnut by assuming that the tetrahedral gateway is embedded within two concentric spheres -- treating the inner social boundaries of the doughnut as denoted by the sphere touched by the tetrahedron vertices and the outer planetary boundaries by the outermost sphere. The circular band of the (flattened) doughnut now takes the form of the space between these outer concentric spheres as the safe space for humanity. An innermost third sphere continues to represent the unconscious "cognitive magma" underlying the "conscious crust". Together these three spheres are tentatively represented in the following animation.

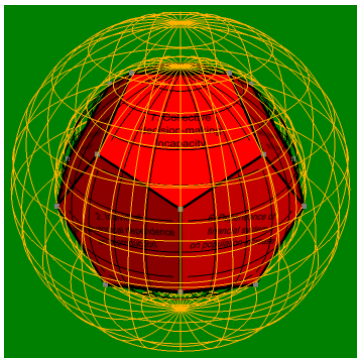
Transformation of flattened Oxfam doughnut into concentric spheres
within which is a thoughtless/unconscious magma
(animation produced with the Stella Polyhedron Navigator)



Dodecahedral container: An alternative approach to configuring "gateways of thoughtlessness" to the unconscious "cognitive magma" is to use the 12-fold articulation of factors above and project them onto a 12-faced dodecahedron as in the following image.

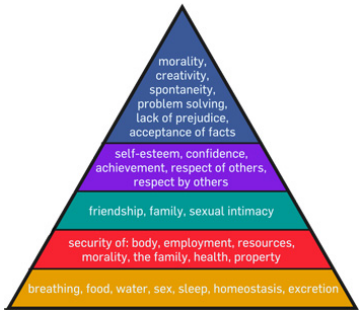
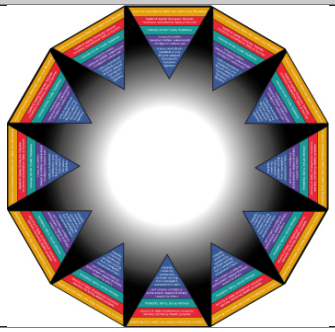
Mapping of 12 interrelated problematic system functions in 2 and 3 dimensions
(from *Map of Systemic Interdependencies None Dares Name*, 2011)
[click image for enlargement]





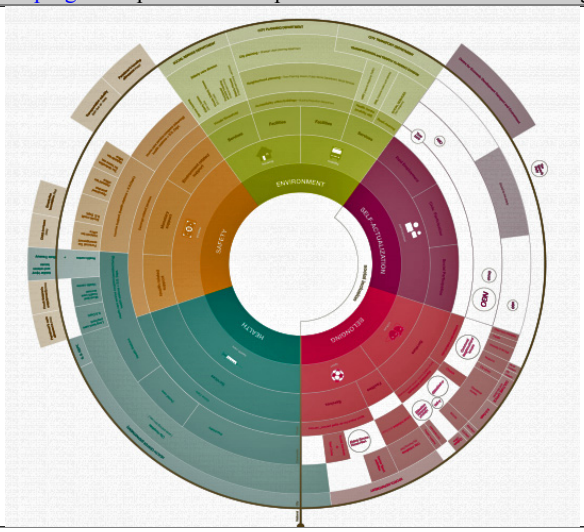
Toroidal need hierarchy: Another approach to giving a sense of the nature of the cognitive hole at the centre of the Oxfam doughnut is to recognize the extent to which there is a transition from the physical boundaries, through the social boundaries to what is implied towards the centre by psychosocial and cognitive functions. This could be recognized as a "hierarchy" of concentric bands from the tangible to the subtle and existential -- which are reflected to a degree in the classical hierarchy of needs by Abraham Maslow, as represented below (although these **do not specifically include the natural system boundaries** which are the preoccupation of environmentalists).

The circular image below endeavours again to highlight the ambiguity which the central "hole" implies, whether as thoughtlessness (in its problematic sense) or mindlessness (as the subtlest aspiration of spiritual development). As before the use of black may imply negativity or vigilant critical thinking (perhaps to be understood as mindfulness), with white indicative of their absence. The black and white together are indicative of the unknown, whatever its nature.

Association of Maslow's Need Hierarchy with the Oxfam doughnut	
Typical representation of the Need Hierarchy (image reproduced from *Wikipedia*)	12-fold polygonal replication of Maslow's hierarchy in emulation of the form of the Oxfam doughnut
	

Suggestively consistent -- to a degree -- with the visualization on the right above, is the following experimental design prepared by the Helsinki Design Lab starting with Maslow's Hierarchy of needs in one dimension and the different scales of activity and support by a **torus of different actors** -- from private, to city, to national -- in another dimension. The focus was on ageing as an issue interweaving health and social concerns, including environment, isolation, mobility, and independence. The nature of the challenge exists somewhere at the intersection of these many issues. The following map endeavours to relate the key actors to the issues.

Mapping issues and organizations concerned with ageing in Helsinki
(a work in progress reproduced with permission from the Helsinki Design Lab)

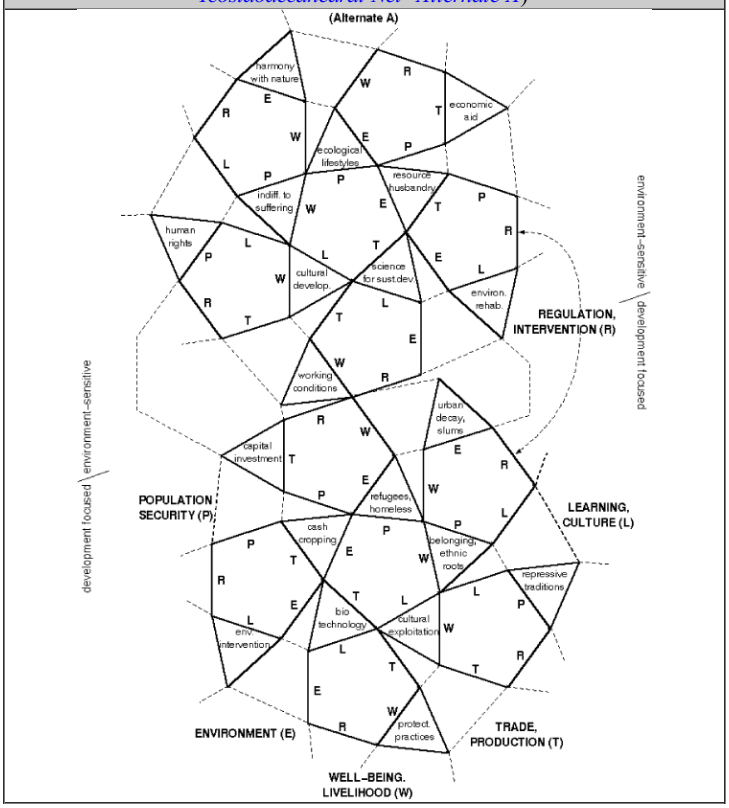


Configuration of inter-sectoral strategic dilemmas of sustainability

There is a degree of familiarity with the use of distinct mappings of the Earth -- termed map projections (see *List of map projections* in *Wikipedia*). These enable a form in three dimensions -- the globe -- to be represented in two dimensions, as a flat map necessitating designed distortions of known implications. The Oxfam doughnut could be understood as one such projection of the multidimensional complex of strategic issues with which humanity is confronted on the Earth -- and with which the Earth Summit is endeavouring to deal.

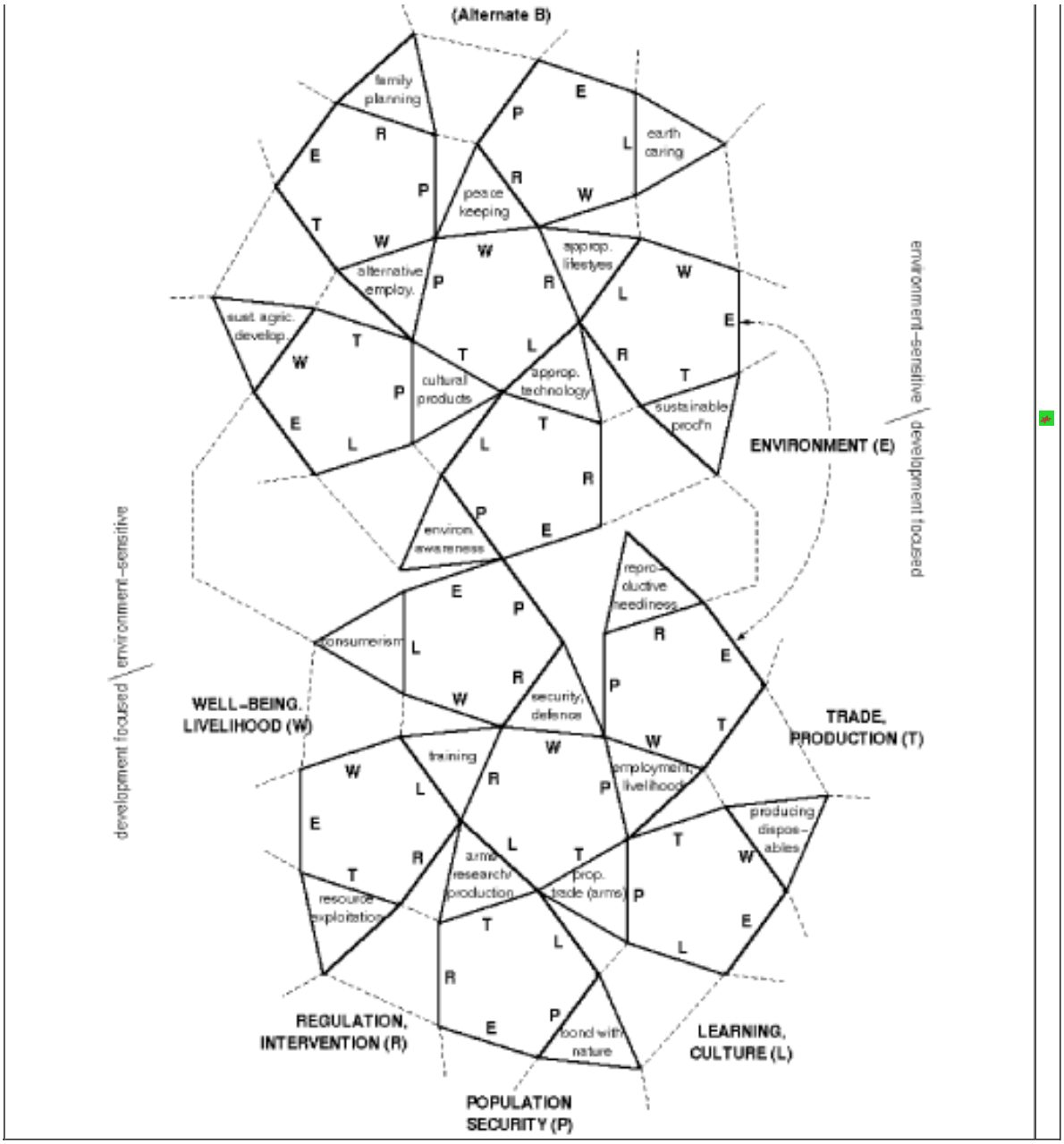
Icosidodecahedral container: On the occasion of the 1992 Earth Summit an effort was also made to configure those issues into a three-dimensional form, as described separately (*Configuring Globally and Contending Locally: shaping the global network of local bargains by decoding and mapping Earth Summit inter-sectoral issues*, 1992). The tentative representation of inter-sectoral dilemmas of sustainable development took the form of the following pattern (derived from based a detailed table, with commentary).

Configuration of inter-sectoral strategic dilemmas characteristic of Earth Summit debate (Alternative A)
(based on a set of dilemmas of sustainable development identified on the occasion of the 1992 Earth Summit; note the alternative variant of the pattern presented below -- and the folding of either into a spherical form.
Reproduced from larger version in *Representation of Issue Arenas on Icosidodecahedral Net -Alternate A*)



The above layout as a two-dimensional network is helpful in suggesting the different negotiating arenas between combinations of "conflicting" strategic preoccupations -- in the form of polygons. Note the alternative variant of the above layout in the left-hand image below. The challenge is how to configure the dialogue arenas together to form an integrative whole -- as suggested by folding the network into spherical form. This process is partly clarified in the right-hand panel below in which the "negotiating arenas" are distinctively coloured in the animation [produced with the Stella Polyhedron Navigator].

Configuration of inter-sectoral strategic dilemmas characteristic of Earth Summit debate (Alternative B)
(based on a set of dilemmas of sustainable development identified on the occasion of the 1992 Earth Summit; note the alternative variant of the pattern presented above -- and the folding of either into a spherical form.
Reproduced from larger version in *Representation of Issue Arenas on Icosidodecahedral Net -Alternate B*)



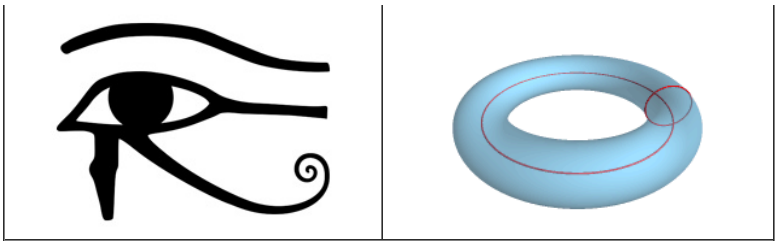
Use of polyhedral forms as a key to integrative governance is discussed separately (*Towards Polyhedral Global Governance: complexifying oversimplistic strategic metaphors*, 2008; *Polyhedral Empowerment of Networks through Symmetry: psycho-social implications for organization and global governance*, 2008). A suggestive pointer in this direction is offered by the *Dymaxion Map* of R. Buckminster Fuller, author of *Operating Manual for Spaceship Earth* (1969).

Recognition of the Oxfam doughnut as a strategic "eye" for the "vision" of governance

The question is whether collective learning is effectively forcing a progressive convergence on ever more coherent mappings, and the transformations between them -- as being able to hold ever higher orders of systemic complexity and to ensure their comprehensibility. As with map "projections" of the physical globe, the purpose in presenting the following images is to suggest memorable "lenses" through which various perspectives on the challenge might be understood, as separately suggested (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007).

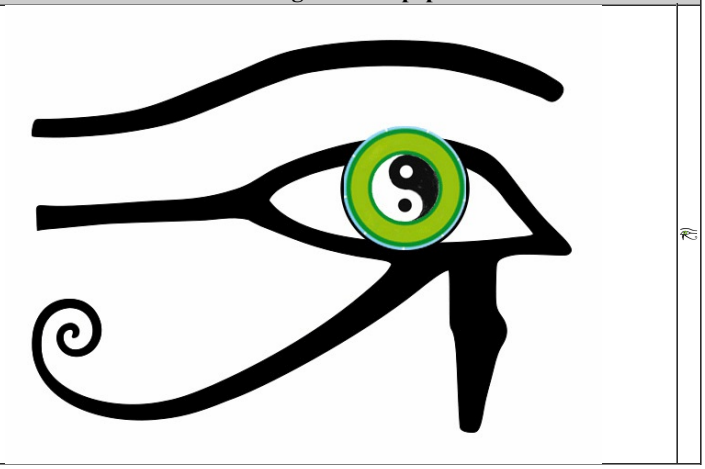
Strategic vision and the implied "eye": It is appropriate to note that the Oxfam doughnut can also be seen as a lens, if not an eye -- perhaps appropriately reminiscent of the Eye of Horus of Egyptian tradition, especially in the light of its symbolic importance in that era. Through civilizations lasting many more centuries than those of current times, that eye was used as an indication of attributes of what would now be understood as proactively appropriate governance -- extending into the Greek and Roman era as the uraeus. Its traditional relationship to the colour green offers a further association to the representational experiment below.

Eye of Horus	Animation of torus-sphere transformation
Images reproduced from *Wikipedia*	



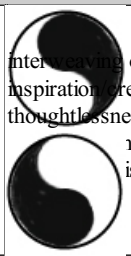
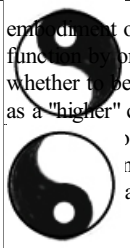
Spheroidal form essential to strategic focus: The dynamics of the torus-sphere transformation are valuable as a means of reconciling the strategic issues highlighted by the Oxfam doughnut with respect to the global form of the Earth to which they apply -- especially in suggesting the cognitive transformation required between flat and spheroid. This serves partly to address the widely publicized argument relating to globalization of Thomas L. Friedman (*The World Is Flat*, 2005) as separately discussed (*Irresponsible Dependence on a Flat Earth Mentality -- in response to global governance challenges*, 2008).

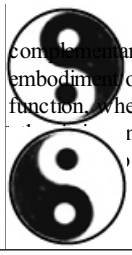
The torus-sphere transformation also offers a sense of how the two-dimensional track representation of the doughnut might hold more information as a toroidal tube. In signifying governance, whether through the single or paired eyes of Egyptian mythology, that symbol highlights the challenge of integrating "vision" through the globular lens of the eye to form a whole.

Complementary animations using the Oxfam doughnut as the iris surrounding a central pupil


Binary ambiguity and uncertainty: The animation sequence of the pupil of the "eye" above is used here to suggest a range of insights, potentially implicit in the interpretation of the central portion of the Oxfam doughnut -- to which its commentary makes little reference except as a locus of deprivation and a symptom of its neglect. A variety of possible distinctions is tentatively indicated below. The distinctions serve to highlight the **ambiguity** between the integrative inspiration implied by the **enlightened centre** of the Oxfam doughnut (as depicted) in contrast with the **dark consequences of thoughtlessness and negligence** with which it may also be potentially associated (as noted above).

Given that the green circle of the doughnut is usefully indicative of the iris of the eye surrounding the central pupil, further implications are offered by the need for an eye to open or close according to the level of light -- usefully interpreted with respect to information (Orrin E. Klapp, *Opening and Closing; strategies of information adaptation in society*, 1978). The circular configuration of functions (variously indicated above) is then also reminiscent of the circle of muscles within the iris which act to that end.

Possible keys to interpreting the "binary" dilemmas implied by contrasts within the pupil of the Oxfam doughnut		
	possible alternative representations of inspiration, creativity and (mindless) enlightenment -- contrasted with possible thoughtlessness, critical thinking and endarkenment	 interweaving of inspiration/creativity and thoughtlessness/negligence implying that is dominant secondary
	inspiration variously infused or undermined by thoughtlessness and mindfulness	 embodiment of the "other" function by one of them, whether to be understood as a "higher" cooptation of inspiration thinking) or a ation (cynical

	copresence of inspiration and thoughtlessness, with one potentially understood as dominating the other	 complementary embodiment of the other function, whether one or me way be dominant

Strategic dilemmas: The commentary in the table above deliberately confronts the interpreter with the dilemma of whether "light" should be simply framed as "positive" and creatively inspired (irrespective of the "thoughtlessness" potentially associated with it) -- and whether "dark" should be simply framed as "negative" and characterized by critical thinking (irrespective of the creativity which may emerge from questioning the unknown). The absence of subtlety in such interpretation has been challenged by Barbara Ehrenreich (*Bright-sided: how the relentless promotion of positive thinking has undermined America*, 2009; *Smile Or Die: how positive thinking fooled America and the world*, 2010) and separately discussed (*Being Positive Avoiding Negativity: management challenge of positive vs negative*, 2005).

The dilemma is of course fundamental to Earth Summit debate on sustainability, namely how to transcend the tendency to frame "development" or "environment" as "positive" or "negative". Each of the "pupil patterns" above suggests questionable interpretations -- with some helpfully indicative of what might either be a "blindspot" or an inspirational focus. The two-eyed animation is also helpfully reminiscent of the need for two eyes in order to achieve stereoscopic vision and depth perception, with its subtler implications (John A. T. Robinson, *Truth is Two-eyed*, 1979) as separately discussed (*Transcending One-eyed Global Modelling Perspectives: incorporating under-currents into global circulation of value*, 2010). The Oxfam doughnut seemingly fails to address the strategic dynamics associated with the dilemmas of "wants", "oughts" and "consequences" -- as evident at the Earth Summit with various constituencies framing their opponents as "bad" in contrast to the "good" they attribute to themselves.

There is some merit in exploring the Egyptian mythology associated with Horus as the means with which a civilization -- which could be considered as an exemplar of sustainability -- was able to interrelate a complex pattern of relationships by which the current global civilization is much challenged. Of further potential relevance is the manner in which the features of the Eye of Horus were central as a mnemonic arithmetical key to the Egyptian number system (cf. *Egyptian Mathematical Leather Roll*) and a pattern of binary fractions, including a remainder.

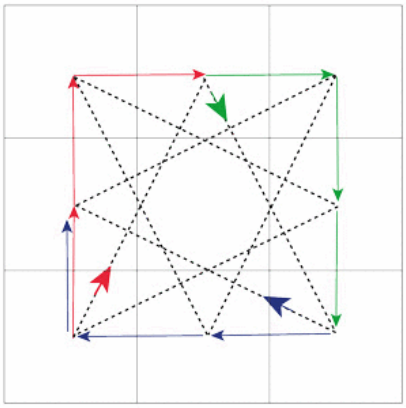
Strategic game-playing via the "cognitive hole"?

The inattentiveness and thoughtlessness associated here with the "cognitive hole" can also be explored through the manner in which it is exploited in skillful strategic game-playing and blame-gaming. The toroidal form implied by the Oxfam doughnut encourages reflection on creative strategies which benefit from lack of cognitive vigilance, resulting in surprise for those "outwitted" by them. This concern is especially relevant to the marked tendency to formulate tokenistic resolutions -- and and promises made to be broken -- enthusiastically welcomed by the thoughtless.

This argument has been developed separately in the light of insights from the thinking described in terms of the non-linear Knight's move of chess (and its go equivalent) -- acknowledging the appropriate ambiguity of this term as relating both to strategic insight and pathologically disassociated thinking (*Knight's move thinking: appreciated or deprecated*, 2012). The associated ability to operate "under the radar" of the awareness of an opponent is intimately related to confidence trickery. It is the exploitation of this lack of cognitive vigilance which suggests a characteristic of the "cognitive hole".

Understood in this way, non-linear Knight's move strategies operate "through" the central hole of the torus -- the hole in the doughnut. It is the pattern of various such moves which define the "cognitive hole" implicitly as illustrated by the following animation. This is reproduced from a detailed discussion of such moves and the manner in which together they may be understood as forming a swastika (*Swastika as Dynamic Pattern Underlying Psychosocial Power Processes: implicate order of Knight's move game-playing sustaining creativity, exploitation and impunity*, 2012).

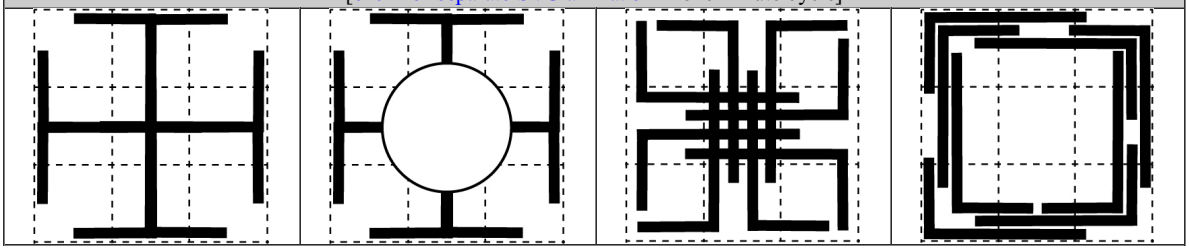
Animation of 8 of the Knight's moves
(potentially suggestive of dynamics within the blame game and amongst the Knights of the Round Table)



The currently disruptive dynamics of global governance (termed "monkeying" for the purpose) suggests that a case can be made for *Reframing "monkeying" in terms of Knight's move patterns* (2011). As discussed in another context (*Navigating the psychological forces of "communication space"*, 2003), the Knight's moves in chess are especially interesting given their potential significance as the moves of a Knight -- as a "noble" rather than as a "commoner". The strangeness of the Knight's move, and its numerical symbolism, has traditionally been the focus of hypotheses connecting the origins and structure of chess with secret magical and religious rituals of ancient India. Further insights into the contrast between *Predictability and pattern-breaking* with respect to the Knight's move, featured in a subsequent exploration (*Implication of Toroidal Transformation of the Crown of Thorns: design challenge to enable integrative comprehension of global dynamics*, 2011).

One experiment in clarifying the dynamic nature of the pattern is through the use of SVG rather than the GIF animations (as above).

Stages in transformation of "Knight's move" elements between "swastika" extremes
[click for separate SVG animation -- one minute cycle]



Such an SVG animation, although not interactive, has the advantage that the code takes the form of ordinary text which can be modified with relative ease -- notably changing colours and speed according to aesthetic preferences. [right-click on active animation to view options and download code -- improvements welcome]

The animation assists reflection on the possibility of "framing" the "cognitive hole" through which surprising initiatives are able to pass unrecognized -- whether as creative breakthroughs or as questionable game-playing and blame-gaming.

Enabling a "twinkle" in the strategic "eye" of sustainable development

Restrictive binary dynamics: The argument above highlights the difficulty of focusing on static configurations of strategic concerns -- as effectively reinforced by the static nature of the Oxfam doughnut. As with any systems diagram, the doughnut implies a dynamic but without being able to give expression to it in order to facilitate understanding. A further difficulty lies in the the binary nature of discourse relating to strategic dilemmas -- with each perspective claiming to be right and the other wrong. There is therefore an inherent dynamic to discourse -- without resolution -- as has been evident in that relating to climate change and to other controversial issues.

The question is how to enable visualizations which respect the alternatives and explore the possibility of a "transcendent" perspective emerging from that dynamic. How then to move beyond the variety of binary interpretations implied within a single strategic "eye", or the complementarity between those of two "eyes", in the animation of the Eye of Horus (above)? How to recognize the ambiguity between the creative and disruptive functions of proactive governance -- implying a degree of self-reflexivity (cf. *Consciously Self-reflexive Global Initiatives: Renaissance zones, complex adaptive systems, and third order organizations*, 2007).

Third eye governance: Given the articulations of a strategic third way, the eye metaphor can be extended to imply the **need for strategic vision through a "third eye" of governance -- one which is inherently dynamic, rather than static** (cf *Third Perspective*, 1983). Any such third way is necessarily only viable when it embodies a dynamic rather than seeking a structural compromise between opposing perspectives in static terms. This follows from an understanding of the viability of the resonance hybrids so fundamental to the viability of those molecules essential to the life of organic forms, as discussed separately (*Patterns of Alternation: cycles of dissonance and resonance*, 1995).

Framing the "twinkle": In the spirit of seeking memorable representations of such a dynamic, a potentially significant association can be offered to the capacity of Egyptian mythology to provide a basis for what may be considered an exemplar of sustainability -- acknowledging the mnemonic value of mythology (*Relevance of Mythopoeic Insights to Global Challenges*, 2009).

Using a depiction of Hathor, a mythological complement to Horus, the following animation then suggests a provocative representation of the requisite dynamic -- the "twinkle" -- in the strategic third eye of sustainability. The Oxfam doughnut has been incorporated there as part of the "twinkle cycle", previously presented and discussed in simpler form (*Embodiment of Identity in Conscious Creativity: challenge of encompassing "con"*, 2011). The subtitle of that document emphasizes the necessary cognitive vigilance to transcend the confidence games so typical of conventional approaches to strategic governance.

Animation using Hathor as suggestive vehicle for transcendent insight?

Enabling strategic imagination playfully: doughnuts, eyes, windows, gates?

As an imaginative catalyst, a number of the centro-symmetric configurations are (playfully) incorporated into the animation cycle above as variously implying a cognitive modality transcending the binary dynamics by which governance is currently handicapped, as separately discussed (*Transcending Simplistic Binary Contractual Relationships*, 2012).

Presentation of strategic vision is curiously dissociated from the playfullness which may be vital to eliciting imaginative responses from the young to the challenges of governance, as separately discussed (*Playfully Changing the Prevailing Climate of Opinion: climate change as focal metaphor of effective global governance*, 2005; *Engaging with Globality through Playful Re-categorizing*, 2009). This has been most recently recognized in the report to the Club of Rome (Jorgen Randers, *2052: A Global Forecast for the Next Forty Years*, 2012) in acknowledging the case made by Jane McGonigal (*Gaming can make a better world*, TED, February 2010) for its role in addressing systemic challenges. It is such gaming which has incidentally activated a surprising degree of widespread interest in mythological deities and other entities.

Although play is readily deprecated in the discourse of the international community, it is vital to recall that play as a metaphor (and as an experience) is fundamental to speculative engagement with the financial markets which are now acknowledged as having far greater power than was previously assumed. Failure to enable this dynamic within strategic discourse could then be interpreted as a failure to explore an opportunity of potential significance to engagement with the risks of increasingly turbulent times. Management and strategic games have long been employed by the military and corporations. There is relatively little trace of their use by groups exploring the kinds of change which are the concern of an Earth Summit. What form might a "values stock market" take, and how might it be "played" (cf *Human Values "Stock Market": Investing in "shares" in a "value market" of fundamental principles*, 2006).

Use of Hathor in the animation above has an additional advantage in that it is a valued symbol in the freemasonry with which so many of the world's leaders are associated -- if only as alleged by conspiracy theorists (cf. *Emergence of a Global Misleadership Council: misleading as vital to governance of the future?* 2007). By the same token, however, there is a certain mnemonic value to associating two deities representative of the Egyptian Sun god Ra to commentary on a report authored by Kate Raworth and explicitly based on a centro-symmetric symbol. Of further mnemonic relevance to a report by Oxfam is the traditional association of Hathor with the ox as well as with food and nourishment.

There is a curious irony to modern deprecation of the bull worship of early civilization -- of which Hathor was a central icon -- when it could readily be argued that an addiction to "bull" is a major feature of current global civilization and its governance, as only too evident at an Earth Summit (*Viable Global Governance through Bullfighting: challenge of transcendence*, 2009). There is the interesting possibility that "fighting bull" could become a valuable feature of such gaming -- if not already a feature of some internet usage. **If international debate can be readily compared by critics to playing "word games", what would it take to reframe such discourse into the form of imaginative "serious games"?**

The conventional outcome of any Earth Summit takes the form of a relatively lengthy text -- typically without any visualization or other media support. In this sense it is effectively designed to be unmemorable and therefore to a significant degree ineffective. Arguments have been presented separately for enhancing the systemic and mnemonic articulation of such texts using the devices of lyrical poetry and harmony (*Poetry-making and Policy-making: arranging a marriage between Beauty and the Beast*, 1993; *A Singable Earth Charter, EU Constitution or Global Ethic?* 2006).

Curiously many of the technologies and skills have already been developed to transform an unreadable strategic text -- as indicated by the following:

- text analysis software resulting in the production of concept maps (cf Leximancer)
- sonification software enabling the conversion of text and other information to sound, including text readers
- software conversion of sound to visual form, most commonly from musical input
- software applications for grammar, style and comprehension checking of text
- etc

Technically, how many such modules need to be combined to enable unreadable strategic text to be transformed exprimentally into a lyrical poem, a song, a form of music, an image, or any mix of them which invites attention? Especially important is the capacity to use rhyme, harmony, and other techniques to render evident the systemic connectivity of the underlying strategic insights -- namely the

feedback loops vital to coherence, viability and sustainability.

Of further interest is the capacity to enable:

- multi-media transformation of real-time input from a debating process through which a text is being formulated (Complementary Knowledge Analysis / Mapping Process, 2006)
- suggestions for modifications to draft proposals in the light of their presentation in other forms -- making apparent inadequacies in the light of rhyme, rythmn, harmony, or the like.

As with music however, **a key feature would be to arrange such modules such as to enable people to interact playfully with the strategic insights** -- through transposition of key, change of colour, modification of rhythm, substitution of rhyming synonyms, and the like (*Group Rhythm, Harmony and Transposition of Key: exploring overtones in psychosocial organization*, 2008; *Structuring Mnemonic Encoding of Development Plans and Ethical Charters using Musical Leitmotivs*, 2001; *All Blacks of Davos vs All Greens of Porto Alegre: reframing global strategic discord through polyphony?* 2007; *Convertor from Text to Poetry, Song or Music: computer-assisted aesthetic enhancement of treaties, declarations and agreements*, 2007).

Is it conceivable that a new dimension to widespread engagement with strategic initaitives could then be enabled by a form of karaoke -- understood as an interactive entertainment or video game in which amateur singers sing along with recorded "strategic" music? Should it be a natural outcome of an Earth Summit that its strategic significance be made apparent by the transformation of its insights into one or more iconic works of art -- into a "composition" comparable to Picasso's *Guernica* or an epic poem?

In that spirit another valuable strategic dimension of play is through the use of metaphor. The Oxfam "doughnut" has been been playfully reframed here as offering a vital "eye" to enable strategic vision. The game might be taken further given that continued operation of the award-winning website on global development of *The Guardian* has been ensured by the Bill and Melinda Gates Foundation -- providing a valuable framework for commentary on the Earth Summit (*Gates foundation reaffirms support for global development website*, *The Guardian*, 25 October 2011). Worldwide use of the Windows operating system, as developed by Bill Gates, is of course readily to be associated with the opportunity to envisage strategic "windows" of opportunity. However, beyond "vision", the vital strategic issue of the time is how to identify "gates" through which passage to a sustainable future may be enabled. Is enabling such a participative cognitive tool a logical development for the Gates Foundation? As Gregory Bateson indicated: *We are our own metaphor* (1972).

Given the manner in which space and the universe elicit imaginative speculation, with which kind of "wormhole" is the "cognitive hole" discussed above most fruitfully to be associated? Given popular fascination with the possibility of "stargate" technology, do the complex dynamics between people characteristic of that "cognitive hole", suggest the merit of speculation on their potential role as "stargates" (cf *People as Stargates: an alternative perspective on human relationships in space-time*, 1996).

Sustainable governance as a toroidal "crown of thorns" ?

Living within the doughnut: The argument above has focused primarily on the central "cognitive hole", ambiguously indicative of thoughtlessness and the potential of creative inspiration. The concern here is the cognitive and behavioural implication of the form of the doughnut as a torus. The Oxfam report stresses the need to enable people to live "within the doughnut" -- recognizing the tendency to slide into the central hole of deprivation or to slide dangerously across the outer "planetary boundaries". **The Oxfam report offers few clues as to how living within the doughnut is to be achieved** -- given the sociopolitical dynamics which typically disrupt strategies to that end, and despite injunctions as to what "ought" to be done. There is a strong case for recognizing that governance of sustainability is currently improbable using the current models advocated, as argued separately -- and exemplified by the disruptive instability of the global financial crisis alone (*Ungovernability of Sustainable Global Democracy ?* 2011).

It is appropriate to note that the very concept of "planetary boundaries" is itself contested as a "misleading guide to environmental challenges" by a recent report of the Breakthrough Institute (*The Planetary Boundaries Hypothesis: a review of the evidence*, 2012). This notably cites assessment by *The Economist* (*The Global Environment: boundary conditions*, 16 June 2012). Whilst the challenge is appropriately critical, if not predictable as a characteristic of global debate on any issue, it does little to address the manner in which the sociopolitical dynamics might be addressed conceptually and in practice. It offers no integrative visual alternative to the doughnut.

The Breakthrough Institute's report concludes, somewhat naively, with respect to the costs and benefits of planetary boundaries, that:

> These costs and benefits are unevenly distributed temporally, spatially, and socially -- there are both winners and losers. Balancing these trade-offs is an inherently political question, and attempts to depoliticize it with reference to scientific authority is dangerous, as it precludes democratic resolution of these debates, and limits, rather than expands, the range of available choices and opportunities.

At this point in the evolution of global civilization, as illustrated by the Earth Summit, every constituency has views on how to "balance the trade-offs" with little prospect of achieving operational consensus within the kinds of framework offered by such as the Breakthrough Institute, as separately argued with respect to "ungovernability" and to "consensus" itself (*The Consensus Delusion: mysterious attractor undermining global civilization as currently imagined*, 2011). The quality of current debate on controversial issues is symptomatic of the challenge, as separately discussed (*Enabling a 12-fold Pattern of Systemic Dialogue for Governance*, 2011).

Containing human dynamics sustainably: The argument can however be taken further by considering the doughnut as a toroidal tube (rather than "flat", as in the Oxfam report) and recognizing the quality and subtlety of thinking required to ensure that it "contains" the dynamics which disrupt sustainability. Ironically, clues to such thinking are potentially to be found in a seemingly unrelated domain, namely in the toroidal design of a nuclear fusion reactor. As a design, this constitutes a visualization of an analogous **systemic** challenge

of a form of "governance" in its own right -- one upheld as a key to giving humanity access to "the power of the Sun" as a means of responding to the energy needs of a global civilization. Such a reactor is currently under construction as an intergovernmental project (ITER - International Thermonuclear Experimental Reactor).

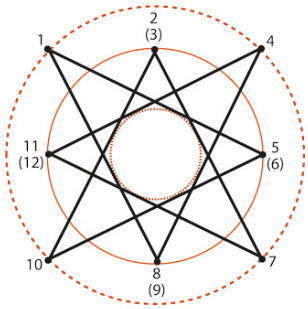
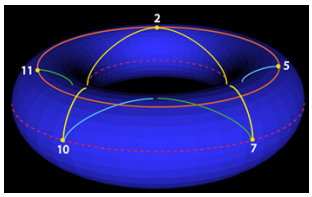
The challenge in considering the possible insights to be gained from experiments to that end are in the question: **Can it be assumed that achieving sustainable governance of dynamics "within the doughnut" are more or less complex than those of achieving viable containment of plasma in the nuclear fusion process**? The design key to ensuring that fusion takes place in the reactor is to ensure that the superheated (highly unstable) plasma does not come in contact with the tubular wall of the toroidal container. If it did the whole process would become unstable and would dangerously damage the container.

Understood in this light, this bears a strong resemblance to the challenge of designing the doughnut "container" such that human dynamics do not come in contact with it -- bursting dangerously out of the doughnut, whether inwards or outwards. In the ITER torus, the design challenge is to use a toroidal configuration of magnet rings to ensure that the plasma does not come in contact with the container. The configuration of those magnets is curiously reminiscent of the configuration of factors (or "dimensions") depicted in the Oxfam doughnut. The inherently reactive objection of humanity to any form of "containment" is helpfully illustrated by the "reactive objection" of the plasma to any conventional form of containment. The question for sustainable development is the nature of the equivalent to the magnetic containment of plasma -- a paradoxical form of non-containment. This is reminiscent of the legendary quest for a container for alkahest -- the solvent that dissolves everything -- reframing such a design as a form of "Holy Grail" (*In Quest of Sustainability as Holy Grail of Global Governance*, 2011).

Mystery of what circulates: Just as plasma is an unusual form of matter circulating within the torus of a fusion reactor, a case could be made for recognizing that the more fundamental "matter" circulating within a psychosocial system is a poorly-recognized, dematerialized "something" underlying meaning and confidence -- but common to them. The role of confidence has been repeatedly stressed in relation to the viability of the financial system (cf *Primary Global Reserve Currency: the Con? Cognitive implications of a prefix for sustainable confidelity*, 2011). The latter document explores the challenge of encompassing the dynamic ambiguity of "con" (*Embodiment of Identity in Conscious Creativity*, 2011). A remarkable indication of the role of some form of global circulation is offered by the great ocean conveyor belt (cf. *Potential Misuse of the Conveyor Metaphor: recognition of the circular dynamic essential to its appropriate operation*, 2007). In this light, the "confidence dynamics" vital to global sustainability can be fruitfully explored in the light of the sysemtic complexities of "plasma dynamics" vital to nuclear fusion.

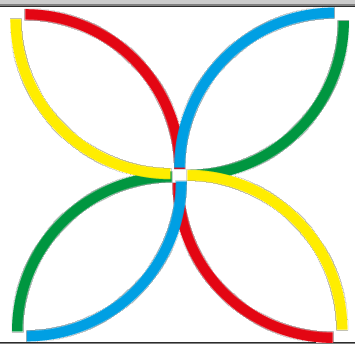
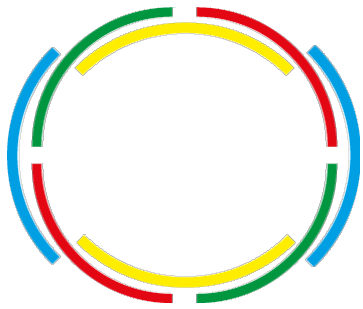
The argument for constraining the potential instability in vital human dynamics has been developed separately (*Implication of Toroidal Transformation of the Crown of Thorns: design challenge to enable integrative comprehension of global dynamics*, 2011; *Enactivating a Cognitive Fusion Reactor: Imaginal Transformation of Energy Resourcing (ITER-8)*, 2006; *Circulation of the Light: essential metaphor of global sustainability?* 2010). The follow-up to the Oxfam report calls for a focus on "Doughnut Economics". Given insights from the global financial crisis, it could however be argued that the key to sustainability and its governance lies in a subtler insight into what "circulates" within a sustainable system. However, recognizing the advantages of visualization as a trigger for imagination, a succession of images from the first document is used in what follows as a means of summarizing that argument in relation to the case made by the Oxfam report.

Destabilizing circulation: The destabilizing processes associated with Knight's move initiatives exploiting thoughtlessness can be reframed by their projection onto the toroidal doughnut.

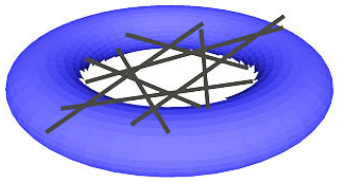
Projection of selected Knight's moves onto a torus	
Pattern of Knight's moves (as in the animation above) (omitting intermediary steps)	Showing the "lines" of the moves as "curves" (omitting many curves for clarity)
	

The Crown of Thorns is held to symbolize the set of human afflictions that cause great suffering -- to be borne like a "crown of thorns".The cognitive significance of a "crown" has been discussed separately (*Engaging with Globality through Cognitive Crowns*, 2009). In the light of the above argument, that dysfunctional crown of governance is here presented as an indication of the extremely painful consequences of the currently fragmented "crowning" configuration of global strategies. This could be said to derive from linear ("thorn-like") mindsets, ill-adapted to the non-linear nature of the dynamics characteristic of the global system -- usefully represented above by one interpretation of the swastika pattern in the animation above. The point might be emphasized by suggesting that symbolically the linearity of the elements of the swastika (notably in the animation above) needs to be understood in terms of curves more consistent with global geometry.

Use of curved elements to show transformation between extremes equivalent to that in the "swastika" animation of Knight's moves (above)

[click for separate SVG animation; right-click on active animation for options -- improvements welcome]	
	

Here the possibility of replacing the dysfunctional linearity by forms of curvature is more consistent with those dynamics. Consistent with the argument of the Oxfam report, the torus offers a form by which this cognitive crown can be reframed, notably with respect to collective pain and the implications of loss of a larger integrative harmony.

Representations of unsustainable governance as a "Crown of Thorns"	
Traditional form (as conventionally imagined)	Indication of unjoined-up understanding (failure to map Knight's moves to curvature)
	

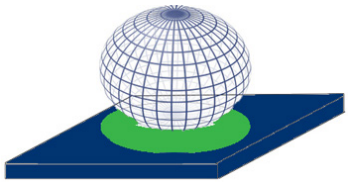
Transcending "flatland": The inadequacy of the "flatland" approach to governance -- unfortunately reinforced by the flat depiction of the Oxfam doughnut -- can be usefully caricatured in the following images.

As an alternative to "doughnut", the report suggests "life saver" -- depicted as a "life buoy" in the right-hand image below. The "life buoy" approach is evident in current use of bailouts and "quantitative easing". The "hole" essential to the design of a "life buoy" then suggests a curious relationship between "quantitative easing" (to disguise a financial "hole") and the "cognitive hole" associated with the centre of the doughnut (indicative of negligence of "critical human deprivations"). The manner in which the thoughtless negligence of the "cognitive hole" is then "disguised" may be recognized in the dubious emergence of a "moral easing" analogous to the dubious nature of "quantitative easing" (cf. *From Quantitative Easing (QE) to Moral Easing (ME): a stimulus package to avert moral bankruptcy?* 2010).

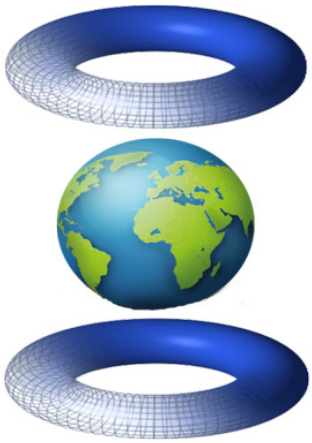
Schematics caricaturing the dominant role of "flatland" mindset in comprehension of the globe	
Academic mortar board (as occasionally presented)	Binary strategic games of governance (with a "life buoy" for turbulent seas of chaos)

The governance "designs" above can be contrasted with more idealist designs, as below -- which fail to indicate how destabilizing dynamics are to be contained.

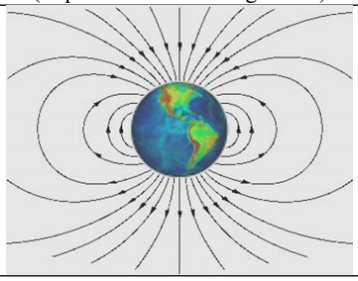
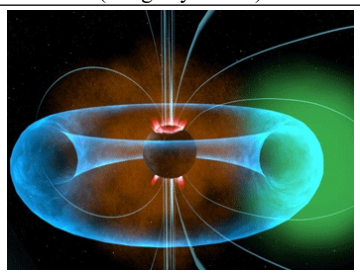
Schematics of "ideal" understandings of governance	
Schematic of ideal temple (combining flat, torus and sphere)	Schematic of optimistic ideal of governance (with ever ready "life buoy")

The following images contrast the extremes of traditional use of a torus with that implied by current research.

Symbolic and speculative representations of governance	
Traditional method of transportation using a toroidal head ring (of worldly goods by women)	Dynamic suspension of the globe within the "cognitive magnetosphere" **?**
	

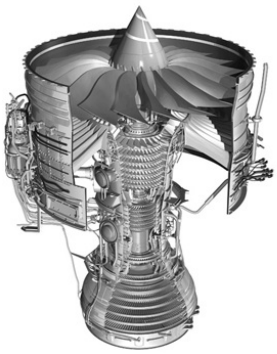
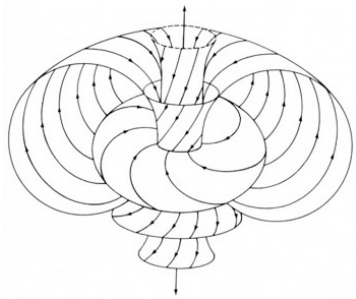
The central argument above challenges the adequacy of conventional "logical" explanations -- inadequately supported by visual or other renderings attentive to the challenge of comprehension. Hence the inspiration of the forms and processes of nature. It is in this sense that the physical form of the globe embedded in the toroidal dynamics of an electromagnetic field offers further support for reframing "globalization" beyond the spheroidal. Integrity is then associated with a larger pattern as illustrated in the following figures.

Reframing the context of globalization Indication of relationship between spheroidal and toroidal in terms of electromagnetic fields (reproduced from *From global to helicoidal -- from pi to phi?* 2010)	
Origin of the Earth's Magnetic Field (Reproduced from Google Knol)	Earth's magnetic field (Image by NASA)
	

The following images are a fruitful provocation with regard to "vision". That on the right derives from a depiction of a twistor -- as a twisted torus -- by Roger Penrose (*On the Origins of Twistor Theory*, 1987) and reproduced in enhanced form by George Musser (*Scientific American*, June 2010). That on the left is of the latest aircraft engine. There is of course a question of their degree of isomorphism, but more relevant to this argument would be the functional implications of any such isomorphism.

Rather than any question of validity or truth implied by the juxtaposition of such depictions, the issue may be more whether the human brain is better able to frame their functional implications through them at this time -- especially in relation to the cognitive complexities of achieving "sustainable development". "Cutting edge" technology may be so precisely because it is at the frontier of human cognitive capacity (Robert Romanyshyn, *Technology as Symptom and Dream*, 1989). "Fusion" -- cognitive or otherwise -- may require geometry at the limits of integrative comprehension. The twisted torus -- a twistor -- is especially appropriate topologically as a cognitive knot (*Intercourse with Globality through Enacting a Klein bottle*, 2009).

The imaginative capacity for the requisite mathematics highlights the issues explored by George Lakoff and Rafael E. Núñez (*Where Mathematics Comes From: how the embodied mind brings mathematics into being*, 2000). There would be tremendous irony to the possibility that the -- yet to be discovered -- principles of sustainable operation of nuclear fusion in a toroidal reactor would be necessarily isomorphic to a degree with comprehension of a twistor. What implications might this have for governance of sustainable development?

Toroidal dynamics -- and their implications for engaging with the "cognitive hole" (reproduced from discussion in *Strategic Embodiment of Time: configuring questions fundamental to change*, 2010)	
Aircraft engine (image of Rolls Royce Trent Engine from Science Museum, London)	**Depiction of twistor** Roger Penrose (*On the Origins of Twistor Theory*, 1987)
	

The following image offers a reminder of the nature of the "cognitive hole" of the toroidal doughnut as characterized by the unseen, the unheard and the unmentionable -- exemplified by failure to recognize the (Knight's move) dynamics which typically disrupt the much-acclaimed "positive" global strategic initiatives (*Global Strategic Implications of the "Unsaid": from myth-making towards a "wisdom society"*, 2003). It is these "unmentionable" dynamics which the Oxfam report also fails to acknowledge.

Representation of constrained wisdom of three wise monkeys condemned to linear, disintegrative thinking

Conclusion

The visual focus offered by the Oxfam report through a simple doughnut is noted here as being in welcome contrast to the inability of the UN Secretary General's High Level Panel on Global Sustainability (*Resilient People, Resilient Planet: A Future Worth Choosing*, 2012) to embody its comprehensive vision in any visualization of significance. As emphasized this is surely an essential requirement for communication across languages and between sectors of society variously resistant to text. Visualization is a basic step in giving form to the appropriate design of strategies for sustainable governance.

As noted, although the Oxfam report refers to its diagram as a "compass", in enabling the strategic vision implied by the UN Panel report it might also be understood as having the functions of an "eye". This is the metaphor explored above through the mnemonically valuable symbolism of Egyptian deities, so significant to sustainable governance in their time. In any concern with strategic "vision", the doughnut form suggests an as yet unexplored means of strategically "**keeping an eye on the ball**" of globalization -- an ironically neglected preoccupation appreciated worldwide in the case of football (cf *Understanding Sustainable Dialogue: the secret within Bucky's Ball?* 1996).

Missing from the Oxfam report, and from the concluding statement of the 2012 Earth Summit, is any sense of the dynamics of why optimistic proposals result in so little effective implementation -- as highlighted by the suggested "boundaries to remedial action". Arguing that world leaders have spent 20 years bracing themselves to express "deep concern"' about the world's environmental crises, but do nothing about them, the final text is described by George Monbiot (*Rio+20 draft text is 283 paragraphs of fluff*, *The Guardian*, 22 June

2012) in the following frank terms:

> It sounds lovely, doesn't it? It could be illustrated with rainbows and psychedelic unicorns and stuck on the door of your toilet. But without any proposed means of implementation, it might just as well be deployed for a different function in the same room.
>
> The declaration is remarkable for its absence of figures, dates and targets...There is nothing to work with here, no programme, no sense of urgency or call for concrete action beyond the inadequate measures already agreed in previous flaccid declarations. Its tone and contents would be better suited to a retirement homily than a response to a complex of escalating global crises.
>
> The draft and probably final declaration is 283 paragraphs of fluff. It suggests that the 190 governments due to approve it have, in effect, given up on multilateralism, given up on the world and given up on us. So what do we do now?

The 2012 Earth Summit has proven to be yet another exercise in undermining confidence in governance -- as well as constituting a metaphor of wastage of resources by the international community (*Rio+20 politicians deliver 'new definition of hypocrisy' claim NGOs*, *The Guardian*, 21 June 2012). As briefly indicated by The Economist (*Rio+20: Many "mays" but few "musts": a limp agreement at the UN's vaunted environmental summit*, 23 June 2012):

> A deal is one thing. A deal that means progress another.... The gathering was called Rio+20, in reference to an important environment conference in the city in 1992. But the agreement this time was filled with weasel words and compromises.

The argument developed above recognizes the value of images as providing a focus for the imaginative vision required to enable a viable future, as separately emphasized (*Engendering 2052 through Re-imagining the Present: Review of a report to the Club of Rome*, 2012). It is in this sense that the "flattened" interpretation of the Oxfam doughnut is regretted. It does however offer the opportunity to explore the potential of the three-dimensional significance it implies. This is especially the case in relation to the problematic dynamics of the central "cognitive hole", as they can be variously understood -- and which so clearly underlie the Earth Summit dynamics. Although failing to do so, the doughnut gives focus to the need to engage with the "unthinkable" and the "unmentionable" and the potential it may represent (cf. *Engaging with the Inexplicable, the Incomprehensible and the Unexpected*, 2010).

Consideration of the potential implications of the Oxfam doughnut has the great merit of giving focus to the question: **What is the geometrical form onto which global strategic vision can be most fruitfully and imaginatively mapped** -- as an attractor eliciting yet further exploration (cf. *Metaphorical Geometry in Quest of Globality -- in response to global governance challenges*, 2009; *Engaging with Globality -- through cognitive lines, circlets, crowns or holes*, 2009). This frames the sustainable development challenge of marrying the "**limitless**" (characteristic of aspirations to freedom) with the "**limited**" (characteristic of a finite world) in the design of a "container" for the dynamics of a globalizing civilization.

It is however by recognizing the design implications of a torus -- as suggested by the challenges of a nuclear fusion reactor -- that specific focus is given to the question in the subtitle of the Oxfam report: *A Safe and Just Space for Humanity: can we live within the doughnut?* The complexity of plasma dynamics, and how they might be constrained, would seem to offer an imaginative trigger to further reflection on the practicalities of living sustainably "within the doughnut". It is too readily assumed that governance of sustainability is self-evident, if only some parties would behave as they "ought" to behave in the light of the insights of others. Why this does not happen merits diligent consideration -- currently obscured by the excesses of naive optimism or cynical pessimism. The unmentionable tendency to systemic thoughtlessness would appear to call for design insights of more conscious, self-constraining subtlety (cf. *Consciously Self-reflexive Global Initiatives: Renaissance zones, complex adaptive systems, and third order organizations*, 2007). Curiously the torus is indicative of a strange "cognitive inversion" of what is mysteriously implied by the empty central hole of the doughnut.

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