



laetus in praesens

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29 June 2015 | Draft

Embodying Strategic Self-reference in a World Futures Conference

Transcending the wicked problem engendered by projecting negativity elsewhere

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Creative review of the 17th International Futures Conference on *Tackling Wicked Problems: where futures research, education and action meet* (Turku, 2015), more conventionally summarized otherwise by the organizers

Introduction

The following is a scenario-building exercise using the contents and processes of a conference on so-called **wicked problems** in order to elicit further insight into the nature of such problems and the possibilities of engagement with them. It follows from earlier exercises in conference reinterpretation (*Gardening Sustainable Psycommunities: recognizing the psycho-social integrities of the future*, Findhorn, 1995; *Transdisciplinarity through Structured Dialogue: beyond sterile dualities in meetings to the challenge of participant impotence*, Arrabida, 1994).

As a conference dedicated to future insight, the event was naturally preoccupied by the requisite evolution of conferencing processes -- transcending the tendency to replicate structures and processes which were characteristic of earlier decades in the 20th Century. How indeed is a conference anticipating the future to integrate future possibilities into conventional processes -- rather than simply replicating what has tended to prove so unfruitful in the past? What would be the implication if a futures conference of 50 years hence were to be perceived as little different to that of today?

In such terms the Turku event was remarkable in explicitly recognizing that framing wicked problems as negative externalities was unfruitful -- if the strategic reflections and contributions of the participants were simply understood as the preferred positive device for responding to such externalities. This characteristic of so many fruitless conferences, was reversed in Turku, consistent with arguments that any conventional conference process was typically a problem in its own right, even a wicked problem (*Future Conference Organization as a Wicked Problem? Self-referential upgrading of obsolete conference processes inhibiting emergence of integrative knowledge*, 2015).

A conference could even be construed as posing an elusive transformative question (*World Futures Conference as Catastrophic Question: from performance to morphogenesis and transformation*, 2013). This understanding drew on a self-referential analysis of the programmatic content of the *1st International Conference on Internet Science* (Brussels, 2013) as discussed separately (*Internyet Nescience?* 2013). With respect to engagement with futures research, this followed from a previous exploration (*Self-reflexive Challenges of Integrative Futures*, 2008).

The challenge addressed by the Turku event was therefore how to engage self-reflexively with its own internal processes -- whose conventional neglect effectively constituted the essence of problematic wickedness. Self-reflexive mirroring was "re-cognized" as a catalyst entraining fruitful strategic change elsewhere. Introductory keynote addresses therefore deliberately stressed the need to be exclusively positive about externalities, thus engendering the requisite engagement with the internal negativity of the conference process itself.

As a scenario-building exercise with an aesthetic emphasis, the process led (fortuitously) to recognition of an as yet unexplored degree of correspondence **between the icosahedral ordering of both psychosocial mega-problems and of the micro-problems constituted by viruses**. Inspired by biomimicry, this suggests the value of exploring virology as offering a "pattern language" with regard to **antigens**

and [antibodies](#) as these might apply to the operation of possible "[viral antigens](#)" that could be developed to constrain wicked problems. This raises the question as to whether the most hazardous viruses offer a valuable mapping template for exploring the wickedest global challenges. A wicked problem can then be usefully framed as a form of viral [pandemic](#) like influenza -- whose potential [future emergence](#) is an active concern of WHO. Pandemics include non-viral forms like the plague, epitomized in Europe by the dramatic consequences of the 100 million fatalities of the [Black Death](#).

Self-reflexive attention to conference processes

Participant messaging: Fortunately the conference benefitted from the application of so-called participant messaging techniques (*Participant Interaction Messaging: improving the conference process*, 1980; *History of Participant Interaction Messaging: 1979 to 1995*, 2007). One example had in fact been deployed in Turku at the 13th World Future Studies Federation Conference: *Coherence and Chaos in Our Uncommon Futures: visions, means, actions* (1993).

As noted, such techniques were designed to enable participants to communicate with each other independently of the hierarchical structures implemented by the organizers -- and the constraints on use of session time which these implied. In the high-tech context of a Finnish university, it was natural that considerable use could be made of Twitter in the 2015 event. This supplemented the wifi facilities which were available throughout the conference complex. Neither facility had been available at the 1993 event which had pioneered use of such processes in futures conferences.

These facilities were used to enable an extremely focused analysis of participant-participant communications. The meta-data collected enabled even more systemic analysis using sophisticated software for transaction analysis, most notably those of [Netmap Analytics](#), as separately indicated (*Preliminary NetMap Studies of Databases on Questions, World Problems, Global Strategies, and Values*, 2006) This complemented the analysis of abstracts and papers using text processing packages, especially [Leximancer](#), capable of generating concept maps covering the large set of documents provided by participants -- and integrating them thematically into those of previous events.

Participant transactions: Moment-by-moment transactions explored in this way included:

- introductions (whether self-introductions, or made by a third party)
- exchange of visiting cards (email addresses, website URLs, etc)
- sharing hardcopies of papers
- solicitation of support and other processes of persuasion
- invitations to future events
- affirmations
- commitments
- gossip and phatic communications

Given the natural tendency of participants to indicate what "should" be done, or what "ought" to be done (whether by others, or by "we"), for convenience these were collected together in a facility variously caricatured as *Wikishould* or *Wikiought* -- even *Wikifatwa* -- accumulating those engendered by previous events.

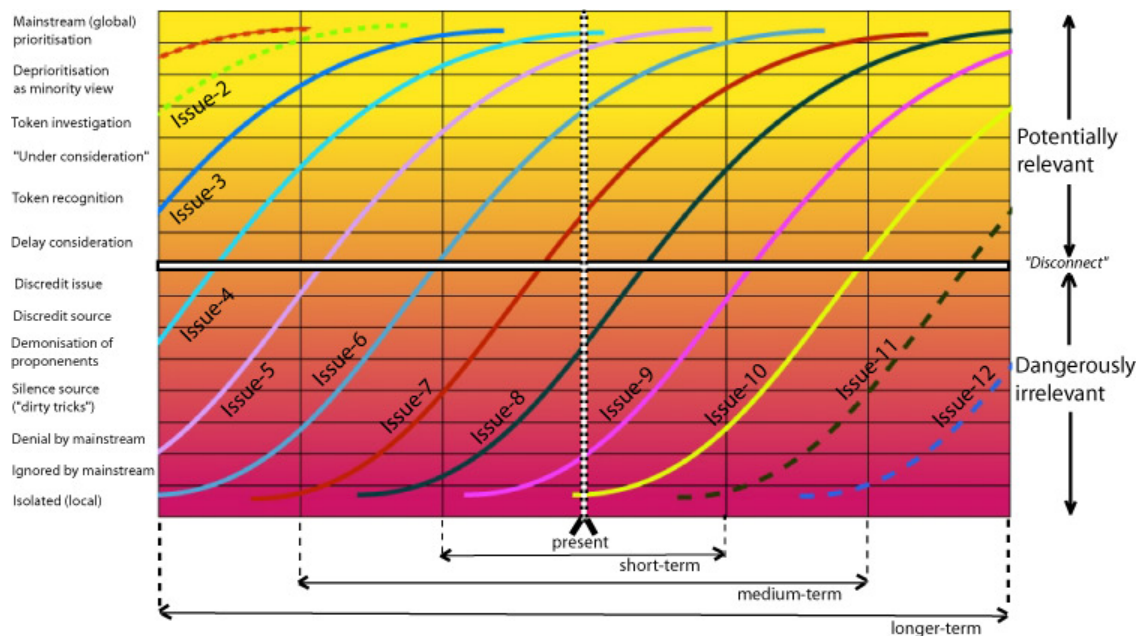
Systemic analysis: Such transactions were seen in terms of a highly systemic understanding of each participant, variously interpreted as a:

- container within which there were multiple ongoing transformation processes, most notably learning processes, usefully explored in terms of a reactor (or metaphorically as cooking)
- nexus for information networks at which information was absorbed, emitted or passed on
- focus for impact or engendering impact elsewhere, notably as iconoclast or through cultivation of illusion
- catalyst enabling processes in other contexts
- trajectory within a communication space

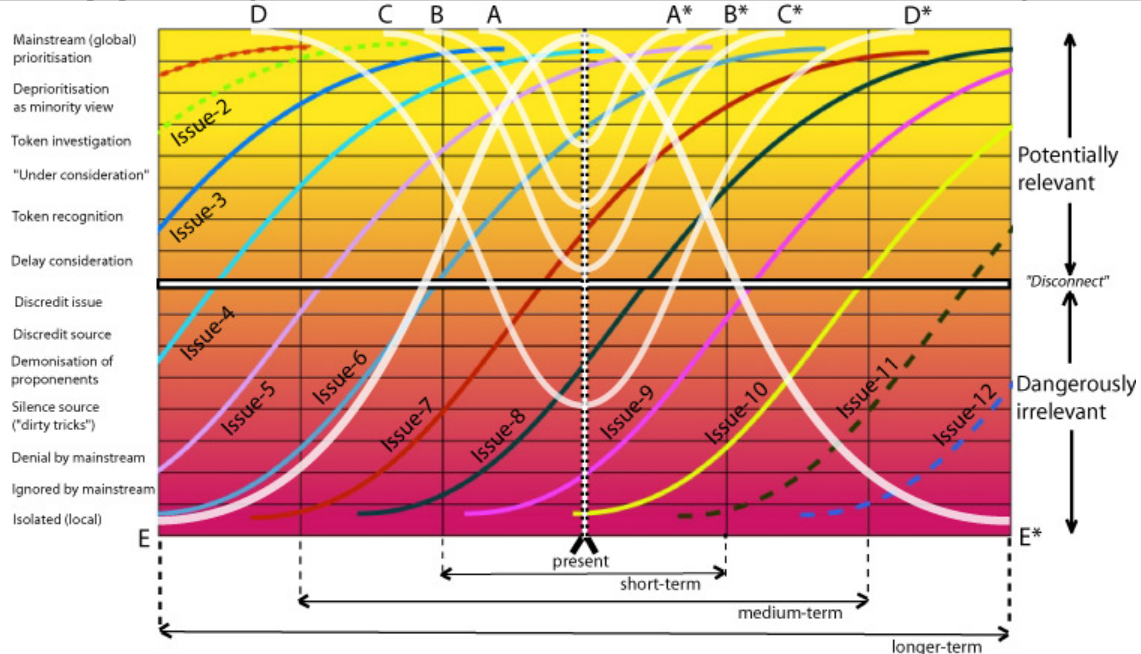
Whether in small group exchanges, panel or plenary sessions, of particular concern was the manner in which points made were processed, following the extensive research (enabled by sophisticated technology) into [passing patterns](#) in various ball sports. In this case the "ball" was the point under discussion and how different factions in the group gained or lost possession of it -- to the stage at which a conclusive "goal" was scored against one or the other. Some effort was made to reframe traditional competitive gaming into collaborative gaming with the aid of such technology. The preoccupation was with the effectiveness of insight capture in a dynamic environment (*Towards a Web Framework for Synthesis in Dialogue: insight capture from the flow of conference interventions*, 1996).

The systemic approach extended to the dynamics by which themes emerged, were taken up, or ignored, as suggested by the following images (*Considering All the Strategic Options -- whilst ignoring alternatives and disclaiming cognitive protectionism*, 2009)

General framework for representation of issue recognition and denial over time



Superposition on figure above of curves indicative of the focus of authoritative attention and recognition



Inspired by an earlier insight of [Johan Galtung](#) regarding concept lifecycles within the United Nations, the conference explored whether policy issues should be understood as having "half-lives" like isotopes -- or perhaps to be seen as developing within a framework of some form of [Hertzsprung-Russell diagram](#) (*Psychosocial Implications of Stellar Evolution? Reframing life's cycles through the Hertzsprung-Russell diagram*, 2013).

Real-time feedback: Of relevance to use of such analysis was a much more precise focus on excessive use of speaking time by some participants and the manner in which others were thereby deprived of speaking time. One feature was use of real-time feedback from participants to offer collectively visible indications of support or deprecation of arguments made or style of communication. The meta-data enabled exploration of various understandings of optimization of meeting patterns, most notably through insights from theories of harmonization in music. This enabled fruitful association of complementary arguments in order to elicit "thematic melodies" -- even allowing for succinct representation in musical form. The challenge was whether real-time mapping of the evolution of a session, or of the conference as a whole, enabled the emergence of comprehensible patterns of wider relevance -- a "conference song" enabling wider appreciation, whether enhanced by "lyrics" or not.

Follow-up processes were of particular concern, notably clarification of probable follow-up in the light of exchanges at previous events, as well as the capacity to revisit appropriately recorded sessions

Pre-conference structural design and real-time re-design: Benefitting from the renown of Finnish architecture and design, notably as applied to futures design, this enabled a radical approach to the conference structure and programme. In contrast with many conventional events, the conference structure was not simply a reflection of the "Stalinist" legacy architectural framework within which it was held -- with sessions and tracks constrained by the pattern and capacity of meeting rooms.

The pre-conference programme was both designed to be modified and susceptible of being explored through a variety of perspectives, according to the interest of prospective participants. Given that conference programmes are increasingly held in databases for presentation on the web as they evolve, this was a relatively simple innovation. Greater innovation was evident in the integration of the programme and the abstracts, enabling the totality to be searched and presented visually as networks for exploration as lean ring pathways according to the interest of the inquirer (enhanced by any profile information made available regarding participant preferences).

Far more radical as an innovation was the capacity to use such facilities in order re-design the programme "on the fly" in response to feedback and emerging themes of interest. The conference structure was thus not "set in stone" but designed to evolve responsively through a form of crowd-sourcing. In effect the conference embodied the slogan "be the change". Of particular concern was how to rewrite "the writing on the wall". As a collective, it engaged consciously and self-reflexively with its own processes -- including any emerging catastrophes -- in the light of the [catastrophe theory](#) insights articulated of [René Thom](#) (*Structural Stability and Morphogenesis*, 1972). This capacity had notably been developed for conferences of several hundred by the Institute of Cultural Affairs (ICA).

Multi-conference learning context: The event benefitted significantly from the fact that it was the 17th in a [series of futures conference](#) organized annually at the University of Turku by the Finland Futures Research Centre, typically in association with the World Futures Studies Federation. With approximately 100-200 individual participants attending from all over the world, international researchers, organizational delegates, business people and students, these events have resulted in the accumulation of a very large collection of papers on futures-oriented information, research, analysis and collaboration -- now held in a content management system susceptible to extensive exploration, experimentation and visualization.

Emerging input was thus embedded in a far more extensive knowledge context which could be readily accessed by participants to determine the most fruitful learning pathways.

This facility helped to make evident the larger challenge of rendering coherent the body of futures-relevant knowledge, and especially that of rendering it succinct and comprehensible to many challenged by information overload. It also framed the challenge of its navigation, especially for those unfamiliar with the successes and failures of futures thinking.

Reframing devices: stories, metaphors, maps and questions: Given the evident inadequacies of conventional framings of the current situation and remedial action, considerable attention was given to devices to enable comprehension to be enabled otherwise -- and for the conference to "reinvent itself" in real time. These included:

- **set of complementary scenarios** understood as stories or narratives, through which to encompass that variety of ways of "re-cognizing" both [problematique](#) and [resolutique](#). This extended to recognition of how the conference itself could be fruitfully understood in dramatic terms. However the concern was how to engage participatively with the story rather than to be exposed to it passively (*Stepping into, or through, the Mirror: embodying alternative scenario patterns*, 2008)
- **metaphors succinctly suggestive of new approaches** to integrative understanding and strategic action (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007), notably in the light of the work of various authors (Gareth Morgan, *Images of Organization*, 2007; Douglas Hofstadter and Emmanuel Sander, *Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013)), Possibilities included:
 - the need for a "memetic pool" of metaphors capable of catalyzing new insight, given the questionable track record of "sustainability"
 - adaptation and extension of the optical metaphors employed so widely in "envisioning" the future, notably to include their implications for "focusing", "reflection", and "mirroring" (*Beyond Strategic Vision to Polysensorial Strategic Metaphors*, 2009). Beyond "foresight", attention was therefore given to "foretaste", "foresmell", "foretouch", "forehearing" and "forefeeling", as a source of signals of value to responding to the future.
 - the conference was perceived and experienced as a knowledge environment, appropriate to a knowledge-based culture. Rather than its content being framed conventionally in "tabular" (tracks, parallel sessions), into which themes were "placed" or from which they were "designed out", it was recognized as a developing ecosystem. This extended to its recognition as one undergoing evolution with the emergence of new "species" (memes) as a consequence of mutation. This recognition was enhanced by maintaining a real-time map of that ecosystem and the memetic "species" active in it. The sense in which each species is necessarily the "lunch" of another species also had to be "digested", as with the "excreted" products of that digestion (*Sins of Hot Air Emission, Omission, Commission and Promission: the political challenge of responding to global crises*, 2009).
- given the pressures of information overload and the challenge for an individual of participation in parallel sessions, a valuable innovation was the use of **web diffusion of sessions** enabling participants both to surf between simultaneous sessions and to replay sessions which had been missed (or to revisit sessions after the event). The facility also enabled the diffusion of the presentations worldwide. Also valuable in this respect was the integration of the evolving thematic map as a means of indicating fruitful learning pathways.
- the conventional use of "keynote" speeches was especially informed by the **musical insights** by which this device was originally inspired. There was a conscious effort to evoke and recognize the "harmony" implied by that metaphor in weaving together the variety of cognitive instruments assembled. As an exercise in composition, the issue was how to register the notes and melodies each interest group represented and to weave their contributions into an overall pattern -- potentially represented in musical terms subject to further articulation through transposition of key (*Paradigm-shifting through Transposition of Key: a metaphoric illustration of unexplored possibilities for the future*, 1999). This enabled consideration of the articulation of the outcome of the

event in memorable musical form, with its wider implications (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006)

Embodying wickedness of external problems: The event of course took place within a global complex of problems seemingly defying reasonable remedial action. Hence the case for framing their interdependence in terms of understanding of wicked problems. Most dramatic was of course the multiple conflicts in the Middle East and the various interests sustaining and exacerbating them.

The significant innovation of the event was to avoid the conventional trap of many conferences in framing themselves as a primary source of "positive" insight into appropriate remedial action -- disassociated, as necessarily innocent parties, from any complicity in the dynamics of such problematic "negativity". There was a fruitful degree of recognition that if the conference could not understand how it was part of the "problematique" it would be unable to comprehend the nature of the "resolutique" required. This recognition was usefully illustrated by a classic Zen tale:

Classic Zen tale of the Rainmaker illustrative of the challenge of engaging with a context through oneself in order to remedy imbalance
A rainmaker is invited to come to a rural village, to bring rain -- for the village is experiencing drought. The rainmaker requests a cottage far from the village, and asks not to be disturbed. Three days later, rain and snow fall on the village. The rainmaker explains that he did not bring the rain. As he had felt immediately infected by the imbalance of the village people upon arrival, he took refuge to balance himself -- naturally balancing the outside world through that process -- and it rained.

So framed the challenge for the conference was how meaningfully to embody "external wickedness", as with the fatalities in Syria and elsewhere, the flood of refugees fleeing conflict, poverty and starvation, and the manner in which planetary natural boundaries were dangerously challenged. The striking innovation of the conference was to "re-cognize" the "internal wickedness" of its own problematique, together with the systemic negligence inhibiting any capacity to engender more fruitful remedial action. (*Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity*, 2009)

Especially intriguing was the quest for a "strategic wickedness" of comparable complexity, capable of matching that of the problematique -- bearing in mind that such strategic skills were also deployed by those intent on exacerbating and exploiting the current crisis of crises.

Thematic streams and their integration

Keynotes engendering harmony: As indicated above, the keynote-sounding functions of the event provided a remarkable interweaving of the potential and limits of foresight with respect to the emergence of a harmonic synthesis. This was understood to depend on new insight into the psychology of an emergent future **within** the conference context and the possibilities of flourishing **within** that dynamic at the conference, as argued separately with respect to civilization in general (*Flowering of Civilization -- Deflowering of Culture: flow as a necessarily complex experiential dynamic*, 2014).

Especially intriguing was the effort to elicit a new "logic" effectively reframing conventional understandings of the monetarized economy, energy, information, and the meaning to be associated with growth, wealth and well-being, as can be variously argued (*Quantum Wampum Essential to Navigating Ragnarok*, 2014; *Reframing Sustainable Sources of Energy for the Future: the vital role of psychosocial variants*, 2006; *Wholth as Sustaining Dynamic of Health and Wealth: cognitive dynamics sustaining the meta-pattern that connects*, 2013).

Methodology: In total contrast to conventional futures conferences, the methodological sessions focused successively on:

- **Critical assessments of the application of futures research methodology** within the event itself. As indicated above, a particular concern was how interaction between participants could benefit from the array of methods applied to external groups. How could the capacity of participants to learn within the conference be enabled -- thereby enabling the collective learning capacity of the conference as a whole?
- **Methodological challenges of participatory futures research** as exemplified within the ongoing event, given the flows of information and meta-data noted above. Specifically, how could meta-data and communications be used to enhance the quality of that research and the process of "insight capture"? (*Possibilities for Massive Participative Interaction -- including voting, questions, metaphors, images, constructs, melodies, issues, symbols*, 2007)
- **Methods for security focused futures research**, interpreted in terms of the "safety" of the space for participants and their evolving cognitive processes. Of particular interest was how participants (and the information streams on which they were dependent in that environment) could be "hacked" or manipulated in ways for which they were unprepared. What indeed was the vigilance required? How could the conference, factions, or individual participant, be the victim of attacks below their level of sensitivity? Given the much discussed use of meta-data in surveillance, in order to target individuals in some way -- feeding them information, framing that which they received, or targetting their information devices -- how was this evident in the conference event, or those to be anticipated. *** safe place
- **Methodological challenges in business foresight** in which the "business" of the conference and its participants called for reframing, as argued in the keynote speeches. What indeed was the "business" of the conference and its participants? How were conventional understandings of "profitability" to be reframed both by the conference and between participants? Of particular interest was reconsideration of the constraints of the conventional approach to the commercialization of the academic products presented -- as the conventionally preferred means of ensuring their dissemination by the publishing industry (with its copyright

and paywall exigencies) and the associated career benefits (from eventual publication in peer reviewed journals).

These concerns highlighted the question as to how the scope of "futures research" was constrained by defining itself as a business of the most conventional kind -- given that futures research claimed to be itself in quest of another economic logic, even including a degree of abandonment of dependence on monetarization..

- **Methodological challenges of regional differences**, as only too evident from the cultural backgrounds of the participants and/or their cognitive preferences. "Regional" could thus be reframed from various perspectives to distinguish mindscapes, preferences and multiple intelligences (*Systems of Categories Distinguishing Cultural Biases*, 1993). The question was how best to channel or reframe information according to any preferred individual profiling by participants -- rather than to subject all to standardized styles of information presentation increasingly experienced as totally unproductive and "not fit for purpose".

Studies on futures research: Again the focus was on how the themes evoked applied within the event itself:

- **Technology and foresight**, namely how the information technology available to participants and the organizers could be used to enhance sensitivity to future issues, their comprehension, and their communication across barriers of information overload, limited attention span, excessive complexity, and the like. In the light of the current inspiration of **biomimicry** for technological innovation, consideration was given to the possibility of technomimicry and its implications for global navigation (*Engendering a Psychopter through Biomimicry and Technomimicry: insights from the process of helicopter development*, 2011).
- **Energy systems**, namely the manner in which participants were energized by particular processes in the event (or significantly drained by them), and how collective energy could be elicited and fruitfully channelled. As noted above, such issues can be variously explored (*Reframing Sustainable Sources of Energy for the Future: the vital role of psychosocial variants*, 2006; *Psychosocial Energy from Polarization*, 2007). A particular inspiration was the renowned creativity of **Nikola Tesla** in his interrelating positive and negative dynamically to as a source of light and energy (*Reimagining Tesla's Creativity through Technomimicry: psychosocial empowerment by imagining charged conditions otherwise*, 2014).
- **Scenarios and horizon scanning**, namely (as noted above) the articulation of scenarios for the immediate development of the dynamics of the event and the narratives through which that evolution could be rendered credible. Of particular interest with respect to horizon scanning (and its constraining "flat Earth" implications) was the constraint that any horizon constituted in a global environment where distant perspectives were necessarily of different orientation, as can be variously clarified (*Global Psychosocial Implication in the Pentagramma Mirificum: clues from spherical geometry to "getting around" and circumnavigating imaginatively*, 2015; *Adhering to God's Plan in a Global Society: serious problems framed by the Pope from a transfinite perspective*, 2014; *Irresponsible Dependence on a Flat Earth Mentality-- in response to global governance challenges*, 2008)
- **Surprises and emergencies**, as these emerge to challenge conventional processes within a futures conference, understood as wicked problems in the light of the arguments of **Nassim Nicholas Taleb** (*The Black Swan: the impact of the highly improbable*, 2012; *Antifragile: things that gain from disorder*, 2012). With respect to the event, this emphasis on vigilance included a focus on:
 - Emergency preparedness (*Enabling Collective Intelligence in Response to Emergencies*, 2010)
 - Disruption arising from innovative information technology
 - Surprises, triple whammies, earthquakes, embracing error

Toward a futures movement: A range of complementary sessions explored the possibility of building a futures consciousness for global sustainability. This could be recognized as a form of Renaissance movement, whose nature and desirability can be variously explored (*Consciously Self-reflexive Global Initiatives: Renaissance zones, complex adaptive systems, and third order organizations*, 2007; *Climate Change as a Metaphor of Social Change*, 2008; *Systemic Crises as Keys to Systemic Remedies: a metaphorical Rosetta Stone for future strategy?*, 2008; *Climate of Change Misrepresented as Climate Change: insights from metaphorical confusion*, 2008).

- "Territorial" development, reframed in terms of psychosocial territory and "turf", together with the currently problematic implications of intellectual property, within the futures research community
- Future of "food" and "agriculture", reframed in terms of the psychosocial "nourishment" derived from the cultivation of particular "fields" of futures, and the necessity of crop rotation to sustain such cultivation
- Sustainability of futures research, challenged by the dynamics of remedial action, its dynamics in any future community, and its embodiment, notably in the hypothetical absence of any problems (*Psychology of Sustainability: embodying cyclic environmental processes*, 2002; *Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity*, 2009).
- Education and learning, understood in terms of:
 - Cognitive orientation, namely the appropriate integration of future and past in the present moment (*Presenting the Future*, 2001)
 - Developing thinkers, whether as future "visionaries", future "hearers", or future "feelers" (notably in recognition of some traditional modalities and their alternatives to the "insight" predominantly associated metaphorically with "foresight")
 - Imagining the future, as may be variously explored through **backcasting**, **causal layered analysis**, and otherwise (*Imaginal Education: game playing, science fiction, language, art and world-making*, 2001)

Aesthetics, namely the challenge to integrative comprehensibility of futures studies methods in designing the future and ensuring its credibility, as separately explored (*Enacting Transformative Integral Thinking through Playful Elegance: a symposium at the End of the Universe?* 2010).

- Shaping the future through aesthetics, as implied by the metaphor of [Mary Catherine Bateson](#) (*Composing a Life*, 1991)
 - singing the future into form, as suggested by popular appreciation of music and song
 - framing the future through poetry (*Poetry-making and Policy-making: Arranging a Marriage between Beauty and the Beast*, 1993; *Being a Poem in the Making: engendering a multiverse through musing*, 2012)
 - playfulness (*Enacting Transformative Integral Thinking through Playful Elegance*, 2010; *Playfully Changing the Prevailing Climate of Opinion: Climate change as focal metaphor of effective global governance*, 2005)
- Future of futures conferences as an "act of creation", implied by the arguments of various authors ([Douglas Hofstadter](#) and [Emmanuel Sander](#), *Surfaces and Essences: analogy as the fuel and fire of thinking*, 2013; Daniel Dervin, *Creativity and Culture: a psychoanalytic study of the creative process in the arts, sciences, and culture*, 1990; [Arthur Koestler](#), *The Act of Creation*, 1964).
- Science fiction:
 - dystopias and dark scenarios as framing devices (*Enlightening Endarkenment: selected web resources on the challenge to comprehension*, 2005)
 - alternative framings (*Timeship: Conception, Technology, Design, Embodiment and Operation*, 2003)
- Quest for succinct memorability through metaphor, as illustrated by the sesquicentennial symposium of Boston University which identified as "tessellation" the key metaphor of disparate orders ([Lance Morrow](#), *Metaphors of The World, Unite!*, *Time*, 16 Oct. 1989).

From poster sessions to stellar futures via aesthetic visualization

Posts, stakes and pillars: The major innovation of the event was with regard to the poster sessions held during coffee breaks, most notably with the objective of emphasizing the transformative role of the arts in relation to futures thinking and design. This conventional modality is a development of the use of "posts" to which "notices" could be attached -- possibly in the form of images. The sense has been extended to its use in the "postal service" and to "posting" electronic communications. Use of "posts" in a meeting context also has associations to "stakes" and the recognition of "stakeholders". Both uses of stakes recall the ancient construction of protective stockades to protect those within -- prior to the development of fortresses.

Any assembly of stakeholders continues to reflect this function to some degree -- effectively excluding those not present. Use of isolated posts is less exclusive in that an appeal (or warning) to passers-by is the objective. Unfortunately, although stakes may be "held" by a stakeholder (notably as an investment), there is still the possible sense of being "tied to a stake" for purposes of torture or execution. Posts and stakes are also associated with picket lines, especially when carried as a weapon.

Of curious relevance is the sense in which two posts (or three) are used to frame a goal in a number of ball sports. Rather than framing a communication as to be **passively** scrutinized on a panel or banner to be observed (a form of *dissemination*), it is then for some to endeavour **dynamically** to place a message (the "ball") between the posts -- and for others to prevent that happening. This is framed as "making a point" in order to "win" whatever that can be held to mean more generically. The process recalls the biology of *insemination* with an outcome lending itself to speculative reflection (*Engendering Invagination and Gastrulation of Globalization: reconstructive insights from the sciences and the humanities*, 2010). Further considerations are associated with "moving the goal posts".

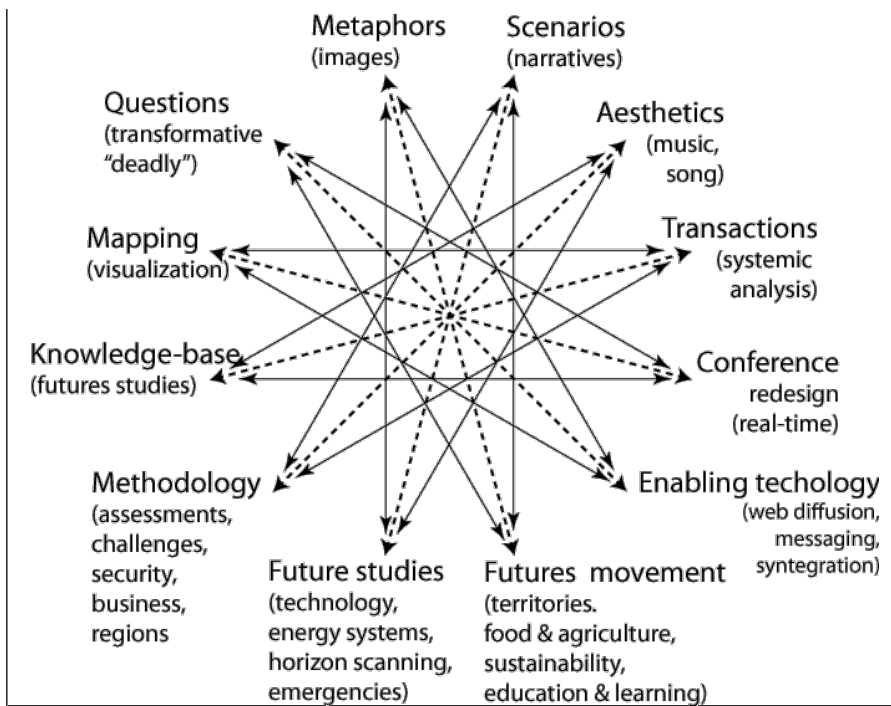
As with the architectural development of posts and stakes to pillars, the design innovation at the event followed from recognition that "posts" were conventionally associated with the "pillars" which figure so widely in the articulation and design of future strategies. International institutions may well have their major strategies based on pillars associated with values which they define and support, as discussed separately (*Holders of value configurations -- and their "pillars"*, 2008; *Pillars, poles and stakes*, 2008; *Configuring pillars*, 2008). The innovation recognized a degree of ambiguity between the supporting posts and the communication thereby supported on a panel.

Configuring conference posts as polyhedra: Further to such recognition, the so-called "Poster Sessions" at the event sought to reframe this understanding (and the constraining polarization which it implied) by configuring the "posts" in polyhedral form as separately described (*Coherent Value Frameworks: pillar-ization, Polarization and Polyhedral frames of reference*, 2008; *Topology of Valuing: psychodynamics of collective engagement with polyhedral value configurations*, 2008).

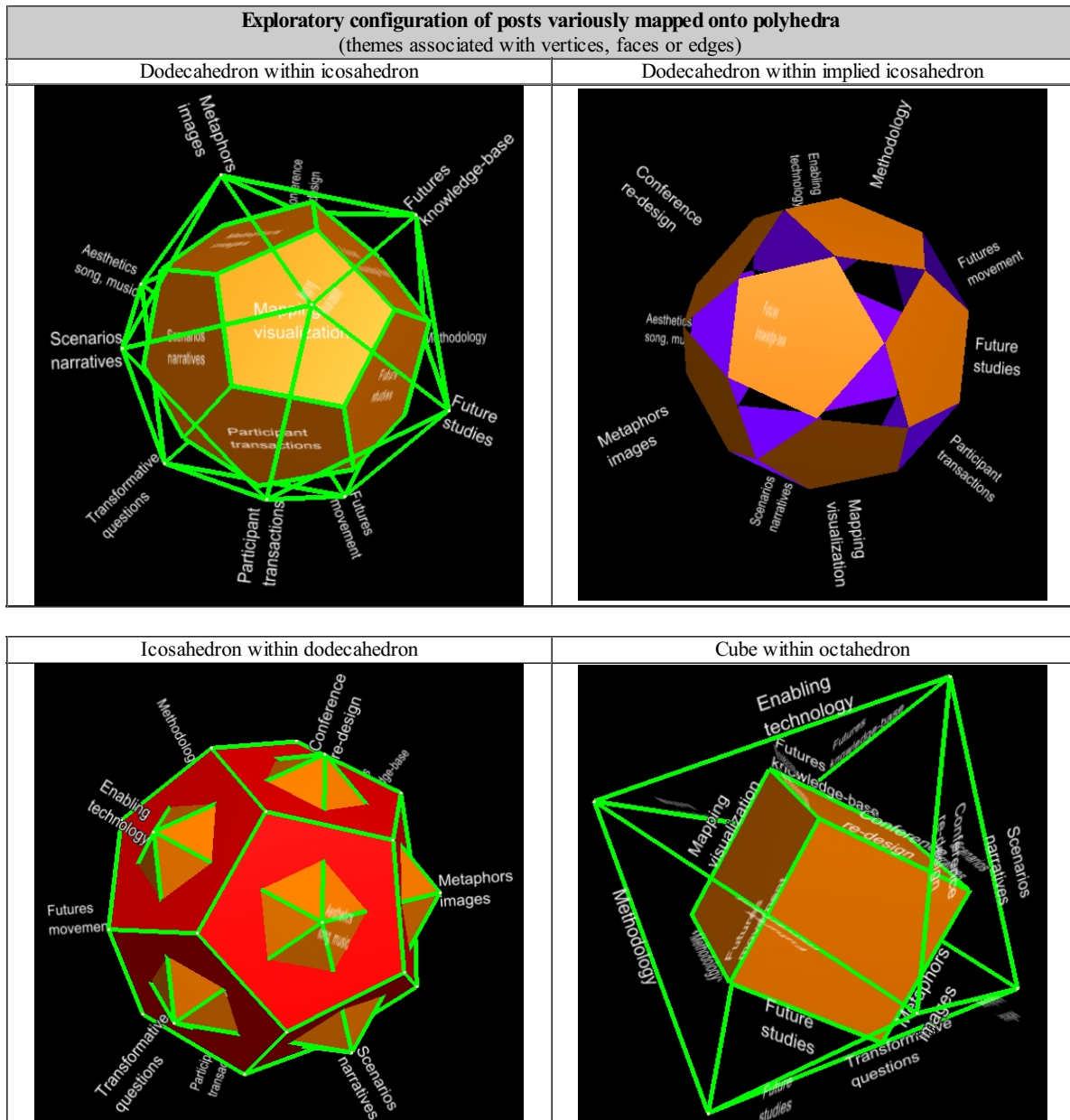
The approach is summarized in a subsequent paper (*Embodying Values Dynamically through Alternation: integrating sets of polarized static values through indicative metaphor*, 2008). The ambiguity between post and panel is then expressed through the sides of the polyhedron -- between the edges as the configuration of posts.

That earlier exploration was undertaken as a contribution to a *Panel on Ethics and Policies for Sustainable Futures* (Hyderabad, 2008) of the [World Academy of Art and Science](#) at which the approach was framed by a conventional poster (*In Quest of a Strategic Pattern Language: a new architecture of values*, 2008).

Exploratory configuration of the Turku conference "posts" first order mapping of the connecting pattern of themes

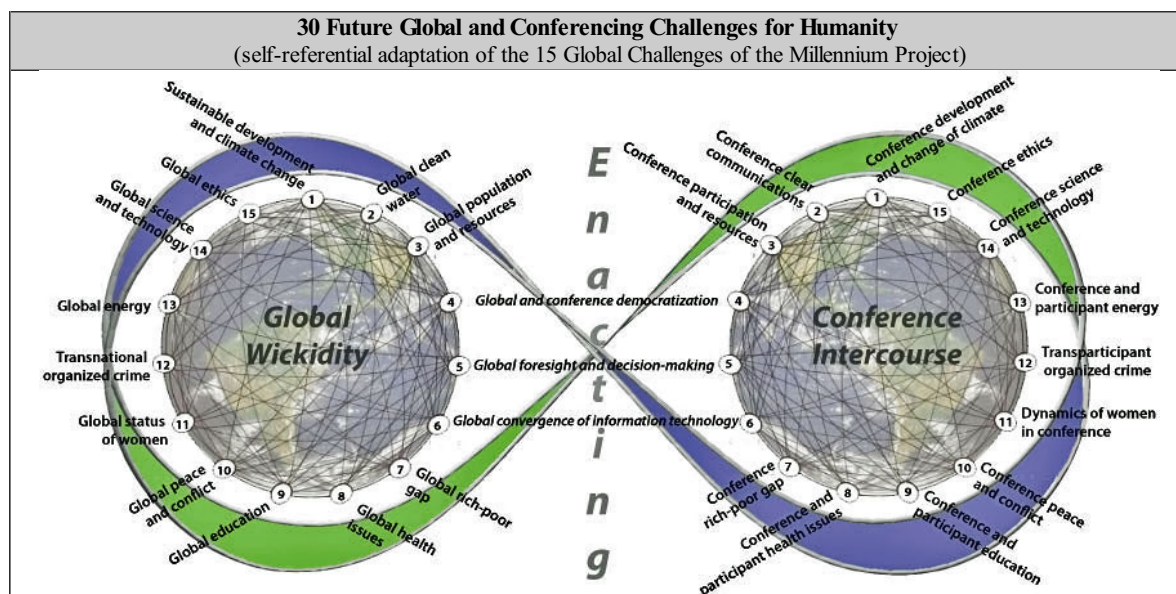


The posts above could be tentatively reconfigured as 3-dimensional polyhedra as indicated below.



A previous exercise demonstrated the possibility of associating images with each surface, including animations of those primarily associated with the posts (*Polyhedral Conference Representation as a Catalyst for Innovation*, 2008). [NB: Only subsequent to the event did it become possible to provide such a video based on the participant photos then placed on the website]

Posts as strategic challenges: A further mapping possibility was triggered by the presentation of the [15 global strategic challenges](#) identified by the [Millennium Project](#). This was creatively "adapted" to the self-reflexive preoccupation of the conference as follows.



The 15 external global challenges are framed here as "wickidity" (rather than wickedness) to suggest the stimulus they constitute to innovation. These are presented here as mirrored by the 15 internal processes of the conference, exploiting the suggestive ambiguity of "intercourse" (*Radical Cognitive Mirroring of Globalization*, 2014). As with sex, use of "tackling" as a metaphor was considered as potentially quite inappropriate to the fruitful engagement with wicked problems (*Beyond Harassment of Reality and Grasping Future Possibilities: learnings from sexual harassment as a metaphor*, 1996).

With respect to the two-fold set of mirrored challenges, of particular relevance, from a cybernetics perspective, was the work based on the icosahedron of [Stafford Beer](#) (*Beyond Dispute: The Invention of Team Syntegrity*, 1994). This depends on the integrity of the dynamics of 30 distinctive positions.

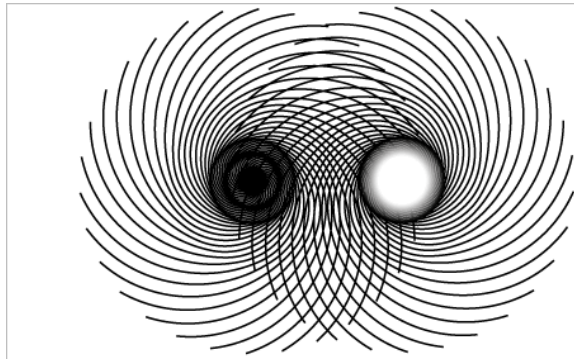
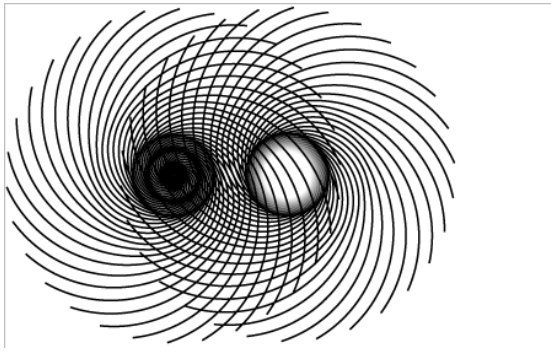
Cognitive transformation of configurations of challenges: The exploratory depiction above suggests how the global externality and the conference internality might be self-referentially entangled by using the paradoxical cognitive implications of the Möbius strip as an aesthetic framing device, as argued by [Steven Rosen](#) (*Science, Paradox, and the Moebius Principle: the Evolution of a "transcultural" approach to wholeness*, 1994). The schematic is consistent with an earlier use of the Möbius strip as a framing device for a provocative configuration such as that above (*Global Governance via a Double-breasted Strange Attractor: cognitive implication in a dynamic sexual metaphor*, 2009).

Note that "global" may be understood both in its conventional geopolitical sense and as a form of cognitive integration, as discussed separately (*Future Generation through Global Conversation -- in quest of collective well-being through conversation in the present moment*, 1997). This entanglement is suggested in the above image by the italicized commonalities in the centre, also to be explored through the cognitive implications of mirroring (*Stepping into, or through, the Mirror: embodying alternative scenario patterns*, 2008; *Problems of society as "within" rather than "without"*, 2013; *Cognitive Implications of Lifestyle Diseases of Rich and Poor: transforming personal entanglement with the natural environment*, 2010).

Holes, toroids, and doughnuts: Use of the 3D Möbius strip as a framing device helped to emphasize that **the 2D circles should be "re-recognized" as 3D spheres** within that paradoxical strip, itself suggestive of a torus. There is then a sense in which the two spheres can be understood as conflated, if not "con-fused", into one within that toroidal frame. So presented, this recalls the image of the Oxfam *"Doughnut": a safe and just space for humanity* (2012), discussed separately (*Exploring the Hidden Mysteries of Oxfam's Doughnut*, 2012). This suggests the sense of *Sustainable governance as a toroidal "crown of thorns"?* as discussed separately (*Implication of Toroidal Transformation of the Crown of Thorns: design challenge to enable integrative comprehension of global dynamics*, 2011).

The contrasting "global" foci in the schematic above are suggestively separated by "enacting", as implying the cognitive dynamics explored in [enactivism](#). This is understood as one of a cluster of related processes (sometimes known as the 4Es), the others being [embodied](#), [embedded](#) and [extended](#) aspects of cognition. These could have been included in the schematic, with engaging, embodying and enabling. Together these enrich the more conventional (non-cognitive) implications of "tackling" in the instrumental conference focus on: *Tackling Wicked Problems: where futures research, education and action meet*. A set of animations, consistent with the above schematic, served to illustrate this conflation (*Convergence of 30 Disabling Global Trends: mapping the social climate change engendering a perfect storm*, 2012). One such is reproduced below to illustrate the challenge of cognitive "con-fusion".

Animations indicative of cognitive con-fusion between global wickidity and conference intercourse
"Black hole" superimposing on "White hole" (spirals in same direction) **"White hole" superimposing on "Black hole"** (spirals in opposite directions)



In 3D, these processes are then to be recognized as associated with the toroidal hole -- the hole in the doughnut -- as a form of strange attractor. This deliberately offers associations to cognitive complexities of intercourse with its more generic connotations, notably in 4D (*Intercourse with Globality through Enacting a Klein bottle: cognitive implication in a polysensorial "lens"*, 2009; *"Human Intercourse"* *"Intercourse with Nature"* and *"Intercourse with the Other"*, 2007).

In the case of any framing of the contrasting perspectives in terms of "positive" and "negative", the animations above inform consideration of the creative approach of Nikola Tesla (mentioned above) in their dynamic "correlation" as a source of light and energy (*Reimagining Tesla's Creativity through Technomimicry: psychosocial empowerment by imagining charged conditions otherwise*, 2014).

Challenging dynamics: The concern at the conference was how this two-fold set of 15 challenges might be understood dynamically and transformatively in the light of the remarkable 4-volume synthesis of Christopher Alexander (*The Nature of Order: an essay on the art of building and the nature of the universe*, 2003-4). This is the culmination of decades of reflection on design, and the appreciation of the subtle quality which engenders a good place to be -- notably giving rise to *A Pattern Language* (1977).

However, in its focus on material design, "human nature" is subtly and curiously excluded -- as with the current challenges of designing psychosocial systems and the strategies of global governance. Alexander has however detected 15 "transformations" from that exploration (*Harmony-Seeking Computations: a science of non-classical dynamics based on the progressive evolution of the larger whole*, *International Journal for Unconventional Computing (IJUC)*, 2009).

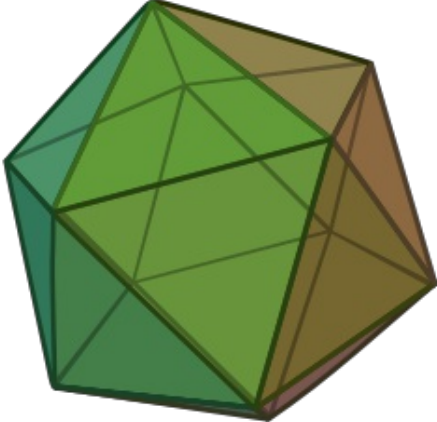
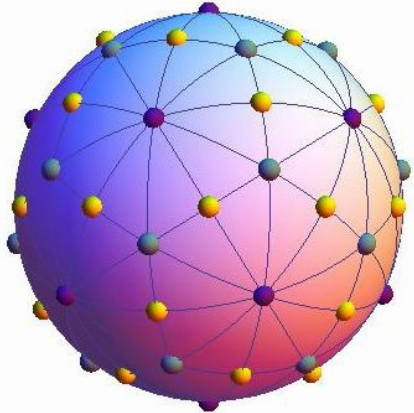
As discussed separately, the particular interest for the conference was the psychosocial relevance of the 15 transformations he has distilled from his work and the possibility of polyhedral configuration of them -- consistent with Alexander's emphasis on geometric adaptation -- in order to enable comprehension of a higher order (*Harmony-Comprehension and Wholeness-Engendering: eliciting psychosocial transformational principles from design*, 2010).

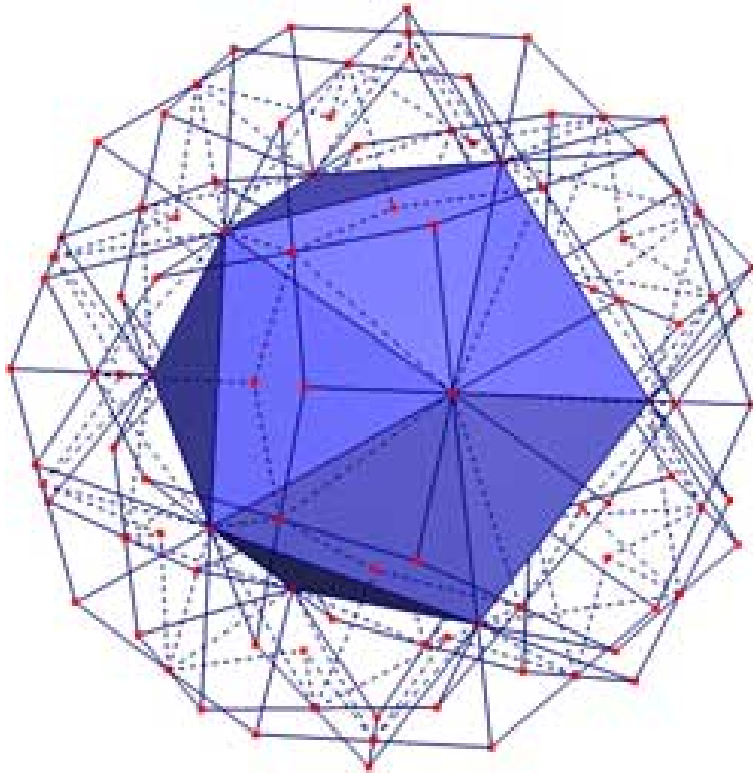
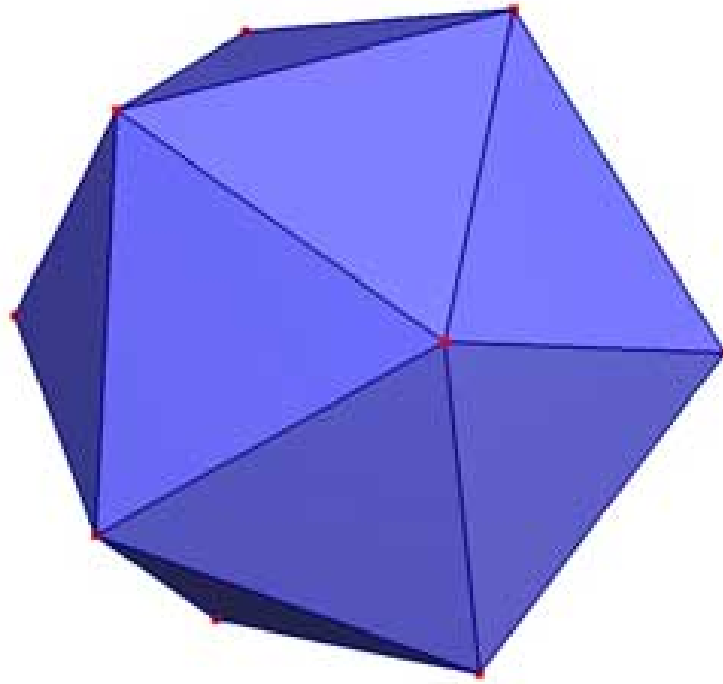
Icosahedral implications for global integrity: The concern of the conference was how to gain a richer understanding of the potential implications of the 15 patterns identified by the Millennium Project and the 15 transformations of Alexander -- notably given the latter's geometrical emphasis. The simplest polyhedron with the geometric properties that could serve this purpose in the case of the 15 transformations is the **icosahedron**, as confirmed by the cybernetics of Syntegrity (Beer, 1994).

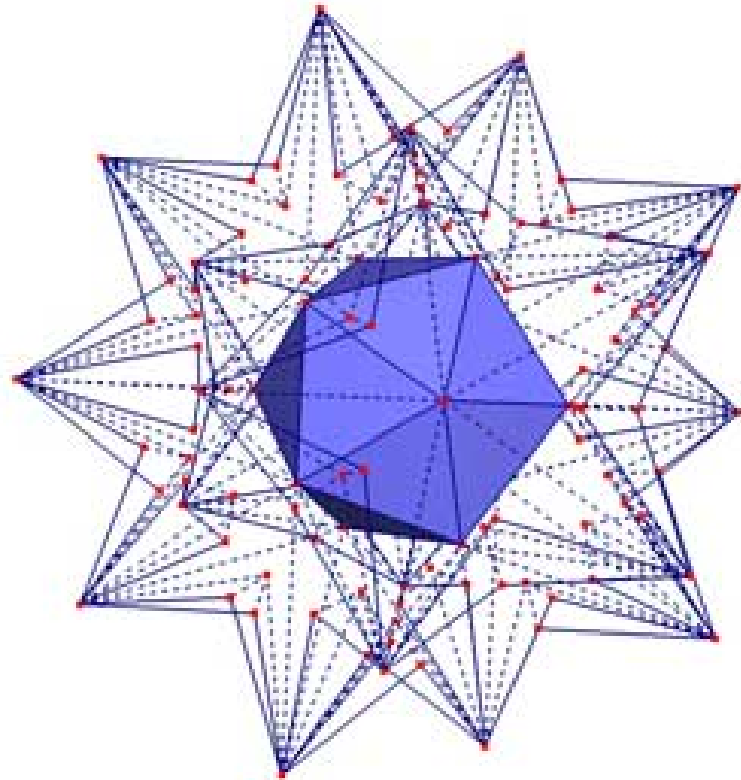
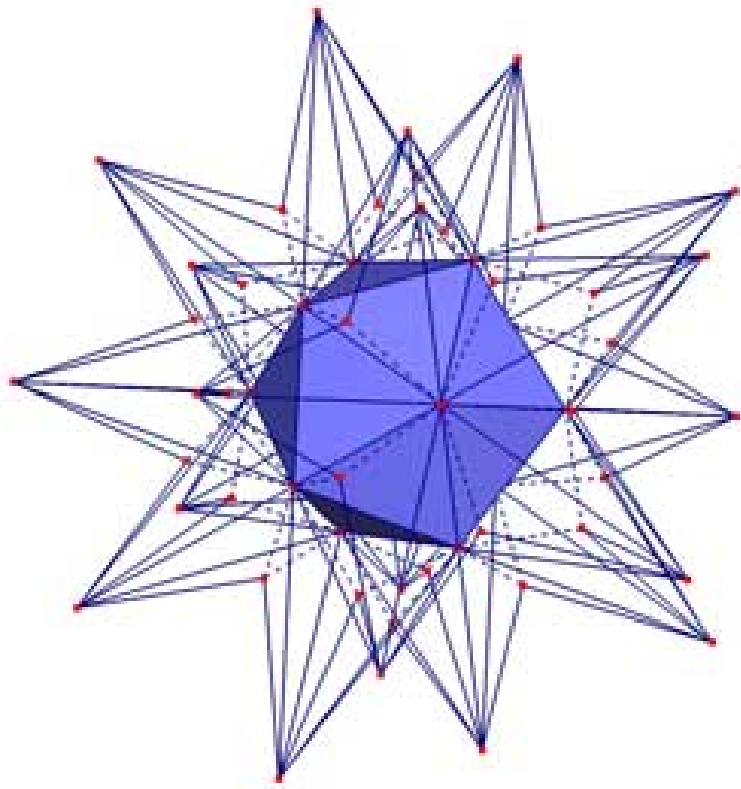
As indicated in the Wolfram Demonstration Project of a dynamic variant by Sándor Kabai (*Fifteen Great Circles on a Sphere*):

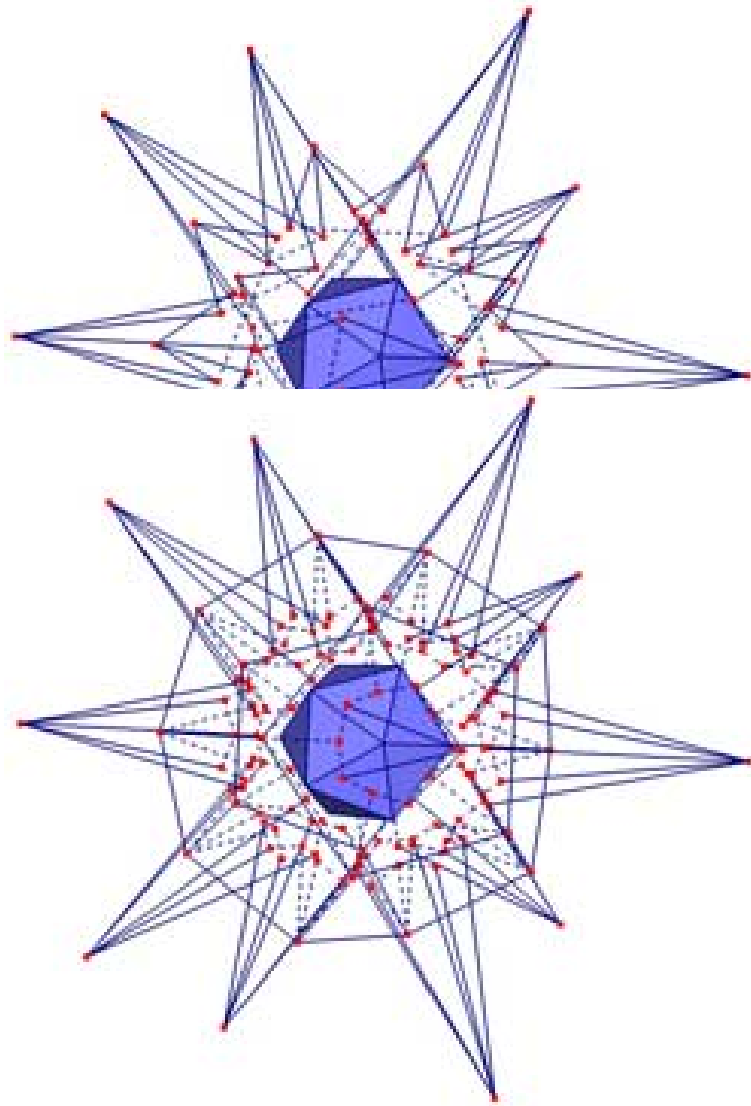
- three **golden rectangles** at right angles to each other determine the vertices of an icosahedron.
- there are 15 different circles through the pairs of opposite edges of the icosahedron.
- these circles are the **great circles** of a sphere circumscribing the icosahedron, since they are in the plane of the golden rectangles, and by one definition, a great circle is the intersection of a sphere and a plane passing through the center of the sphere.

There are therefore 15 intersecting golden rectangles, each edge of the icosahedron being defined by an edge of a golden rectangle. The 15 golden rectangles span the interior of the icosahedron. These rectangles have 30 edges, and each edge pairs up with its opposite edge to form a golden rectangle.

Icosahedron (from Wikipedia)	15 Great circles of icosahedron (click for dynamic variant from Wolfram)
	
Icosahedron showing single golden rectangle	Icosahedron showing all 15 golden rectangles



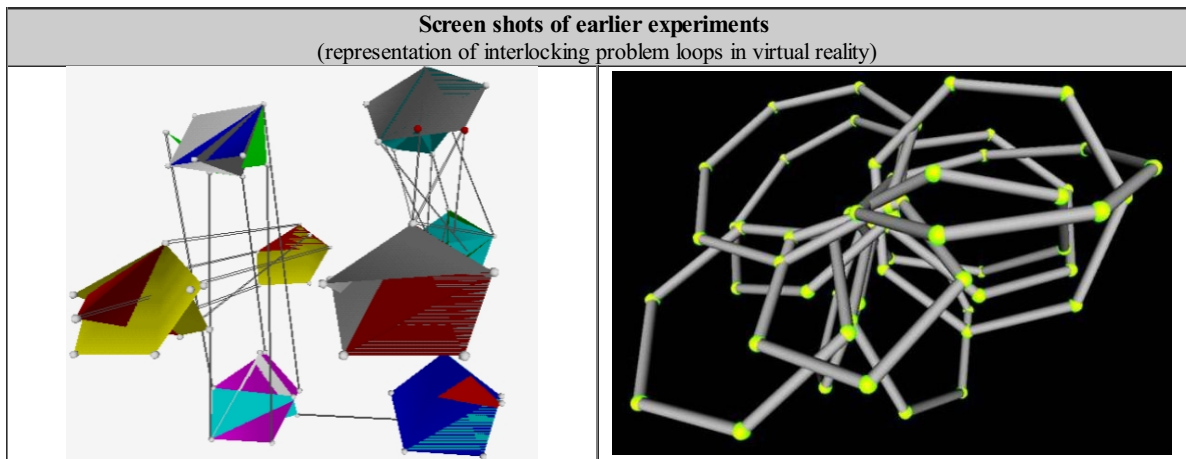
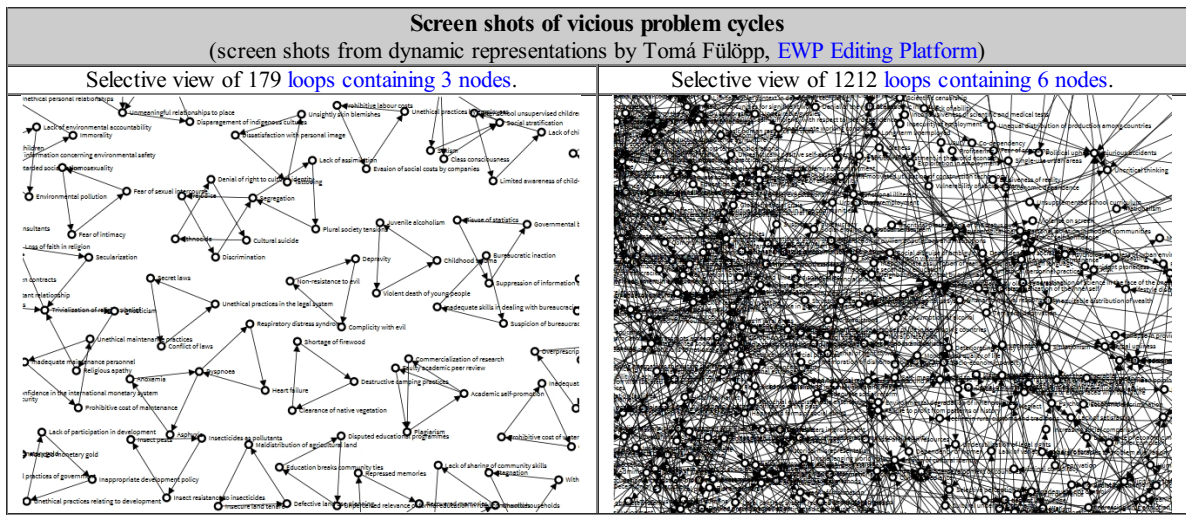




Encycling wickidity in the light of polyhedral viruses and their mutation

Vicious cycles: The possible geometrical complexification of polyhedra -- as indicated above in the case of the icosahedron -- was recognized by the conference as a template for future scenarios and modes of cognitive organization. The challenge was its relationship to the wicked problems which were the focus of the event. An analysis of a comprehensive set of problems, in terms of (vicious) feedback loops, was presented by [Tomáš Fülöpp](#) (*Loop Mining in the Encyclopedia of World Problems*, 2015). This constituted a development of previous work in relation to such loops in the database on (perceived) world problems by [Nadia McLaren](#) (*Feedback Loop Analysis in the Encyclopedia Project*, 2000) in the online *Encyclopedia of World Problems and Human Potential*.

Of particular relevance to understanding degrees of wickidity, is the length of such loops (as cycles), and the manner in which several such loops interlock. Such interlocking can be understood in relation to the interlocking great circles by which many polyhedra are framed (as noted above, in the case of the icosahedron).



Such considerations in terms of cycles suggested the possibility of "encycling" wicked problems, namely embodying them in interlocking cycles (*Encycling Problematic Wickedness for Potential Humanity: imagining a future Encyclopedia of World Problems and Human Potential*, 2014)

Icosahedral viruses and triangulation: Biomimicry (mentioned above) offers a valuable clue to the comprehension of problem wickidity by the conference through consideration of viruses and their potential mutations. Viruses are infectious pathogens that cause serious diseases and major threats for global public health (as in the case of influenza, hepatitis, and AIDS).

As a particularly significant class of viruses, polyhedral viruses consist of nucleic acid surrounded by a polyhedral (many-sided) shell or **capsid**, usually in the form of an icosahedron -- hence the use of "icosahedral virus" in **virus classification** (Roya Zandi, et al. *Origin of Icosahedral Symmetry in Viruses*, *PNAS*, 2004; UCLA Virus Research Group, *The Origin of Icosahedral Symmetry in Viruses*). Of potential relevance to problem wickidity, the latter demonstrates that the basis for icosahedral symmetry being so strongly preferred by viruses is that:

...it allows for the lowest-energy configuration of particles interacting isotropically on the surface of a sphere. More explicitly, we find that the energy-per-particle is a minimum for configurations that involve 12 five-fold defects at the vertices of an icosahedron, and that these configurations are especially favored for "magic" numbers of particles corresponding to the "**triangulation**" ("**T**") numbers of Casper and Klug [1962]

The *Wikipedia* entry on capsids includes a tabular [representation of icosahedral viral capsids in terms of T-numbers](#). With respect to the disparate characteristic of wickidity, a contrasting case for triangulation has been discussed separately (*Triangulation of Incommensurable Concepts for Global Configuration*, 2001). Similarly, with respect to "magic" numbers, fundamental to organization, there is a case for exploring the interplay of 5, 12, 20 and 30 (*Memetic Analogue to the 20 Amino Acids as vital to Psychosocial Life?* 2015).

Mutations of viruses can be organized as truncations and chiral operations in pentagonal space (notably to form Archimedean polyhedra), as described and illustrated by Sten Andersson (*General Polyhedra, Virus Structure and Mutation*, *Zeitschrift für Kristallographie*, 225, 2010; *The Structure of Virus Capsids*, *Zeitschrift für anorganische und allgemeine Chemie*. 634, 2008). Further to the reference above to the stellations of the icosahedron, Andersson notes that the spike structures of viruses accurately can be described as stellations of polyhedra (*Virus Structures, Stellations, Spikes, and Rods*. *Zeitschrift für anorganische und allgemeine Chemie*, 635, 2009).

Virology and wicked problems: The quality of thinking applied to viruses as an **individual health issue** suggested to the conference that some of the insights may be relevance to exploration of global challenges as a "**planetary health**" issue. At the very least, they offer a language with which to explore wicked problems -- a language conceived such as to enable them to be tackled with greater efficacy. It is appropriate to note that both viruses in their own right, and some research on viruses, have themselves been described as

wicked problems (Gregory D. Koblenz, *Dual-Use Research as a Wicked Problem*, *Frontiers in Public Health*, 2014; 2: 113). However it does not appear that the structure of viruses has been explored as a key to understanding problem wickedness.

In addition to the databases of the *Scripps Icosahedral Server* and the *Virus Particle Explorer*, the many references (with illustrations indicative of fruitful leads) include:

- J. E. Johnson and J. A. Speir: *Quasi-equivalent Viruses: A Paradigm for Protein Assemblies*, *J. Mol. Biol.* 269, 1997, pp. 665-675
- Reidun Twarock: *Mathematical Virology: a novel approach to the structure and assembly of viruses*, *Phil. Trans. R. Soc. A*, 364, 2006, pp. 3357-3373
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- Michel Deza: *Geometry of the Structure of Viruses*, Ecole Normale Supérieure
- Robert S. Sinkovits and Timothy S. Baker: *Structure Determination of Icosahedral Viruses Imaged by Cryo-electron Microscopy*, *Structural Virology*, 2011
- Roberto Marabín: *Icosahedral Viruses: 3D Reconstruction*, 2014

With respect to global and individual health, **there is an appropriate elegance to the correspondence between the icosahedral ordering of both psychosocial mega-problems and of the micro-problems constituted by viruses**. Is it possible that the most hazardous viruses offer a mapping template for the wickedest global challenges?

Wicked problem antigens? At the conference the degree of correspondence, through the polyhedral form, suggested the value of exploring virology as offering a "pattern language" with regard to **antigens** and **antibodies** as these might apply to the operation of possible "viral antigens" that could be developed to constrain wicked problems.

Use of "viral" as a metaphor in relation to diffusion of information (as in **viral marketing**), and the use of "virus" in relation to computer **malware**, suggests that such a pattern language already has a degree of credibility. Global challenges, as wicked problems can already be explored as "social messes" -- reminiscent of epidemics engendered by spread of viruses (Tom Ritchey, *Wicked Problems/Social Messes: decision support modelling with morphological analysis*, 2011; Robert E. Horn, *Social Messes*, Nautilus Institute, 2009).

Concluding antithesis

Catalytic material: As indicated in the introduction, the articulation above was undertaken as an exercise in reimagining the 17th International Futures Conference using its contents and processes as a catalyst -- as catalytic "material" in the special aesthetic sense, notably as "poetic material" (Jean Tobin, *Creativity and the Poetic Mind*, 2004). Arguably such an exercise could be performed by all participants. More generally it could be seen as a process that could be employed at many conferences dubiously upheld as a source of inspiration and hope, especially for the younger generation unfamiliar with the conventions of the past and the track record of such events.

The event in Turku could have been as imagined above. This was necessarily not the case. It was indeed a conventional event, presumably satisfactory in terms of the aspirations of many. It had nearly double the number of participants anticipated -- presumably confirming the organizers in the requirements for the next such annual event. A stress was indeed placed in the introductory speeches on the need to be positive, even happy. Despite the crises of the times, it could be concluded that such conferences are gatherings of the self-satisfied, rather than the self-reflective, despite the warnings of such as **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).

Pattern of non-connectedness: Other than the call to be positive, there was no consideration of conference communication processes **in the moment -- and their possible incomprehensibility or irrelevance to some**. There was indeed a map of the concrete layout of meeting rooms, but there was none indicative of the pattern of relationships between the content of the topics (represented by the abstracts disseminated).

As is common, no conference papers were available -- in anticipation of being made available commercially at some time in the "foreseeable" future in journals subject to peer review (notably the *European Journal of Futures Research* and *Futures*). There were no tables on which such documents could be freely laid out -- or announced. Unusually, there were very few surfaces on which tracts reflective of alternative views could be exposed or made available. The conference was host to extremely well-behaved participants. After the event, **some papers have been made freely accessible** on the conference website. Why not before or during the event? In order to ensure that people come to sessions? Is it to be assumed that the future can be designed and engendered via the constraints of intellectual property and through use of proprietary metaphors, as queried separately (*Future Coping Strategies: beyond the constraints of proprietary metaphors*, 1992).

Indifference to collective learning? As was noted at the 21st World Futures Conference (Burcharest, 2013), little had changed in the futures conference process or structure since the 3rd Conference in the same venue in 1972. Presumably many would be content that such would be the case at an event 40 years hence -- in anticipation of the iconic date of 2050 on which much futures thinking is now focused. Is futures research, like religion, a preoccupation with a potential "future" through rehearsal and celebration of the patterns of the "past"?

In contrast to regular software updates, there is no indication of what "bugs" have been removed since the previous event, and no track record of improvements made over the succession of 17 events. How is the futures community to demonstrate learning, as exemplified by the conferences it organizes? Or should such events reframe themselves as non-learning environments?

After decades of conventional conferences, is anything to be learnt from the participant challenge to organizers by [Christy Wampole](#) (*The Conference Manifesto*, *The New York Times*, 4 May 2015)? Are conferences effectively designed to be boring -- to the younger generation? Worse still -- from a futures perspective -- have they become dystopias, "unfit for purpose" in this period? What are the [deadly questions](#) by which a conference can fruitfully challenge itself (*World Futures Conference as Catastrophic Question: from performance to morphogenesis and transformation*, 2013)

Typical of such events, there was much emphasis on what "should" be done, or what "ought" to be done -- but little if no analysis of why nothing effective is done, beyond tokenism inadequate in scope to the challenge of the times (*Mind Map of Global Civilizational Collapse: why nothing is happening in response to global challenges*, 2011; *Map of Systemic Interdependencies None Dares Name: 12-fold challenge of global life and death*, 2011). The potential relevance of the Turku event was indeed given appropriate focus through its theme: *Tackling Wicked Problems: where futures research, education and action meet*. It is far from clear that the wicked problems felt challenged by the debate.

Questionable management of time? For a context preoccupied with the future, the event was much challenged by time -- perhaps to the point of exemplifying the argument of [Jeremy Rifkin](#) (*Time Wars: the primary conflict in human history*, 1987). The organizers were obliged to "pack in" the paper presentations of an unexpected number of contributors -- on the assumption that such use of "air time" best ensured communicability. Discussion was therefore severely limited, especially in plenary sessions. The omnipresent web access was not adapted to minimize presentation and maximize collective benefit from a session.

Irrelevance to current crises? In a week in which bombs were strategically falling in the Middle East, and refugees were dying on the Mediterranean in their strategic attempt to reach a strategically embarrassed Europe, futures researchers had little comment to make -- other than the encouragement to be positive.

Should it have been otherwise, given that the discipline is specifically framed to focus beyond the present? Does futures research have anything to offer to the many who are faced with the existential anticipation of "nothing"? Is it an exercise in escapism -- dissociated from present tragedies?

Jihad as "tackling"? Could the multidimensional nature of that experiential condition be considered to be a wicked problem which might be fruitfully "tackled"? Perhaps even more to the point is the sense in which significant participants in the present crisis have framed *jihad* as a means of tackling a condition which they perceive to be wicked. In doing so, through the radical strategy they consider appropriate to bringing about a *caliphate* -- reflecting their dream of a desirable Islamic future -- they in turn evoke the condemnation of being wicked (*Radicalisation versus Demonisation? Enabling radical initiatives under conditions of strategic stalemate*, 2015; *Radicalisation of Existence and Identity: recognizing the global emergence and influence of daimonic dynamics*, 2015).

Strangely matching that is the evil attributed by some to the highly secretive "unholy trinity" of treaties under negotiation, as noted separately (*Imposing TTIP-TPP-TISA as the caliphate of normality?* 2015). Such controversial and paradoxical dimensions were not considered at the Turku event, other than through the filter of future security preoccupations -- for those threatened by such questionable dreams.

Eliciting meaning -- challenge for the young: As previously argued, in this period of crisis, there is a need to articulate the challenge for those exploring futures research as a guide to future strategy (*Self-reflexive Challenges of Integrative Futures*, 2008). More generally the question is how meaning is to be elicited in this period (*Eliciting a Universe of Meaning -- within a global information society of fragmenting knowledge and relationships*, 2013). How is a "participant" expected to put it all together -- beyond the comments in such papers? What form might best be taken by any future guides for the perplexed ([Maimonides](#), *The Guide for the Perplexed*, 12th century; [E. F. Schumacher](#), *A Guide for the Perplexed*, 1977)? Should every conference have an *ombudsman* for perplexed participants?

Returning to the Zen tale of the Rainmaker (cited above), in the face of sterility should participants be encouraged to engender "rain" -- if only for themselves alone? (*Existential Embodiment of Externalities: radical cognitive engagement with environmental categories and disciplines*, 2009). However, for any conference conceived as a parade, the metaphor is especially problematic.

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