Coactive Contextual Relationships

necessary underdefinition and resonant associations of ITER-8

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[See also website of ITER-8: Cognitive Fusion Reactor]

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ITER-8: a necessarily underdefined entity

An understanding of the relationships of ITER-8 to other entities and processes necessarily raises the question as to the nature of ITER-8 and its relationship to ITER.

Unconventional entity: Conventional responses to the question as to what precisely is ITER-8 are to some degree inappropriate to its nature. Such questions are formulated in a language that expects answers in the same frameworks as that of the question, namely in the form of:

- an organization, whether legally defined or not
- a project or programme, whether conventionally funded or not
- a concept, whether a design concept or some other kind
a symbol, whether defined by and subject to legal protection as a trade mark or patent
a process, whether involving conventional participating bodies or not

ITER-8 may however be better understood as a pattern, a metaphor or paradigm, engaging activity with a range of other entities in a variety of ways consistent with its preoccupations. The concept of entrainment may be relevant (cf Attitude Entrainment: Communicating thrill skills and insights, 2004 ). In terms of process, it may be understood as a "transitional object" (Giovan Francesco Lanzara, Capturing Transient Knowledge in Design and Innovation Processes, 2006)

It is useful to reflect on the emergence of the various types of conventional entity named above over recent centuries. Their current denotation of the "existence" of a psychosocial object is a recent phenomenon and not as definitive as is conventionally assumed. A case can be made for the future emergence of new kinds of entity that are less unambiguously definitive than is implied by any of those terms. Just as the industrial revolution gave definitive form to such entities, reinforced by the programmes of governance and funding over the past century, other forms of entity may be required for the challenges of the coming century.

Method: New methodologies are called for in response to turbulent times -- however they integrate methodologies of the past. ITER-8 can in part be understood as an imaginal method or posture. Methodologically, ITER-8 is neither science nor art, neither belief, nor fiction. The following are indicative processes of ITER-8:

- it models itself on the most complex and most challenging psychocultural artefacts -- of which ITER is an exemplar
- it proactively engages objects to which it is exposed and uses them to enhance its memetic organization -- negentropic emulation of higher order patterns
- "external" artefacts are considered reflections of culture and world view -- evoking a corresponding psychocultural structure rather than bracketing them off

In the promotion of ITER, the point is made that it "iter" is the Latin for "the way". The methodological challenge in the case of ITER-8 can be well expressed by the much-cited first line of the Tao Te Ching: The way that can be named is not the Way. This work is one of the most important in Chinese philosophy and religion, especially in Taoism, but also in Buddhism -- and the most translated publication after the Bible. Given that China is also a participant in ITER and that Chinese culture will help to frame the challenges of fusion in new ways (as clarified by Susantha Goonatilake, Toward a Global Science: mining civilizational knowledge, 1999), these and other such insights are of relevance to articulating the methodology of ITER-8 (cf Hyperspace Clues to the Psychology of the Pattern that Connects in the light of 81 Tao Te Ching insights, 2003).

"Field effect" relationships: ITER-8 is not well understood through being positioned in terms of its conventional relationships to other entities and processes. Specifically, because of the processes it enacts, detachment from entities of that type is important to avoid quenching effects noted above. This can be clarified as follows:

- many conventional entities can be understood as exercises in tokenism through which "active" participants are in effect involved in name only (eg as letterhead supporters, token contributors, or in passive formal decision-making roles). The operation of ITER-8 depends on active processes as described above, rather than detachment achieved through tokenizing attachment.
- promotion of its processes and methodology is not essential to the fruitful operation of ITER-8. It is not designed to be dependent on persuading others of its value or ensuring full understanding of its mode of operation.
- just as many conventional bodies operate as if their declared participants and supporters were of more than token nature, to an important degree ITER-8 is able to operate "as if" a range of people, bodies and technologies were directly supportive of its operations. However the key to this participative support ITER-8 lies in the enactive processes in which it engages at the interface with such "external" entities.
- consistent with the complex dynamics essential to its processes, much of the nature of ITER-8 is best understood as being of a higher degree of order, mathematically speaking, than conventional entities. This means that aspects of what it "is" are essentially counter-intuitive and paradoxical from conventional frameworks. In this sense it is significantly undefined. In Zen terms it is the institutional equivalent to the "sound of one hand clapping".

Together the above points are indicative of how the operation of ITER-8 is dependent on the "arm's length" nature of its relationship to other entities. Whereas relationships between conventional entities are typically understood in terms of metaphorical "bonds" and "networks", possibly defined in legal and contractual terms, in the case of ITER-8 the relationships are better understood in terms of "field effects" engendered in relation to "non-members", "non-partners", and "non-supporters". These field effects define the nature of its co-existence with other psychocultural entities. Indeed, in a conventional sense, ITER-8 may even be understood as having a "non-vision", a "non-strategy", a "non-program", and "non-deliverables".

The increasing dependence of modern governance on "spin" at the highest level (as sustained by the best academic think-tanks) is an indication of the coherence of this understanding -- notably in response to "terrorism", now understood as being driven by an idea or an attitude rather than by any conventional understanding of an organization or a strategy **. The management challenge of ITER-8 could therefore be described in part as the "non-management of non-relationships" in order to avoid quenching, game-playing and obsolete patterns

"Image management": In endeavouring to describe and understand ITER-8, there are therefore a number of challenges:

- Variety of perspectives: ITER-8 may partly be understood as the experimental organization of a set of ways of knowing. In practice this corresponds to some degree with the attitude framed by the classic Sanskrit term “neti neti” (not this, not that), namely the capacity flexibly to "doff" and "don" different epistemological frameworks through which ITER-8 may be framed
- Enactive dimension: in seeking to communicate the nature of ITER-8, it is useful to recognize that this is not so much a question
of "image management" as of recognizing that the enactive dimension of ITER-8 implies that managing its image is itself fundamental to the process of ITER-8, especially the nature of its self-image. As noted above, this is increasingly the challenge of modern governance fruitfully framed as constantly reinventing itself in response to feedback. For example it is relevant to query the extent to which ITER-8 is:

- a "sect", understood as an unconventional belief system supported by unusual, exclusive and secretive practices. This could certainly be said to be the case, as is true of any "discipline" in the radical sense clarified by Paul Feyerabend (Against Method: outline of an anarchistic theory of knowledge, 1975).
- a set of "yogas", understood as a set of "ways of knowing", or epistemological frameworks, oriented to various forms of "union" or "fusion" with a superordinate framework. (cf Antonio de Nicolas: Meditations through the Rg Veda: a retrospective, 1999; Meditation: The Making of Images; Technologies Of Transformation: From Mysticism to Recovery)
- an aesthetic "game". This would be consistent with the kind of understanding explored by Herman Hesse (Magister Ludi, 1943) in his celebration of the high-culture psychosocial role of the "Glass Bead Game" in interweaving any cultural artefacts (whether from the sciences or the arts) into vehicles for higher orders of meaning. Such a game entrains in the manner of a psychocultural analogue to the place of football. There is no question then regarding the degree of "participation" of "spectators". Such dimensions are appropriately recognized in the cognitive engagement in internet games and their design (as an emerging discipline in its own right). This engagement clarifies some of the processes of cognitive fusion.
- a "metaphor". This would be consistent with the understanding elicited by investigations on appreciative inquiry research (David L. Cooperrider (ed) Organization Dimensions of Global Change, 1999) into the role of generative metaphor in sustaining a number of unusual collective initiatives (Institute of Cultural Affairs, Hunger Project, etc)
- a meditation or thought experiment (Denkmodel). This would be consistent with some approaches to scenario building in which the designer is implicated in the dynamics of the scenario. The existence of ITER offers an objective surface onto which a psychosocial experiment can be projected whilst respecting the fundamental role of non-mechanistic processes. In this sense ITER-8 may be understood as a model of an interface between conventional and unconventional psychosocial processes.
- a mathematical exercise. As a response to a higher-order of complexity than is commonly recognized in conventional processes, this would be consistent with a recognition of mathematics as the science of relationships.
- a practice or praxis. As exemplified by the understandings of enactivism and the insight into "laying down the path through walking" (Francisco Varela, 1997)
- a process of cooptation. This would be consistent with ITER-8's attitudinal posture in response to other psychosocial initiatives with whose dimensions it can enter into semantic resonance -- with which it can "dance", "play" and have fruitful "intercourse".
- a joke or a hoax. This would correspond to the understanding celebrated in various schools of "crazy wisdom". The creativity and lateral thinking associated with humour, because of the resonant associations, is to be considered vital to the sustainability of the processes of ITER-8 as a whole.

**Existence**: as explored above, there is a specific challenge regarding the nature of ITER-8 -- whether it exists or not, whether it is active or not, and in what way? Beyond the need to frame these questions in the light of an enactivism perspective, there is the fundamental epistemological challenge of the limitations of the binary logic of either/or. In Zen terms, the answer to such questions would be the term "mu". It neither "exists" nor "acts" according to conventional understanding, but it does "exist" or "act" through other frameworks with implications for such understanding. Its focus is on such epistemological challenges and their related psychosocial implications. In effect it might be considered a higher dimensional object.

**Individual vs Collective**: Such binary logic may also frame a question in terms of whether ITER-8 is an "individual" initiative or a "collective" initiative. This framing precludes recognition of the enactive process in which an "individual" may engage to reframe the psychosocial environment as a whole -- or the implications for a group of people together engaged in this process. The more interesting question is whether individual comprehension of ITER-8 is modelling collective comprehension, or vice versa -- and how ITER-8 then models ITER, or vice versa. In Kenneth Boulding's words: "Our consciousness of the unity of the self in the middle of a vast complexity of images or material structures is at least a suitable metaphor for the unity of a group, organization, department, discipline, or science. If personification is only a metaphor, let us not despise metaphors - we might be one ourselves." (Ecodynamics: a new theory of societal evolution, 1978)

**Projection**: part of the challenge of an entity like ITER-8 is that comprehension of what it is depends to a high degree on the projections of the beholder. In a meaningful sense it offers a surface that partly mirrors what any observer chooses to see -- in the light of the dimensionality they bring to the process. Whilst efforts may be made to increase the transparency of ITER-8, there is also a sense in which significance is derived in part from a form of "dance of the seven veils" in which total transparency effectively obscures the more valuable process insight

**Form of expression**: Efforts to develop a more advanced theory of communication have highlighted the importance of the form on which statements are elaborated. Covert conventions at a level deeper than the level of form determine the kinds of distinctions that are made -- distinction which would not be made if statements were elaborated on a torus rather than on a plane surface, for example (cf Michael Schilz, Form and Medium: a mathematical reconstruction, Image [&] Narrative, 6, 2003). The topology of the medium makes a difference. The focus within ITER-8 on the torus, necessarily avoids distinctions that would otherwise be made in describing ITER-8 on a plane surface.
• "Belgian compromise": The challenge to understanding ITER-8 may be partly understood in the light of an analysis in the *Principia Cybernetica* regarding a special political modality known as the "Belgian compromise". Typical solutions derived in this way are such that complex issues are settled by conceding something to every party concerned, through an agreement that is usually so complicated that nobody completely understands all its implications.

• "Global vs Local": A particular concern in understanding ITER-8 relates to whether it is to be understood as a "global" initiative or a "local" initiative. As a "global" initiative it would then be framed as relevant to the possibilities and concerns relating to "globalization", global plans and global solutions. As a "local" initiative it might then be considered of greater relevance to local communities and their members. This distinction (flawed by its reliance on binary logic) is typically made with respect to geopolitical understandings of "global". Elsewhere it has been argued that of great significance, and much neglected, is the sense of "global" that is not restricted to geopolitical considerations but carries the sense of universal or comprehensive, as opposed to the limited or specialized sense of "local" (cf *Future Generation through Global Conversation: in quest of collective well-being through conversation in the present moment*, 1997). This is recognized in mathematics through global optimization processes, notably with respect to nonlinear dynamics, in the (possible or known) presence of multiple local optima. In the case of cognitive fusion, the "global" characteristics of transdisciplinarity are to be contrasted with the "local optima" provided by the focus of specialized disciplines.

The toroidal dynamics of the plasma in a tokamak reactor have significant "global" characteristics that contribute to sustaining the condition and power generating capacity of the plasma torus. In this sense ITER-8 is indeed a fundamentally "global" initiative emphasizing the importance of nonlocal phenomena. They correspond to the principle of nonlocality in physical theories whereby it is recognized that it is not appropriate to treat widely separated systems as independent, whether or not this implies causality. In the quantum mechanics determining some plasma dynamics, effects that appear nonlocal, may actually obey the principle of locality. ITER-8, as a toroidal or spherical tokamak, is a form of greater potential to understanding of "globalization" than that of the "Spherical" Earth -- if only in terms of the "trillions of dollars sloshing around world capital markets" [more].

Resonant associations to other "ITER" projects

Given its psychocultural bias, ITER-8 necessarily seeks to respond to the dimensions of the *Zeitgeist* that echo a preoccupation with "iter". The challenge for ITER-8 is to embody and reframe those dimensions in more powerfully significant ways.

The intergovernmental ITER fusion project is not the first project to use that acronym or to benefit from the various associations to the term "iter". In Latin "iter" means "the way" or "the way ahead", as in "itinerary" -- also including the notion of "journey" or "expedition". Many with aspirations to high office in governance frame their strategic vision as "My Way". As such "iter" has inspired a range of institutional projects and initiatives that contribution to the articulation of the psychocultural framework of ITER-8:

• **Renaissance**: *Iter: Gateway to the Middle Ages and Renaissance* is not-for-profit partnership, initiated in 1996 in North America, and devoted to the development of online resources for Medieval and Renaissance studies. This notably includes works such as:
  - Paul Oskar Kristeller (*The Iter Italicum*), namely the most comprehensive finding list available of previously uncatalogued or incompletely catalogued Renaissance humanistic manuscripts found in libraries and collections all over the world.
  - Girard J. Etzkorn (*Iter Vaticanum Franciscanum: A Description of Some One Hundred Manuscripts of the Vaticanus Latinus Collection*)

In socio-cultural terms, there is continuing admiration for the historical development in Europe that is associated with the term Renaissance. In particular the quality of synthesis that interrelated a diversity of fields of knowledge is widely acknowledged -- "man as the measure of all things". Leonardo da Vinci is cited as an exemplar bridging creatively across disciplines and arts that are now deeply divided and typically indifferent to the human dimension (cf adjustment with a human face***). The symbolist theory of correspondences (favoured as a mode of analogical reasoning from classical Greece) is for example a rich precursor of modern approaches to transdisciplinarity -- which appear impoverished in comparison. Questions continue to be asked as to how a modern analogue to the Renaissance could be catalyzed, notably in Europe (cf Renaissance Europe). A concern of ITER-8 is how to honour and benefit from such qualities in the past for which it has vital reason to ensure a viability to their analogues in the future

• **Expeditionary studies**: A number of earlier scholarly studies, notably in Latin, used the term "iter" in their titles. Notable in this respect is that of Athanasius Kircher (*Iter exstaticum quo mundi opificium id est coelestis exponsi, siderumque tam errantium, quam fixorum natura, vires, proprietates, singulorumque compositio et structura, ab infinito telluris globo, usque ad ultima mundi confinia, per ficti raptus integumentum explorata, nova hypothesi exponitur ad veritatem interlocutoribus Cosmiele et Theodidacto*. Rome, Vitalis Mascardi, 1656). This might be considered an early example of "science fiction" (as the author termed it) since it reports on imaginary and imaginative "voyages" through space and beneath the earth. *Itinerarium exstaticum* is written in the form of a narrative in which a certain Theodidactus is caught up in a dream-vision, or an ecstatic journey, and is guided through the heavens [more] | [more] | [more]

It is widely accepted that science fiction has been fundamental to triggering and cultivating the imagination of recent generations. The coherence of imaginative journeys provides an important contrast to unquestioned views of reality and thinking "in-the-box". ITER-8 can in part be understood as such a creative journey, calling into question received ideas regarding the nature of the reality in which people are supposed to live. It is an expedition into the unknown, designed to attract those willing to accept the risks and perils.
• Health spas: The ITER project, partly funded under the European Initiative Interreg III B (CADSES), is to identify, protect, enhance and develop some 200 historic European spas currently attracting increasing interest in wellness through spa tourism [more]

There is widespread concern at the extent of what are now termed civilizational diseases, arising in part from the increasing fragmentation of lives and responsibilities, and the general loss of coherence. Industrialized countries like the UK and the USA now report levels of depression reaching up to 15% in the population. Greater amounts of conventional energy are not expected to offer much in response to these conditions -- especially to the extent that they are of a psychosomatic nature. ITER-8 offers new insights into wholeness and its sustainability, recognizing that this is itself fundamental to health and well-being -- and a balanced approach to the conditions of society. Traditional Taoist preoccupations with the conscious movement of energy within the body have been intimately related to health (including anti-aging and conservation of youth, even understood as a form of "sustainability" in the continuing search for "immortality"). The toroidal dynamics of ITER (discussed above) and the challenge of toroidal decay, suggest a way of reframing health consistent with such Taoist perspectives.

• Toxicity and risk: International Toxicity Estimates for Risk (ITER), established in North America in 1996, provides online data for over 600 chemicals of environmental concern from multiple organizations worldwide in support of human health risk assessments (notably in relation to cancer). It offers a comparison of international risk assessment information in a side-by-side format, explaining differences in risk values [more]. [see also ITER Definitions]

As noted in relation to health, ITER-8 is especially concerned with an appropriate response to factors that undermine human well-being. But its particular concern is what might be termed the "cancers of the mind", or the "cancers of the emotions", that contribute so significantly to despair and the failure to engender and sustain coherent imaginative psychosocial projects that are so vital to providing a purpose to living. By its very nature and mode of operation, ITER-8 draws attention to levels of risk associated with particular mindsets and behaviours which may well have deadly consequences.

• Therapeutic clinic for sexual offenders: An ITER clinic has been established in Belgium. The acronym signifies in this case: I-mpulse control, T-ackling re-offending, E-mpathy awareness, R-esponsibility acceptance.

The challenge of managing plasma in a fusion reactor, as faced by ITER, may be understood generically as one of managing the most intense energies that humans are capable of engendering in order to benefit from the process of fusion. In the case of ITER-8, this challenge is also understood in relationship to the energies engendered by humans in their relationships. ITER is concerned with how the process can become dysfunctionally distorted, whether resulting in quenching or more damaging consequences. ITER-8 is analogously concerned with collective processes, engendered by individuals, that effectively quench the imagination and inhibit the sustainability of human relationships on which the viability of society is so dependent.

• Renewable energy technologies: The Instituto Tecnológico y de Energías Renovables (ITER), was established in 1990 on the island of Tenerife, by its administrative authority, as a pioneering multidisciplinary project to encourage technological research and development related to the use of renewable energies and related technologies contributing to the socio-economic development of the archipelago.

A prime concern of ITER-8 is with the renewable energy technologies capable of underpinning a psychosocial system subject to increasing levels of turbulence. Both "energy" and the sense in which it is "renewable" are considered from a less tangible perspective. This is based on the understanding that human creativity can respond to problematic conditions provided its wells of creativity and imagination are not tainted or depleted to a degree analogous to the condition of normal groundwater.

• Technical education and research: The Institute of Technical Education and Research (ITER) was established from the academic session 1996-97, located in India in Bhubaneswar. The Innovation: Technologies, Experience and Research (ITER) group has operated as a B2B atelier since 1989, developing customised services for public bodies and private corporations.

In the light of its innovative approach and commitments, ITER-8 has a technical education and research dimension to encourage others to explore the energy frontiers that are liable to be crucial to the sustainability of psychosocial systems of the future.

• Learning pathway tools: R. Corrao and G. Fulantelli (Cognitive accessibility to information on the Web: insights from a system for teaching and learning Architecture through the Net) describe a browser tool to maximise the learning process of users and, in particular, to facilitate the recognition of the phases of knowledge acquisition ('Iter'). The 'Iter' shows the list of pages visited by the user during the work session. Unlike the 'history' tool available in commercial browsers, the 'Iter' tool keeps track of the operation performed by the user on the pages.

Antonio Peri, et al (ITER: A computerized test to assess the decision making skills, 1998) describe a test, called ITER, of decision-making and planning skills important in a project operational and organizational environment, especially involving logistic and scientific responsibilities [more].

• Internet game: Iter: the Journeys of Julius Caesar is a game created for the festival of Saturnalia on the basis of the extensive travels undertaken by the Roman Emperor, on one of which he wrote a poem entitled Iter (now lost).
As noted above, various approaches to game-playing are integral to the preoccupations and functioning of ITER-8. The concerns range from transcending the (institutionalized) game-playing typical of programmes characteristic of sustainable development, not in the expectation that game-playing itself may be avoided but rather that more productive games can be played and that the set of games effectively function as reference points that can engender a more focused attitude conducive to cognitive fusion. Of particular interest are efforts to envisage more sophisticated psychocultural games such as the "Glass Bead Game" of Hermann Hesse (Magister Ludi, 1943), mentioned above, and web efforts at their emulation [***], and other efforts imaginative initiatives (cf M A Foster, Gameplayers of Zan, 1977)

- **Computer iteration algorithms**: The process of "iteration" is fundamental to many computer applications, and the term "iter" may be used to name the relevant operators. In one case ITER calculates a Markov matrix from a rainflow matrix. In another ITER permits the efficient input, output, and manipulation of very large stacks of a unary operator. (see also Daniel Kasak, *Intuitive concept of iter*, 2 Feb 2006)

Fundamentally ITER-8 may be usefully considered as an iterative design procedure through which approximations to a fruitful design are used to feed the ITER-8 process in order to elicit more appropriate designs to engender and sustain cognitive fusion. The processes of ITER-8 may themselves involve a higher degree of iteration exemplified by necessary repetition in many scientific experiments, meditative practice -- exemplified by the endurance made famous by Robbie Bruce of Scotland [more].

- **Information Technology and Law (ItER)**, as an initiative of the of the Netherlands Organisation for Scientific Research (NWO), promotes the study of current legal issues in information technology.

ITER-8 is notably concerned with the rapid emergence of proprietary metaphors that inhibit cognitive fusion (cf *Future Coping Strategies: Beyond the constraints of proprietary metaphors*, 1992)

- **Initiation**: Etymologically "in iter" signifies "on the way" implying a need to know the method of access to new forms of understanding.

As a fusion reactor experiment, for ITER the concept of "initiation" is currently employed to mark the staged development of the installation and experiments permitting transition to more fruitful levels of operation. ITER-8 recognizes the challenges of individual and collective behaviour essential to engendering and processing psychosocial energies in new and more beneficial ways. These may indeed benefit from new "levels" of insight and metaphorical articulation through which necessary distinctions can be made and sustained in support of such processes.

### People / "players" / non-participants

*** In process ***

### Institutional "dancing partners" / non-participants

*** In process ***

### Technologies and "modelling partners"

*** In process ***

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