

ENERGY PATTERNS IN CONFERENCES

weaving patterns of information as a context for higher levels of integration

A J N Judge

An exploration of the different patterns of information which may emerge at any time during the course of a meeting -- and the special problems and opportunities to which they may give rise

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INTRODUCTION

Meetings are frequently taken to be a success if:

- significant speakers come and present information, insights or inspiration
- sufficient participants are attracted
- some concrete product emerges, whether in the form of proceedings, declaration, resolutions for further collective action, etc
- those attending are able to interact to a satisfactory degree, making useful contacts

Since meetings provide the principal arena in which the possibilities for the future are articulated, and the resources for change are apportioned, it is fruitful to keep challenging the way in which meetings are currently conceived.

Is it possible that there may be significantly more fruitful ways to hold meetings ?

What could a "perfect meeting" be like next year -- and 500 years from now ?

One new way to understand meetings, which suggests many possibilities for their improvements, is in terms of "patterns of energy". The question is what kinds of "energy" or information are exchanged in a gathering in order to give it focus, to move it forward, and to maintain a healthy relationship among the different positions represented. And what are the component parts on any such pattern.

This document is one attempt to clarify these issues. It is based of a wide range of materials (see the references). These have been presented here in a sequence from 1 to 12 in some detail, followed by 13 to 20 in a much more exploratory approach, followed by an example of the I Ching 64-fold pattern as explored for networks and meetings.

The suggestion, whether implicit or explicit, in many of the sources used, is that patterns of interaction amongst people (or conference sub-groups) holding different views can be usefully identified. Some authors favour 3-fold patterns, others 4-fold, 5-fold, 6-fold, 7-fold, 8-fold, etc. Some authors, notably Kuchinsky (following Bennett) and Allen, have presented these patterns in a sequence as in this document -- applying them to the management of organizations.

In this document the relevance of such patterns to conferences is explored. The document is very much a first draft and suggestions for improvement are welcomed. It has the merit of drawing attention to other approaches which focus on one or other pattern.

There is a major difficulty in making effective use of such information. As will be seen in exploring the 4-fold or 6-fold patterns, a presentation of this kind corresponds to one specific kind of "energy" in such a pattern. It is necessarily a very partial presentation. For the patterns to "work", other complementary energies must also be activated. This requires different styles of contribution to the work of the conference.

Despite this inherent trap, hopefully this document identifies an opportunity in conferences to use a set of energy or information patterns, whether interlinking participant roles, specialized groups or styles of information presentation. One complementary approach which moves beyond the distinctly sterile "left-brain" nature of this document, is through the use of metaphors to reinterpret the patterns in more organic terms. Some references are made to possible metaphors appropriate for each pattern. Metaphors for understanding conferences in a more fruitful light are explored in an accompanying document (extracted from the Encyclopedia of World Problems and Human Potential).

One mechanistic metaphor through which to understand the value of such a set of patterns as a whole, is that of a conceptual or energy "gearbox" (1st gear is used for some purposes, 4th gear for others, etc). The important thing for a meeting is to be able to "shift gear", and not to get confused about "which gear we are in" at any point in a discussion. Another metaphor, more organic, is that of a pattern of crop rotation.

More speculatively, such patterns may be viewed as exercises in collective "basket-weaving" or building "bird cages". As in the Sufi tale, if the container is well-designed, it may prove appropriate to a higher level of significance.

Human life is driven forward by its dim apprehension of notions too general for its existing language.

Alfred North Whitehead

The names that can be named are not definitive names. Naming engenders ten thousand things....Thirty spokes share the wheel's hub. It is the centre hole that makes it useful....Therefore profit comes from what is there; usefulness from what is not there.

Lao Tzu

In contrast with what is commonly assumed, a description, when carefully inspected, reveals the properties of the observer. We, observers, distinguish ourselves precisely by distinguishing what we apparently are not, the world.

Francisco Varela

Behind the misty wall of words, the diverse, even contradictory, interpretations, motivations and utilisations are an indication of fundamental divisions concerning values. In particular, the most basic human rights are more frequently invoked as a weapon of attack or defence against some party, rather than recognized as the royal road to a positive relationship between individuals and groups in an objective form of fraternity.

René Maheu, Director-General, UNESCO

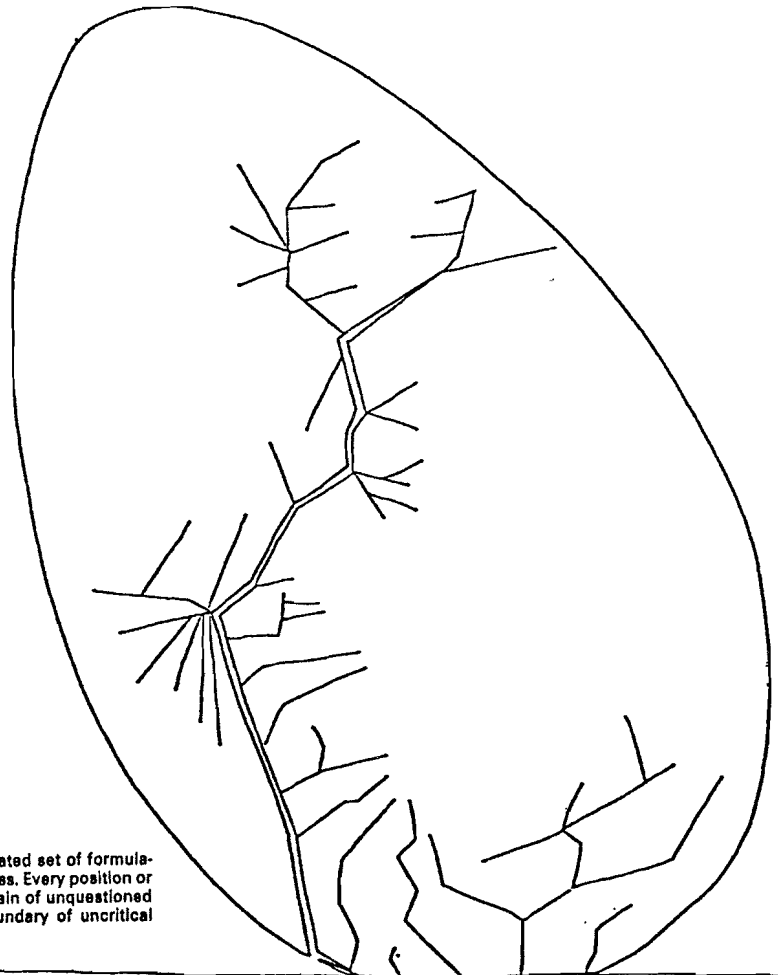
When men understand only one of a pair of opposites, or concentrate only on a partial aspect of being, then clear expression also becomes muddled by mere word play, affirming this one aspect and denying all the rest....The wise man therefore sees that on both sides of every argument there is both right and wrong.

Chuang Tzu

Break the pattern which connects the items of learning and you necessarily destroy all quality....The pattern which connects is a metapattern. It is a pattern of patterns.

Gregory Bateson

Neti Neti ("Not this; not that")
Sanskrit aphorism



Inadequacy of formulations

No single formulation (including this one), nor any logically integrated set of formulations, adequately encompasses the nature of the development process. Every position or formulation is therefore suspect. When it is formulated within a domain of unquestioned consensus, this potential doubt is inactive, thus establishing a boundary of uncritical discourse which inhibits development.

Examples:

A conference as a whole.

An organization.

Conference challenge:

No unity exists apart from interested attention. In a conference, any situation to which the gathering directs its attention is thus transformed into a unity, but some exemplify the systemic attribute of universality more strongly than others. Wholeness is universal and omnipresent, but relative; it may be transformed into identity. The combination of confused immediacy and the expectation of finding an organized structure imbues the situation with the potential for progress. It is what it is, but it holds the promise of being more than it appears to be.

The initiator of any enterprise necessarily creates a much smaller world than the context encompassing it. The basic difficulty remains as acute for the one called to the path of action as for the one called to the path of contemplation: to overcome preference. Since overcoming preference is repugnant to human nature as it is born, discipline must be invoked and practiced.

Questions:

How to distinguish between a simplistic (reductionistic) concept of undifferentiated, unity or consensus -- with all its totalitarian implications -- and a richly diversified concept of unity, in which each distinction has its role and function?

Possible metaphors:

Gaia, circle, ecosystem, solar system, sun, human being, community.

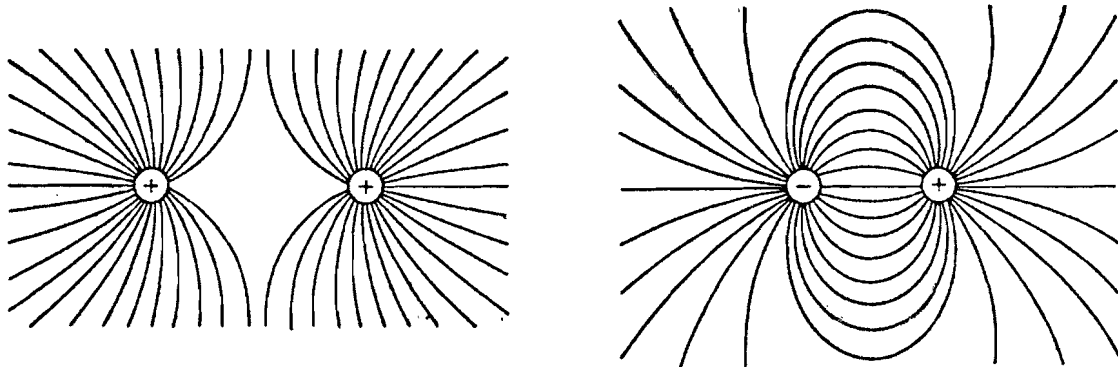
Articulation exercise:*Inadequacy of formulations*

1. No single formulation (including this one), nor any logically integrated set of formulations, adequately encompasses the nature of the development process. Every position or formulation is therefore suspect. When it is formulated within a domain of unquestioned consensus, this potential doubt is inactive, thus establishing a boundary of uncritical discourse which inhibits development.

Cautions:

Over-simplifying wholeness -- the holographic paradigm (William Irwin Thompson):

"I hope the public will not do to the metaphor of the hologram what they did to the model of the lateralization of the brain. Ornstein's ideas were overgeneralized ad nauseam. And this encouraged a good deal of "misplaced concreteness", in which highly complex psychologic psychic states were simply locted in physiological processes. Pribram and Bohm are doing good work, but I hope we will give them the necessary space to do that work and not jump in with an overgeneralized advertising campaign"



Examples:

Some dualities which introduce tension into the conference dynamics:

- (a) Future vs. Past
- (b) Perfection vs. Imperfection
- (c) Activity vs. Passivity
- (d) Good vs. Evil
- (e) Creative vs. Receptive
- (f) Male vs. Female
- (g) Haves vs. Have-nots
- (h) Positive vs. Negative

Conference challenge:

A conference defines and organizes space (namely a conceptual domain or territory) and time (the rhythms in which attention is devoted to portions of that territory). A conference introduces "curvature" into the space-time continuum of society -- just as participants introduce curvature into the continuum of the conference for themselves -- through the energy and focus of their individual preoccupations. Any such curvature necessarily distorts the flow of information in the larger whole.

Questions:

Who manipulates such space-time and how?

How can one navigate through it?

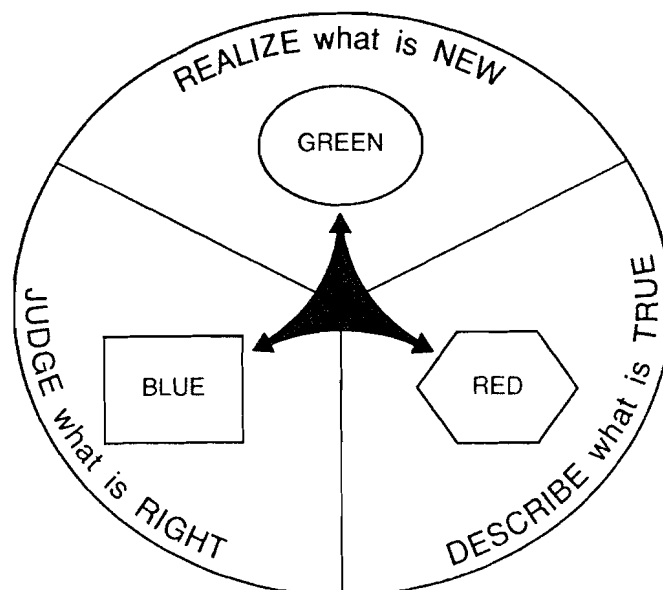
Possible metaphors:

Breathing, walking

Articulation exercise:*Opposition/Disagreement*

2.1 New initiatives, including this one, are formulated by taking and establishing a particular position in opposition to whatever is conceived as potentially denying it. The nature of the initiative is partly determined by the way in which the challenge or initial absence of any opposing position is perceived and the possible nature of the response. It is the immediacy with which the challenge is perceived that empowers the initiative.

2.2 The taking of a position as a result of a new initiative engenders or activates a formulation which is its denial. Every formulation is therefore necessarily matched by an initiative which is incompatible with it, or opposed to it, or takes an essentially different direction from it. This opposition is fundamentally unmediated and as such cannot be observed or described. It can only be comprehended through identification with one of the opposed positions.



(J Rhodes & Sue Thame)

Examples:

>> *Some triple complementaries (Arthur Young):*

- (a) Relationship -- Act -- State
- (b) Impulse (purpose) -- Spontaneous act -- Being
- (c) Faith -- Change (reaction) -- Transformation
- (d) Knowledge (form) -- Observation -- Significance
- (e) Fact -- Control -- Establishment

>> *Colour-coded thinking (diagram above) (Jerry Rhodes and Sue Thame):*

- (a) Green code: Unknown, as-yet-unrealized future, the possibilities that may or may not materialize; uncommitted to action; divergent, lateral, imaginative, intuitive, unformed, disruptive, pattern-breaking; essentially creative.
- (b) Red code: Known; collection and organization of facts and figures; communication and being in touch, mutual understanding and exchange of information.
- (c) Blue code: Judgement; making choices, evaluating, giving opinions; deciding what is relevant as a basis for action; focusing personal values and beliefs; action oriented.

Conference challenge:

The presence of contradictions, opposing factions and polarization in a conference, tends to engender some third force or position which mediates between them. The mediating role may however shift between any of the three -- an eternal triangle of shifting bilateral coalitions and oppositions.

Questions:

What are the questions/challenges faced by those holding each role?

What are the insights characteristic of each position?

What are the blindspots / illusions of each?

Possible metaphors:

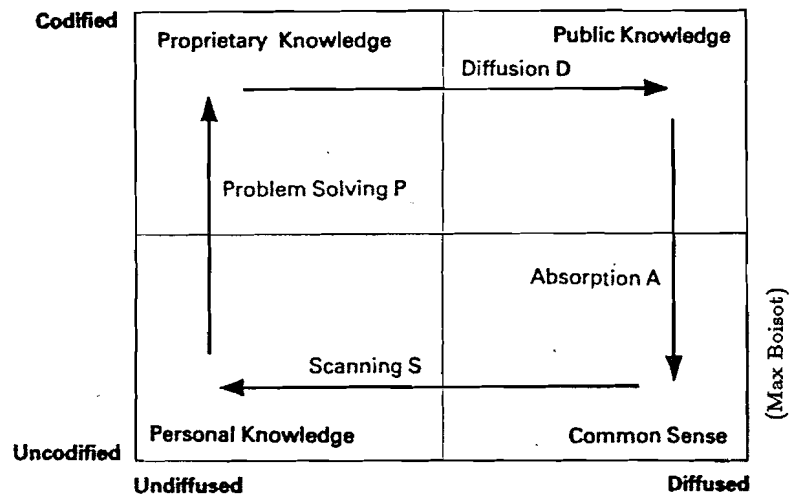
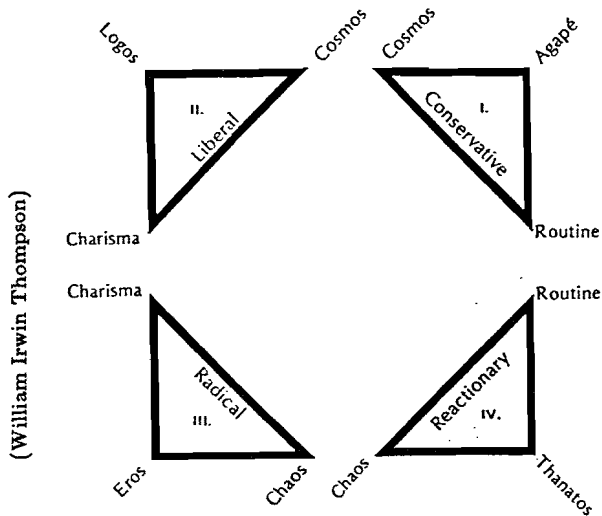
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Articulation exercise:*Dialectic synthesis*

3.1 A form, through the affirmation of its existence, exerts pressure in response to its context which acts as an impulse for the continual transformation of the latter. As antecedent of any such transformation, it subjects any outcome to constraints. To the extent that the nature of the pressure on its context is unrecognized, any action initiated is distorted or unregulated in its impact on the context.

3.2 A form existing in the present stands in opposition to other pre-existing forms within the same context. As a result it is constrained by them to be of the necessary scale and proportion to oppose the pre-existing forms most dynamically. Within a given context, however, an opposing form of a particular type may be engendered which has been superseded in other co-present contexts. Forms corresponding to different stages of development may thus re-emerge and co-exist if the communication between contexts is obstructed in any way. To the extent that ignorance concerning this obstruction prevails, contexts become progressively more restricted, such that the dynamism of the opposition of the forms engendered within them diminished with a corresponding increase in the inertia or resistance associated with the least developed forms.

3.3 Opposition between two forms tends to give rise to a new form which has properties characteristic of both of them as well as new mediating properties unique to itself. The new form interrelates or harmonizes the original opposing forms. It reconciles them at a new level of expression of unity, whether or not they then disappear. The potential existence of the new form is therefore partially implicit (although incomplete) in each of the opposing forms prior to its generation. It thus functions as a stimulus or attractant by providing a pattern for their interaction and the organization of its outcome. Once created, the form will in its own turn prove inadequate and be opposed and superseded by more adequate forms whose nature it partially defines. The attraction of a particular form may however prevent the energetic development of this process.



Examples:

>> Some paradigms of four-fold discourse include:

- Analytic -- Dialectic -- Axiotic -- Mythic (McWhinney)
- Formism -- Mechanism -- Organicism -- Contextualism (Pepper)
- Deterministic-Hierarchical-Classificational
Individualistic-Random-Idiosyncratic
Interactive-Mutuality-Context dependency
Repatterning-Multiple meanings-Anticipatory incompleteness (Magoroh Maruyama)
- Intuition -- Sensation -- Emotion -- Thought (C G Jung)
- Air -- Earth -- Fire -- Water (Traditional)

>> Movement of knowledge and information in culture space (Max Boisot):

- Public knowledge:** Codified and diffused (accumulating in books, libraries, archives, etc)
- Proprietary knowledge:** Codified but not yet diffused, having a scarcity value which can be traded for other benefits (money, prestige, authority, influence). Includes confidential reports, share tips, patentable technical knowledge, esoteric knowledge.
- Personal knowledge:** Unstructured individual perceptions and insights; formless and fleeting intuitions that evade all attempts to record and store them; intuitively apprehended, and thus primarily of value to the possessor. Intangible source of charismatic power.
- Common sense:** Knowledge, uncodified yet widely diffused; built up through socialization and understanding unwritten rules; what everybody knows without saying; harbours archaic custom and folk wisdom, as well as intuitive understanding.

Knowledge and information flow through culture space (see diagram above): Upward towards greater codification; downward towards less codification; rightward towards more diffusion and leftward towards less diffusion, thus irrigating culture space with information. New knowledge is created when the actions of the four vectors resolve themselves into a clockwise flow, where each vector represents a distinct phase in the build up of new knowledge (scanning, problem solving, diffusion, absorption).

>> Four philosophies of management (Charles Handy):

- Zeus style:** Club culture of the "old boy network" based on empathy radiating out from a patriarchal figure or inner circle. Excellent for speed of decision in high risk enterprises, but relies heavily on trust, dependent on common background. Power at the centre.
- Appolonian style:** Role-structured, hierarchical organization portrayed in standard organization charts and bureaucracies; split into divisions at the base, linked by a board at the top. Excellent for routine tasks in which stability and predictability are taken for granted, and no one is irreplaceable. Power at the top.
- Athenian style:** Based on a network of task-oriented units responding to new one-off problems. Resources are drawn from various parts of the network to focus on a particular problem. Excellent where innovative responses are required and experiments are encouraged. Power lies in the interstices.
- Dionysian style:** Organization perceived as existing to help the individual achieve his/her idiosyncratic purposes, preserving identity and freedom. Coordination accepted as an administrative necessity but no ultimate authority is recognized. Excellent where the talent of the individual is the crucial skill for the group. Power lies with the peer group.

> > *Four-fold logic (adapted from K Mushakoji and T Yamauchi):*

It is useful to consider the following four alternative modes as ways for a conference -- or the participants individually -- to deal with information:

(a) *Affirmation*: Taking the form of affirmative action, support, commitment, initiative, proposition, cooperation, consensus formation, empowering, and "opening". At best it gives form to new possibilities; at worst it takes the form of inflexible dogma, resistant to the emergence of new insights.

(b) *Negation*: Taking the form of negative action, sanction, withdrawal of support, denial, disassociation, delimitation, boundary closure, opposition. At best it provides the means through which the value of outdated patterns are questioned; at worst it promotes criticism and dissent for their own sake.

(c) *Affirmation and negation*: Taking the form of a flexible response, affirming what needs to be affirmed, questioning what needs to be questioned. Resolution is sought as a middle way defined by the sensitive use of both approaches. At best it mediates between incommensurable approaches, establishing a credible bridge between them; at worst it takes the form of hypocrisy, double dealing, and expedient fence sitting.

(d) *Non-affirmation and non-negation*: An approach which does not indulge in the processes of affirmation or negation, but remains essentially detached from them -- making some use of them, but not relying on them. At best this is the most intuitive of approaches, providing new ways of perceiving existing forms and forming delicate and allusive associations between incommensurable phenomena; at worst it takes the form of vacillation, indifference, or indecision -- neither confirming nor denying.

Conference challenge:

The stability of a conference is ensured by its ability to shift harmoniously between four counter-acting conditions through the excess of any one of them are counter-balanced. Less creatively this may take the form of a co-existence of four distinct emphases, whether or not any transition between them is feasible or attempted.

Questions:

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Possible metaphors:

Walking by quadrupeds

Articulation exercise:

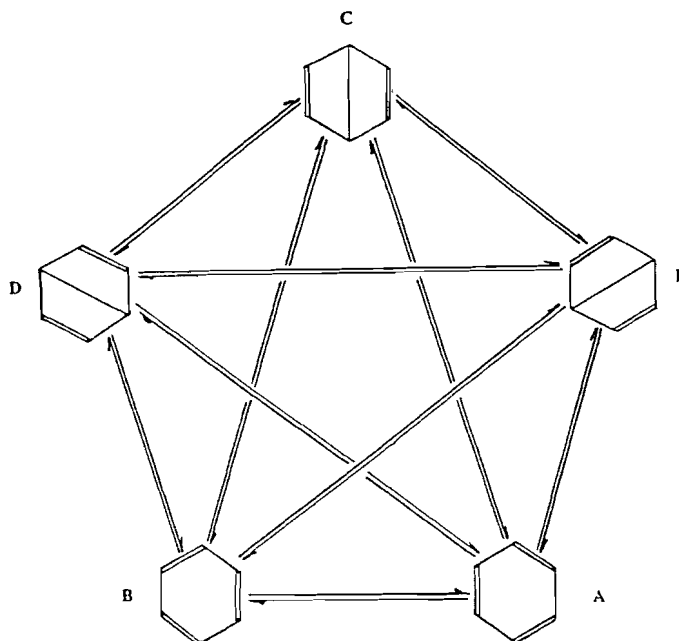
Developmental interaction

4.1 In a set of forms, one form acquires a dominant status at any one time. As such it establishes the formal pattern of relationships between other forms by observing and distinguishing their elements, and interpreting their significance. Any infringement of this monopoly of power is met by a conscious reaction on the part of those associated with it who strive for position within the framework it supplies.

4.2 In a set of forms, one or more forms acquire a recessive or sub-dominant status at any one time. As such they are characterized by both minimal inherent organization and high inertial resistance to transformation. Any attempt to change those associated with such forms is met by unconscious reaction.

4.3 In a set containing a dominant and a dominated form, the pattern of relationships governed by the dominant form proves progressively more inadequate as a framework for handling the accumulation of new information and experience. Inconsistencies, contradictions and incompleteness gradually accumulate and become increasingly apparent as conditions change. The dominant form alone does not contain the variety to encompass and control the complex conditions to which it is exposed. The value of the recessive or inferior form becomes correspondingly apparent by contrast. The unconscious or impulsive actions of those associated with both forms serve merely to aggravate the condition and to highlight the absence of a form providing any adequate sense of direction or functional orientation for the whole.

4.4 In a set containing a dominant and an inferior form, and characterized by contradictions, adequate control is usually maintained through the momentum of working processes governed by the dominant form. Any deviation is corrected by a conscious integrative action on the part of those associated with that form. As the contradictions cease to be held in restraint in this way, the source of control is effectively transferred from the dominant form to the inferior form which thus emerges to take its place. To the extent that this transfer of control is resisted, the change is likely to be violent rather than smooth.



Example:

Resonance hybrid: an illustration of variable organizational geometry:

Some chemical molecules cannot be satisfactorily described by a single configuration of bonded atoms. The theory of resonance is concerned with the representation of such molecules by a dynamic combination of several alternative structures, rather than by any one of them alone. The molecule is then conceived as "resonating" among the several structures and is said to be a "resonance hybrid" of them. The classic example is the benzene molecule (represented above) with 6 carbon atoms. This is one of the basic components of many larger molecules essential to life. Its cyclic form only became credible when Kekulé showed that it oscillated between structures A and B. Linus Pauling later showed that it in fact alternates between all five forms above (and as such requires less energy than any one of them alone).

This concept can be used in designing, describing, or operating organizations, especially fragile coalitions or volatile meetings. It may provide a key to the "marriage" between hierarchies and networks. It could also be used to interrelate alternative definitions (or theories, paradigms, policies, etc), especially where none of them is completely satisfactory in isolation. The underlying significance then emerges through the resonance between the set of alternatives.

Conference challenge:

For the activities of a conference to acquire wider significance, and to offer the potential for transformation, a fifth dimension must emerge, effectively giving the gathering a focus of identity (or centre of gravity) through which it can relate as a whole to the wider community. Such a five-fold configuration permits a conference to accumulate the potential for future action.

Questions:

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Possible metaphors:

Chemical resonance hybrid (benzene molecule)

Articulation exercise:*Constraints on existence*

For a form to exist and acquire any momentary significance, it must:

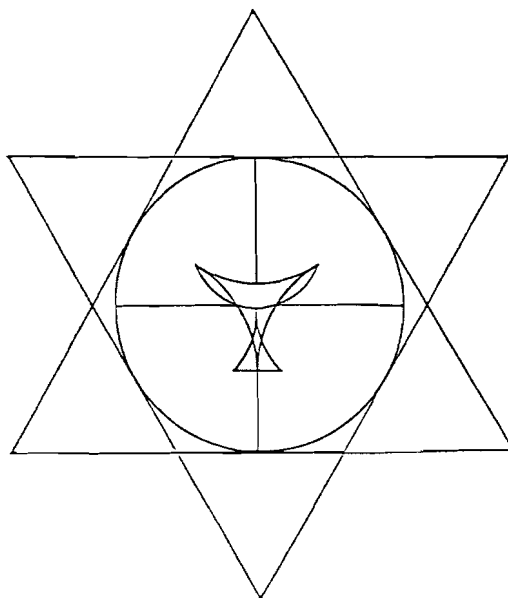
5.1 bear a consciously recognized relationship to a context. If this relationship is ignored the form effectively merges into the context and cannot be distinguished from it due to the absence of any recognized boundaries or limits.

5.2 be sufficiently general to be perceived as relevant to other variants of the phenomenon detached from immediate perception within the domain of discourse. If it is so general that it is perceived as relating to too wide a range of phenomena, then its significance is lost. Or, alternatively, it becomes so detached from immediate perception that its significance becomes fragmented into seemingly unrelated facets which arouse differing degrees of attachment or rejection.

5.3 be perceived as relating to tangible phenomena of immediate relevance. But if this relationship is so strong as to be perceived as merely a reflection of those phenomena or identical with them, then its significance is lost or engenders contradictions, confusion and associated conflict.

5.4 be perceived as sufficiently complex to encompass the complexity. If this is too much greater than that of the phenomena, its significance is either lost or a faith in the form may be engendered which is then valued for its own sake, independently of the phenomena, and possibly as being in some way superior to them.

5.5 be sufficiently simple to be a comprehensible vehicle for intention. But if it is perceived as too simple (or trivial) the significance is lost. The unchannelled intention then reinforces inactivity or degenerates into sublimated forms of action.



(Ron de Rond)

Examples:

> > *Six forms of intelligence (Howard Gardner):*

(a) *Linguistic intelligence*: Sensitivity to sounds, rhythms, inflections and meter, a special clarity of awareness of the core operation of language. Characteristic of poets; universally relevant in order to convince others, to remember information mnemonically, to explain something clearly, and to understand language itself.

(b) *Musical intelligence*: Relating of emotional and motivational factors to perceptual ones; music is a way of capturing and communicating feelings and knowledge about feelings. It seems to be used in exploring and interpreting other forms of intelligence.

(c) *Logical/mathematical intelligence*: Ability to identify and then solve significant problems; memory for repetitive patterns and the ability to compare and operate upon such patterns mentally; and an intuitive feel for logical relationship amongst classes of conceptual objects.

(d) *Spatial intelligence*: Accurate perception of the physical world; ability to transform or modify these perceptions, and the recreating of certain aspects of visual experience without relevant physical stimuli - these are all part of spatial ability.

(e) *Bodily-kinesthetic intelligence*: Skill in controlling bodily movements and in the ability to manipulate objects combine in this intelligence, which has been valued in many cultures as the harmony between mind and body - the mind trained to use the body properly and the body to respond to the mind. It reaches its height in dance, which has supernatural connotations in some cultures, and in other performing roles. (Low bodily-kinesthetic intelligence is equated, in India for example, with immaturity.)

(f) *Personal intelligence*: Centred on the concept of the individual self and may be considered as:

(a) *Access to one's own feeling life* - this is the development of the internal aspects of a person and the ability to detect and symbolize complex and highly differentiated sets of feelings.

(b) *Ability to notice and make distinctions among individuals* - to read even the hidden intentions and desires of others and to use this knowledge to influence their behaviour. Development of these intelligences leads to self-maturity and to personal knowledge of one's self as a unique individual.

> > *Six thinking "hats" (Edward de Bono):*

-- White hat: Neutral and objective; a discipline and a direction; concerned with facts and figures.

-- Red hat: Provides the emotional view (including fear, dislike, suspicion); together with complex judgements associated with such emotions (hunch, intuition, sense, aesthetics, taste).

-- Black hat: Negative assessment: what is wrong, incorrect, incompatible with accepted knowledge or experience; identifies risks and dangers.

-- Yellow hat: Positive assessment: optimistic, hopeful, visionary, constructive, positive thinking; probes and explores for value benefit, attempting to legitimate it and make it effective.

-- Green hat: Creativity, lateral thinking, and new ideas; search for alternatives; provocation; generation of new patterns.

-- Blue hat: Cool, concerned with control and the organization of the thinking process -- and the use of other hats; overview and reporting function; choreographic design and critic of implementation.

Conference challenge:

Conference processes need to offer the gathering the possibility of periodic renewal as it moves towards some emerging goal. This takes place through the cyclic repetition of a disruptive phase, moving towards the goal, and a restorative phase, through which the capacity for such action is regenerated. It is through the experience of such cycles that the conference is collectively experienced as "coming alive" and having "a life of its own".

Questions:

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Possible metaphors:

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Articulation exercise:*Coherence through renewal*

Sustaining the coherence of a form through its continual renewal requires:

6.1 a focussed reaffirmation of the existence of the elements which ensure its integrity. To the extent that this reaffirmation is lacking, knowledge of its structure is eroded and the boundaries of the form become confused or dissolve.

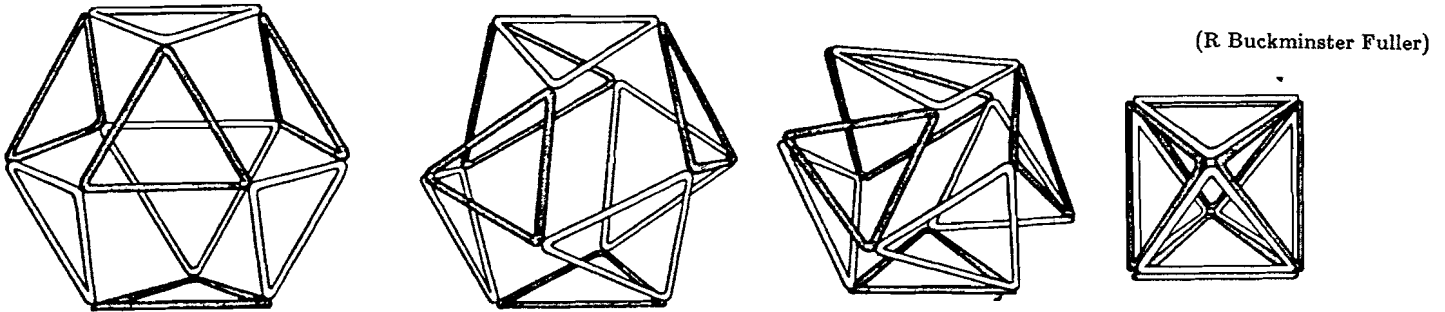
6.2 redefinition of the form to distinguish it from the superficial features of encroaching alternative forms with which it interacts. These may appear more attractive if concentration is relaxed. To the extent that this transformative process is lacking, aspects of the alternative definitions may be partially incorporated, thus progressively destroying the form as an integrated structure by formation of a hybrid or an agglomerate.

6.3 repeated effort to understand the essential or general characteristics of the form which underlie any particular set of superficial features and thus not bound by them. To the extent that this understanding is lacking, the superficial features condemn the form as unnecessarily constraining, unsatisfactory, with consequent reactions.

6.4 periodic detached recognition of its wider significance and how its development can best be controlled in relation to this. To the extent that this recognition is lacking, transformation of the form is blocked because of the narrow perspective with which it is viewed.

6.5 recognition of the contextual structuring constraints, qualitative characteristics and challenges which ensure its stability, and in terms of which it may be transformed. To the extent that this recognition is lacking, the stability of the form is undermined by doubts concerning its present relevance.

6.6 adaptation of insights concerning its possible development to a realistic strategy for its actual development. To the extent that this adaptation is lacking, any strategies formulated will be impractical and will result in maldevelopment of the form.



Seven axes of symmetry are exhibited in the cuboctahedron (on the left). It is named the vector equilibrium, and considered a structure of fundamental significance by Buckminster Fuller because of its transformative properties. These are illustrated when flexible joints are used as shown above. It will then contract symmetrically due to the instability of the 4-fold square faces. This contraction is identical to that of 12 spheres packed around a 13th, when the latter is removed. The flexible model will also take up many asymmetric forms.

Examples:

> > *Conference discontinuities (adapted from René Thom):*

In any conference governed by potential, in which behaviour is determined by no more than four basic modes of action, only seven qualitatively different types of discontinuity are possible. In other words, where experience indicates that "something has to give", there are only seven fundamentally different ways for it to do so:

- fold catastrophe
- hyperbolic umbilic catastrophe
- cusp catastrophe
- elliptic umbilic catastrophe
- swallowtail catastrophe
- parabolic umbilic catastrophe
- butterfly catastrophe

> > *Seven axes of methodological bias (W T Jones):*

(a) *Order vs disorder*: Namely the range between a preference for fluidity, complexity, muddle, disorder, chaos, distrust of conceptual analysis, etc. and a preference for system, structure, conceptual clarity, classification of experience, etc. (the "neat package").

(b) *Static vs dynamic*: Namely the range between a preference for the changeless, eternal, fundamental patterns (archetypes) etc. and a preference for movement, for variability, explanation in genetic and process terms, etc.

(c) *Continuity vs discreteness*: Namely the range between a preference for inclusiveness, wholeness, unity, fundamental identity, etc and a preference for discreteness, discontinuities, radical alternatives, plurality, diversity, etc.

(d) *Inner vs outer*: Namely the range between a preference for being able to project oneself into the objects of one's experience (to experience them as one experiences oneself), and a preference for a relatively external, objective relation to them as an observer of material substance.

(e) *Sharp focus vs soft focus*: Namely the range between a preference for clear, direct experience, clarity, distinctness, vividness and a preference for blurred edges, fuzziness, melding, penumbral threshold experiences which are felt to be saturated with more meaning than is immediately present and as revelatory of inner significance.

(f) *This-World vs Other-World*: Namely the range between a preference for hard-headed realism, etc. and a preference for discontent with the here-and-now in favour of the exotic, the supernatural, the idealistic, unreality of the material world, etc.

(g) *Spontaneity vs process*: Namely the range between a preference for chance, freedom, accident, unpredictability, etc and a preference for explanations in terms of laws and definable processes.

Conference challenge:

For a conference to become self-regulating, rather than dependent on some reductionistic mode of organization, a transformational super-structure is required. This reconciles its evolution towards self-actualization (the innovative acquisition of new and unforeseen dimensions or qualities) and the dissolution of any acquired identity for integration to permit integration as an organ of the wider social environment. A seven-fold pattern of energies is required to provide continuity through such gains and losses of significance.

Questions:

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Possible metaphors:

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Articulation exercise:*Modes of change*

Under certain conditions the only form of change perceived as effective:

7.1 is through the willful destruction of a prevailing form, whether or not a new or more adequate form can be substituted in its stead. This approach is favoured when the existing form is perceived as essentially static and an inhibitor of any form of dynamism or growth.

7.2 is through supportive interaction (dialogue) with the various perspectives formulated within the community concerned. Through such participative involvement on the part of the change agent as a sympathetic catalyst, a new community viewpoint can develop naturally from its existing foundations and be transformed. This approach is favoured when existing methods are perceived as implying destructive discontinuity or the imposition of inappropriate external formulations which would do violence to the community's growth and thus effectively retard it.

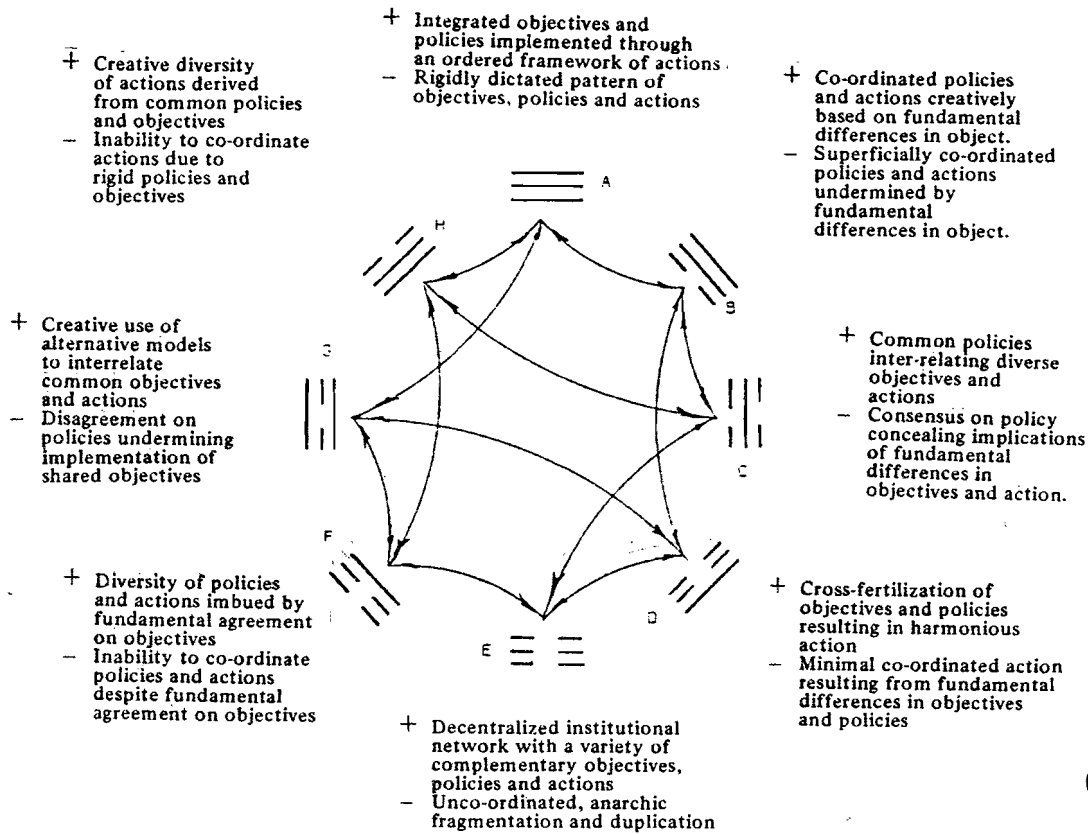
7.3 is through the formulation of a new all-encompassing philosophy (paradigm, theory, or strategy) as the reference framework in terms of which change can be initiated and undertaken. This approach is favoured when the diversity of existing initiatives is perceived as breeding confusion, dissipating resources, and undermining any possibility of a new level of collective achievement for the community as a whole.

7.4 is by enabling a more sensitive recognition of the variety of existing forms and the manner in which, through their various (and possibly discordant) interactions, they already constitute a rich and harmonious pattern saturated with meaning at a deeper level of significance. This approach is favoured when there is concern that new forms advocated are insensitive to and detached from the inherent harmony in those which have already been organically integrated into the tissue of lived reality.

7.5 is through the formulation of laws and definitions concerning observable processes on the basis of controlled investigation of their properties. Through such forms control is obtained over the processes which can then be used to restructure the environment according to their possibilities. This approach is favoured when there is concern that the processes of change are clothed in superstition, mystification, and are attributed solely to chance, or accident, or inexplicable agents acting spontaneously beyond the control of man.

7.6 emerges by renunciation of forms based upon the spatio-temporal world in favour of other factors and frames of reference to which appeal may be made. This approach is favoured when there is recognition that manipulative control of particular sub-systems of the external physical environment is only partially satisfactory (even when it is complete), and that less tangible dimensions need to be taken into account. Any such forms are frequently at least partially based on transformations of the inner world of the individual as it relates to the external world.

7.7 is to design configurations through which the full range of existing forms in opposition to each other can function creatively as complementaries, compensating for each others limitations and excesses. This approach is favoured when there is concern that the various approaches to change are functioning together so discordantly that some new form of dynamic order is required which provides a context for their different, and essentially incompatible, orientations.



Examples:

>> Buddhist Eight-fold Way as applied to conferences:

- Right view of appearances and recognition of the potential for deception resulting from group self-interestedness
- Right thought, namely the resolution not to cultivate such self-interest nor to act harmfully against the group's environment
- Right information, namely the avoidance of misinformation, hypocrisy, deliberate deception or inappropriate declarations
- Right behaviour, including the collective avoidance of the destruction of life, or the collective exploitation of resources necessary to others
- Right livelihood, relying on generation of the resources for its continued existence in an honourable manner
- Right effort through collective diligent action towards appropriate ends
- Right mindfulness through the collective cultivation of appropriate and questioning attitudes to itself and to its relationship to its environment.

>> Eight team-working roles (R M Belbin):

- (a) *Company worker*: Conservative, dutiful, predictable. Positive qualities: organizing ability, practical common sense, hard-working, self-discipline. Normal weaknesses: lack of flexibility, unresponsiveness to unproven ideas.
- (b) *Chairman*: Calm, self-confident, controlled. Positive qualities: capacity for treating and welcoming all contributions without prejudice, strong sense of objectives. Normal weaknesses: No more than ordinary in terms of intellect or creative ability.
- (c) *Shaper*: Highly strung, outgoing, dynamic. Positive qualities: Drive and readiness to challenge inertia, ineffectiveness, complacency or self-deception. Normal weaknesses: Proneness to provocation, irritation and impatience.
- (d) *Plant*: Individualistic, serious-minded, unorthodox. Positive qualities: Genius, imagination, intellect, knowledge. Normal weaknesses: Up in the clouds, inclined to disregard practical details or protocol.
- (e) *Resource investigator*: Extroverted, enthusiastic, curious, communicative. Positive qualities: Capacity for contacting people and exploring anything new; an ability to respond to challenge. Normal weaknesses: Liable to lose interest once the initial fascination has passed.
- (f) *Monitor-Evaluator*: Sober, unemotional, prudent. Positive qualities: Judgement, discretion, hard-headedness. Normal weaknesses: Lack of inspiration or the ability to motivate others.
- (g) *Team Worker*: Socially orientated, rather mild, sensitive. Positive qualities: Ability to respond to people and situations and promote team spirit. Normal weaknesses: Indecisiveness at moments of crisis.
- (h) *Completer-Finisher*: Painstaking, orderly, conscientious, anxious. Positive qualities: Capacity for follow-through; perfectionism. Normal weaknesses: Tendency to worry about small things; reluctance to let go.

Conference challenge:

Enduring individuality is the source of continuing initiative in a conference and provides a unique focus for the conscious inter-subjective experience of the gathering. This can only be embodied in an eight-fold pattern of energies.

Questions:

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Possible metaphors:

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Articulation exercise:*Constraints on change*

8.1 In assessing any apparent need for change, care is required to avoid mistaken formulations of the environmental condition. These can lead, for example, to an impetuous response or action for action's sake, from the consequences of which recovery may be difficult.

8.2 In formulating and planning any change initiative, care is required in selecting the point and manner of intervention. The constraints rarely offer the desired freedom of action and may easily be used as a focus for distracting dissatisfaction.

8.3 In formulating the nature of the change initiative, care is required in adapting any representation of it to avoid the temporary benefits of pleasing whoever is identified with the current condition or failing to acknowledge the difficulties to be encountered in changing it. These difficulties include weaknesses in those associated with the change initiative itself.

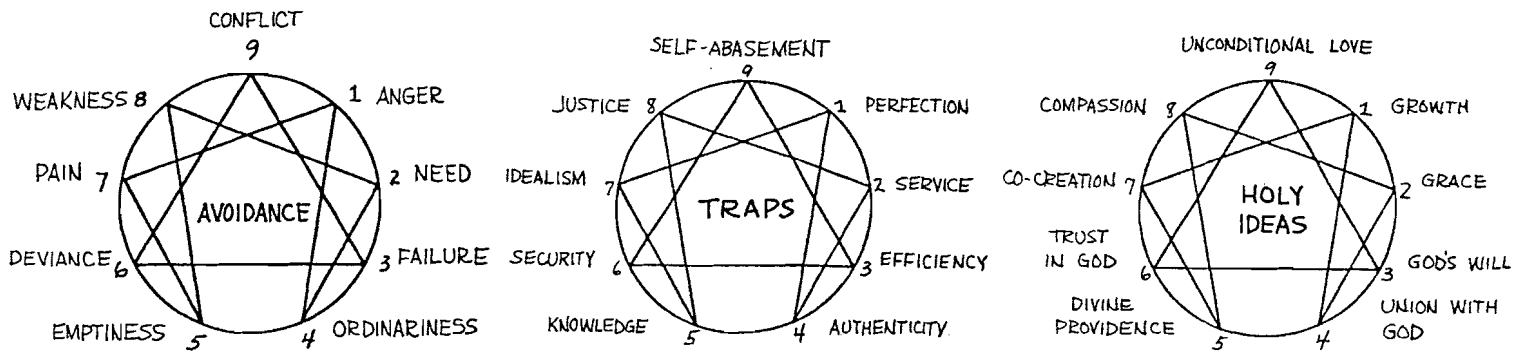
8.4 In implementing a change initiative as formulated, care is required that the initiative is not itself disorted by close association with the adverse conditions to which it responds or weakened by avoiding unpleasant decisions which have to be made to maintain the integrity of the response.

8.5 In sustaining a change initiative as formulated, care is required in ensuring its equilibrium with the intensification and expansion of activity due to confidence from successful experience with any adverse conditions encountered and with the distractions of contentment with positive achievements.

8.6 Once a change initiative has achieved its maximum deployment, care is required in responding to the limitations on any further development. The original direction of effort may well be deflected in the pursuit of further success, especially in response to any accumulation of negative assessments.

8.7 Once the essential task of a change initiative is approaching completion, care is required in deciding on the termination of activities as originally intended. It may seem natural to continue the activities or to institutionalize them. Positive encouragement to do so may be received from all concerned. Succumbing to these pressures creates the risk of entrapment by a pattern of activity which it may then prove difficult to terminate at any time.

8.8 After a change initiative has been terminated, care is required in evaluating the activities and the achievements in the light of the original intent in order to avoid subsequent dependence on them.



Examples:

(Maria Beesing, et al)

>> *Personality styles in terms of the enneagram (Maria Beesing, et al):*

- (a) *Ones*: Avoid anger, dedicated to being perfect; honest, direct and fair. Alleviate their compulsive aggressiveness by moving toward the pride of Sevens (niceness). Their trap is perfection from which they are released by the idea of growth.
- (b) *Twos*: Avoid recognizing they have needs; pride themselves on being helpful; dependency on others; often innocent of the real evils of the world. Alleviate their compulsive dependency on other's approval by moving toward the pride of Fours (uniqueness). Their trap is the concept of selfless service from which they are released by an understanding of grace.
- (c) *Threes*: Avoid failure; identify themselves with their achievements; focus on efficiency. Alleviate their compulsive aggressiveness by taking on the pride of Six (loyalty). Their trap is the stress on efficiency from which they can be released by an understanding of will.
- (d) *Fours*: Avoid ordinariness, in order to maintain their sense of uniqueness; compassionate; innate sense of symbolic expression. Their trap is the focus on authenticity from which they are released by identification with some larger context.
- (e) *Fives*: Avoid emptiness; preoccupied with increasing their store of knowledge; observers rather than participants; look for pattern in events, finding life full of meaning. Alleviate their compulsive defensiveness by taking on the pride of Eights (powerfulness). Their trap is the quest for knowledge from which they are released by a recognition of the beneficent and synergistic function of inexplicable contextual forces.
- (f) *Sixes*: Avoid deviance, seeing life in terms of obedience to regulations and norms; concerned with making wrong decisions; sense of insecurity, external threat and the demands of others; genuinely hospitable, loyal; require unambiguous guidelines. Alleviate their compulsive dependency on conformity by taking on the pride of Nines ("I am OK"). They are trapped by their idea of security and are released by a recognition of trust in a larger context.
- (g) *Sevens*: Avoid pain and difficult situations, whether physical or psychological; optimistic and fun-loving people; reality is making plans; everything should be "nice". Alleviate their compulsive dependency on pleasure by taking on the pride of Fives (knowledge). They are trapped by their idealism and are released by an understanding of co-creation in a wider context.
- (h) *Eights*: Avoid weakness, glorifying in a sense of strength; focus on the struggle for what is right; life as a power struggle; aggressive and remorseless; scorn compromise and gullibility; courageous. Move against their compulsion by taking on the pride of Twos (helpfulness). They are trapped by their idea of justice and are released by understanding compassion.
- (i) *Nines*: Avoid conflict, feeling uncomfortable where there is lack of harmony; peace and restraint are all; reality is harmony; indolent and dependent on external stimuli; available and shock-proof; natural arbiters and mediators. Alleviate their compulsive passivity by taking on the pride of Threes (successfulness). They are trapped by their idea of self-abasement and are released by an understanding of unconditional love.

>> *Nine varieties of ground in battle (Sun Tzu):*

"In respect to the employment of troops, ground may be classified as dispersive, frontier, key, communicating, focal, serious, difficult, encircled, and death:

- When a feudal lord fights in his own territory, he is on dispersive ground
- When he makes but a shallow penetration into enemy territory he is in frontier ground
- Ground equally advantageous for the enemy or him to occupy is communicating
- When a state is enclosed by three other states its territory is focal
- When the army has penetrated deep into hostile territory...it is in serious ground
- When the army traverses mountains, forests...it is in difficult ground
- Ground to which access is constricted...is called encircled
- Ground in which the army survives only if it fights with the courage of desperation is called 'death' "

Conference challenge:

For a conference to respond effectively, learn from, and work with, real concrete situations, it must be able to deal appropriately with uncertainty and unpredictable environmental factors -- using them as catalysts for its own work process. Such ability can only be embodied in a nine-fold pattern of energies. The consequent harmonization is dynamic and indeterminate.

Questions:

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Possible metaphors:

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Articulation exercise:*Implementation of a transformation process*

Implementation of a transformative process subject to real-world hazards:

9.1 requires assembly of the necessary operational resources of an adequate quality. To the extent that assembly is impossible, or their quality is inadequate, the process will be handicapped and partially controlled by the nature of those deficiencies.

9.2 requires precise and energetic clarification of the succeeding stages of the process. To the extent that this clarification is lacking, action will be confused and momentum will be insufficient to overcome unforeseen problems.

9.3 requires recognition of deviation or conflict between resources assembled and process planning in the light of independent critical questions concerning the implementation process. To the extent that this recognition is lacking, or that the questions are poorly conceived, further implementation (together with any corrective action) will result in an imbalanced process vulnerable to disruption.

9.4 requires attentive preparation of the assembled elements to be processed. To the extent that this attentiveness is lacking, details of the preparation will be carelessly omitted or improperly executed thus jeopardizing the success of the operation.

9.5 necessitates a controlled manipulation of the prepared elements into an emerging configuration. To the extent that this manipulation is improperly controlled or that the correspondence between the action taken and the knowledge of the action actually required is otherwise inadequate, the results will be unsatisfactory.

9.6 requires dispassionate evaluation of the form emerging from the process in the light of the original intention and the current circumstances. To the extent that this evaluation is inadequate (and no corrective action is taken), the product may either not correspond to the original intention or be inappropriate to current possibilities for using it.

9.7 requires that the emergent product be appropriately detached from the process which gave rise to it. To the extent that this separation is inadequate, or the relationship between the product and the process is otherwise confused, the resultant dependency relationship will jeopardize the value of the product.

9.8 requires controlled delivery of the product to its originally intended setting in the face of possible reactions against it. To the extent that there is over-sensitivity to such reactions, the delivery cannot be completed thus jeopardizing the original intent.

9.9 requires an appropriate attitude on completion of the process to ensure that it is evaluated within its proper context. To the extent that this attitude is lacking, efforts may then be made to associate either the product or the process to other contexts and initiatives. This distorts the originally intended significance of the initiative and runs the risk of confusing any new initiatives.

Formal concepts	Pattern establishment and consolidation		Pattern maintenance and appreciation		Pattern adaptation and propagation		Pattern innovation and exploitation		Pattern (im)balance
Pre-condition	Domain definition Constitutive embodiment Standards Left-brain Quantitative Science Hard Structural, static General	Organized relations Binding processes Enwholvement Right-brain Qualitative Art Soft Contextual processes Specific	Differentiated order Informed comprehension Knowledge Left-brain Quantitative Science Hard Structural, static General	Contextual renewal Environmental harmony Expression Right-brain Qualitative Art Soft Contextual processes Specific	Controlled movement Disciplined integrity Mobilization Left-brain Quantitative Science Hard Structural, static General	Communication reinforcement Imprinting significance orientation Right-brain Qualitative Art Soft Contextual processes Specific	Redistribution of resources Transactional advantage Government Left-brain Quantitative Science Hard Structural, static General	Environmental manipulation Fabrication and cultivation Industry Right-brain Qualitative Art Soft Contextual processes Specific	Condition of the whole Resources Order Left/Right-brain integration

	0	1	2	3	4	5	6	7	8	9
9	Consciousness 90	Leadership (Authenticity) 91	Love (Compassion) 92	Comprehension 93	Creative expression 94	Vigilance (Courage) 95	Transcendence (Detachment) 96	Freedom (Liberation) 97	Perseverance 98	Oneness (Universality) 99
8	Principles 80	Purpose 81	Solidarity (Cooperation) 82	Idealism 83	Harmony 84	Integration 85	Meaning 86	Sharing 87	Resourcefulness (Inventiveness) 88	Equanimity 89
7	Innovative change 70	Logics 71	Fulfillment 72	Philosophy 73	Aesthetics 74	Security 75	Morals, ethics 76	Community 77		Peace (Justice) 79
6	Development 60	Policy-making (Futurology) 61		Language 63	Design 64	Interdisciplinarity 65	Individuation (Psychoanalysis) 66	Cooperative 67	Invention 68	International 69
5		Science 51		History 53	Culture 54	Strategy 55	Theology 56	Metapolitics 57	Agrosience 58	International relations 59
4		Sociology 41	Management 42	Informatics (Classification) 43	Ekistics (Architecture) 44	Cybernetics (Systems) 45	Psychology (Behaviour) 46	Economics 47	Technology 48	Environment 49
3		Research, standards 31	Health care 32	Education 33	Recreation (Arts, sport) 34	Defence (Police) 35	Religious practices 36	Government, politics 37	Agriculture, fisheries 38	Law 39
2	Action 20	Society 21	Employment 22	Information (Documentation) 23	Amenities (Necessities) 24	Transportation (Telecommunications) 25	Communication (Media) 26	Commerce (Finance) 27	Industry (Production) 28	Societal problems 29
1	Life 10	Biology 11	Botany 12	Zoology 13	Invertebrates 14	Fish, reptiles 15	Birds, mammals 16	Anthropology (Man) 17	Medicine 18	Geography (Ecology) 19
0	Fundamental sciences 00	Astronomy 01	Earth 02	Meteorology 03	Climatology 04	Oceanography 05	Hydrology 06	Geophysics 07	Geology 08	Resources (Energy) 09

(Union of International Associations)

Example:

Ten Commandments as applied to conferences:

- (a) The conference should not understand itself as being the ultimate authority but should recognize that it has a function to perform within a larger whole.
- (b) The conference should not represent the world as fixed and unchanging, for any such representation misleads, engendering misunderstanding that may last generations, and requiring remedial initiatives that are often painful.
- (c) The conference should not claim the ability to understand or act in the interests of all, for the world is complex and calls for sensitivity and comprehension beyond that of any one group.
- (d) The conference should not work continually but should phase its work so as to have periods of rest and reflection in which other modes of interaction prevail.
- (e) The conference should give full recognition to the initiative which led to the conference and to the cultural setting (or tradition) from which it emerged.
- (f) The conference should not engage in the destruction of any other entity.
- (g) The conference should not form partnerships with bodies already fully committed to collaborating with some other coalition of forces.
- (h) The conference should not attempt to obtain resources on which other bodies depend.
- (i) The conference should not misrepresent the actions of some other body.
- (j) The conference should not preoccupy itself with the relative advantages of other bodies, especially their resources or their network of relationships.

Conference challenge:

In all conference processes there is creative, pattern-generating, activity that is not only the source of order but also the vehicle of disorder. When contained by a ten-fold pattern of energies, several sets of processes are able to compensate for one another's defects and produce an overall harmony that reacts on and sustains the individual structures.

Questions: ??

Articulation exercise:*Endurance of a form*

The endurance of a form is conditioned by its built-in ability to:

10.1 recognize the probable consequences of initiatives it determines and thus ensure relationships to other formulations which are supportive of their mutual development. To the extent that this recognition is lacking, destructive initiatives emerge with ultimately negative consequences for the development of the original form.

10.2 recognize the determining causes of developments in its environment and thus establish supportive relationships for the development of other forms on the basis of its own experience. To the extent that this recognition is lacking, the form develops parasitic or exploitative relationships with other forms which are ultimately detrimental to its own development.

10.3 recognize the characteristic initiatives and responses engendered by other forms in order, by exercise of discrimination, to determine those with which a mutually beneficial association is possible. To the extent that this recognition is lacking, the formulation is continually drawn into illusory or mutually conflicting relationships with other forms, in an uncontrollable manner which provides no stable foundation for its own development and effectively conceals its possibility.

10.4 recognize the developmental potential of other forms in order to adapt appropriately to such alternative perspectives for its own further development. To the extent that this recognition is lacking, the potential of such alternative forms is misrepresented, thus undermining the future adaptability of the form and the refinement of its own development goal.

10.5 recognize the different levels or capacities by which other forms may be characterized in order to relate appropriately to them to further mutual development. To the extent that this recognition is lacking, any relationships risk entrapment in apparent contradictions and in inappropriate responses to forms which stand in active opposition. In such circumstances the form may simply serve to spread dissension and blind awareness to particular expressions of a form.

10.6 recognize the pathways and goals of different modes of development characteristic of other forms and to adapt appropriately to an environment with such contrasting possibilities. To the extent that this recognition is lacking, other forms are actively condemned, often with considerable prejudice. The power and development of the form is then severely handicapped by the distortion and fragmentation of the actions it determines into rigidly polarized opposition to other forms.

10.7 recognize, through some process of detachment, those of its features which need to be gradually abandoned and those which need to be reinforced. To the extent that this recognition is lacking, rigid attachment to an unchanging form deflects any inherent dynamism into superficial matters of little consequence.

10.8 recall earlier stages in its development and the manner in which weaknesses were progressively eliminated. To the extent that this recollection is lacking, the form is unable to sustain any method for its own transformation and the necessary confidence is instead displaced into reinforcing attachment to existing weaknesses.

10.9 recognize the probable future states of forms and the probable circumstances of their termination. To the extent that this recognition is lacking, the form tends to become the vehicle for negative intentions towards the positive achievements associated with other forms, rather than channelling that intention to reinforce its own developmental momentum.

10.10 recognize in other forms the weaknesses to which they have developed an appropriate resistance. To the extent that this recognition is lacking, the form becomes a vehicle for the development of destructive misperceptions which hinder any ability either to abandon the weaknesses they have overcome or to free other forms from such obstacles to their own development.

Possible metaphors: The Ten Oxherding Pictures



1. Undisciplined.



2. Discipline Begun



3. In Harness



4. Faced Round



5. Tamed



6. Unimpeded



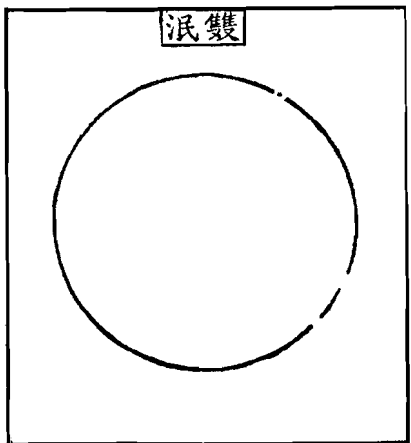
7. Laissez Faire



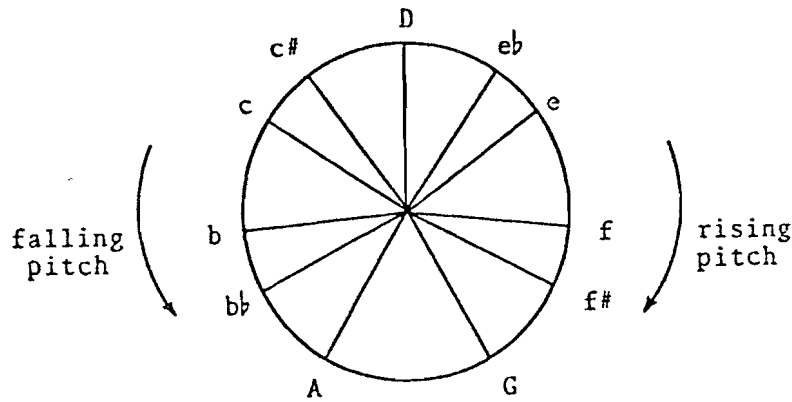
8. All Forgotten



9. The Solitary Moon



10. Both Vanished

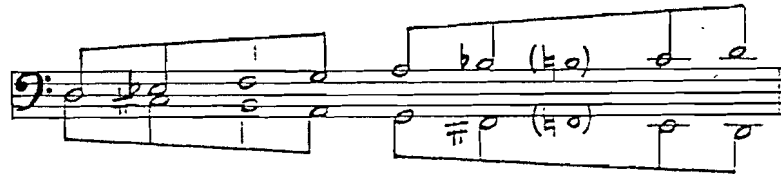


(Ernest G McClain)

Example:

Musical constraints on equitable development (E McClain)

The Hindu-Greek diatonic scale and its reciprocal: The smallest integers which can define the rising Hindu-Greek diatonic scale or its falling reciprocal scale lie within the octave double 1:2 = 30:60. Three tones, A, D, and G in the notation used here, are common to both scales so that there are only eleven total "cuts" in the tone-mandala. There are wholetones of both 8:9 and 9:10 and oversized "semitones" of 15:16, hence the divisions of the mandala are distinctly unequal. The numbers 50 and 36, representing f and b, are redundant in the mandala. Capital and small letters distinguish two classes of tones, the first "fixed", the second "movable".



ratios	30	32	36	40	45	48	(50)	54	60
rising	D	eb	f	G	A	bb	(b)	c	D
falling	D	c#	b	A	G	f#	(f)	e	D
	$2^2 \cdot 3^1 \cdot 5^1 = 2 \cdot 3 \cdot 5$	2^5	$2^2 \cdot 3^2$	$2^3 \cdot 5$	$3^2 \cdot 5$	$2^4 \cdot 3$	$2 \cdot 5^2$	$2 \cdot 3^3$	$2^2 \cdot 3 \cdot 5$

A fundamental problem of music illustrates the difficulty of dividing any domain both equally and harmoniously as the number of parts increases. Musicians cannot sub-divide an octave 1:2 equally by the "pure" ratios of rational numbers -- this only leads to musical chaos arising from the incommensurability of musical thirds, fifths and octaves. The challenge, identified by Plato, is not one of giving equally to each, but rather of moderating such criteria in the interests of the whole -- in this case sacrificing (some of) the interests of some of the participants for those of the conference as a whole.

The eleven tones of the tone-mandala above cannot be exceeded on the basis of whole numbers without encountering a tonal fraction which must be "sacrificed" in one way or another. Although subliminal to the ear in a melodic context (such as the conference as a whole), the sacrifice becomes audible during a monochord demonstration (namely in a smaller group context). This sacrifice, in the musical metaphor of Plato, is the fundamental dilemma of collective organization.

Conference challenge:

In a conference, however ideal, unbridled creativity is profoundly destabilizing and can lead to the fragmentation of the gathering into discordant groups as their variety and number increase. To check this process calls for some means of limitation, preferably self-limitation, to maintain a comprehensible or appropriately harmonious pattern amongst them. Such self-constraint is understood through an eleven-fold pattern which facilitates alternative perspectives on the same information. It provides the condition for mutual completion of structures of different kinds.

Questions:

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Possible metaphors:

Tone scale

Articulation exercise:*Empowerment and importance of a form*

The empowerment and importance of a form is determined by the degree of:

11.1 the degree of constructive or destructive action with which it is associated and the manner whereby they are distinguished.

11.2 the degree of enriching or impoverishing action with which it is associated.

11.3 the degree of protection or exposure with which it is associated.

11.4 the degree of assistance or obstruction with which it is associated.

11.5 the degree of bias or lack of bias with which it is associated.

11.6 the degree of security or danger with which it is associated.

11.7 the degree of confidence or doubt with which it is associated.

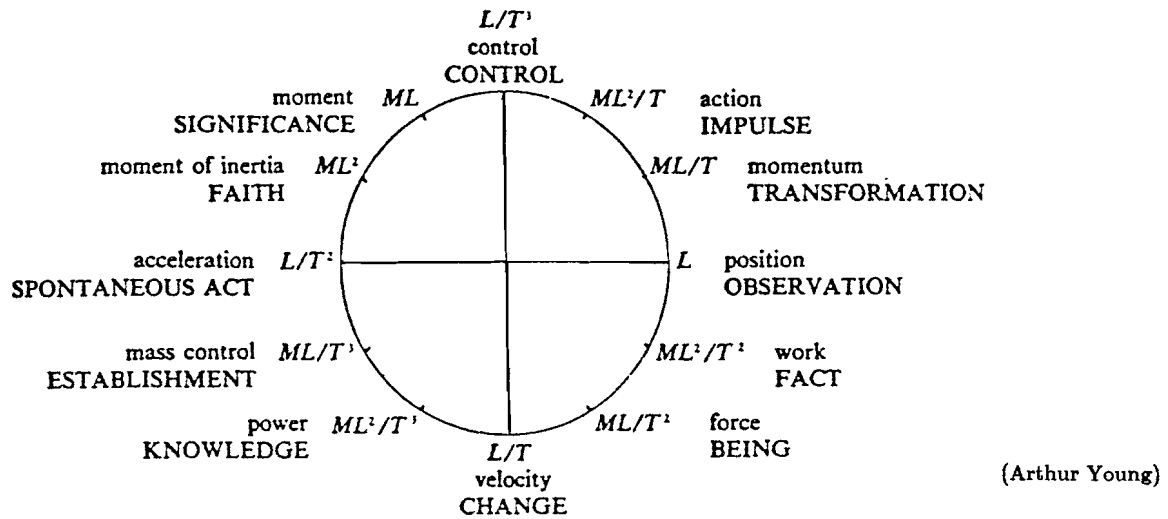
11.8 the degree of consolation or dejection with which it is associated.

11.9 the degree of inspiration and reinforcement with which it is associated.

11.10 the quality of remedial advice with which it is associated.

11.11 the power of the subtle qualities with which it is associated.

Physical quantities correlated with their equivalent English meanings



Example:

Phases in a 12-phase learning/action cycle (adapted from Arthur Young):

- (a) *Observation*: Act of considering; position determination; reactive learning based on immediate registration of phenomena; assessment of distance; "sizing up".
- (b) *Significance*: Recognition of momentousness, relevance (as related to "leverage"); recognition of "matters of great moment"; weight of facts; bringing matters into focus.
- (c) *Commitment*: Faith in current paradigm or perception of reality; unexamined or habitual commitment to a process, projection or understanding, irrespective of inconsistent disturbing factors.
- (d) *Adaptive change*: Reaction; passive adaptation or change of position in response to changing circumstances.
- (e) *Momentum*: Recognition of the momentum of an issue, resulting from a change, namely the consequential transformation of awareness or perspective.
- (f) *Decision or impulse* to act or initiate a process determining the future.
- (g) *Transformative action*: Spontaneous initiation of transformative action; commitment to a new course of action.
- (h) *Forcefulness engendered*, experienced or embodied as a result of transformative action; constructive (or disruptive) action potential; enhanced sense of being.
- (i) *Application*: Achievement of a desired result by application of understanding (and adjustment of implicit beliefs) in response to external factors; working action on reality.
- (j) *Control* of transformative action.
- (k) *Discipline*: Establishment of a disciplined pattern of response; consolidated or harmonious control of action potential; holding forces in check.
- (l) *Power of acquired knowledge*: Know-how; integrated or embodied experience; capacity (including that of not acting); non-action.

Conference challenge:

For a conference to function consciously in a fully integrated manner, it needs to be able to handle a pattern of twelve distinct energies through which it is able to manage its own transformation and relate effectively to its environment. A twelve-phase cycle defines the complete sequence of learning action conditions through which information is gathered, adaptive change takes place, transformative change is initiated, control is exerted, and knowledge is built up.

Questions:

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Possible metaphors:

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Articulation exercise:*Harmoniously transformative controlled relationship*

A form in a harmoniously transformative controlled relationship with its environment:

12.1 is characterized by forceful spontaneous initiatives appropriately guided by an implicit sense of opportunity and constraint. Such action opens up viable new possibilities. If inappropriately controlled, it may be excessively violent, misguided, unfruitful or merely self-serving.

12.2 is characterized by a capacity to respond receptively to a comprehensive range of external initiatives by providing appropriate frameworks within which they can be embodied and consolidated. To the extent this capacity is lacking, such receptivity may be over-loaded leading to selective resistance, non-response or alternatively to their cooptation.

12.3 is characterized by a capacity to interrelate initiatives, creatively and explicitly, with contexts within which they can be further developed. To the extent this capacity is lacking, any such catalytic mediation becomes diffuse and lacking in continuity. Apparent contradictions are then a source of confusion rather than being perceived as aspects of an intricate pattern of stimulating diversity.

12.4 is characterized by the gradual emergence of higher order organization in response to initiatives and constraints. If such emergence is absent or inhibited, the form engenders actions which are increasingly incapable of containing the forces to which they respond.

12.5 necessitates a degree of organization which enables it to respond fully, in an integrated uncompromising forceful manner, to a full range of external events of which it remains independent. To the extent that this capacity is inappropriately developed, such organization is characterized by domination, self-appreciation, and misuse of power.

12.6 necessitates intuitive readjustment of implicit assumptions in order to renew the capacity to respond appropriately to events in context. To the extent that this capacity is lacking, any response is inhibited or focussed on superficial detail.

12.7 is characterized by a capacity for detached evaluation of past development from a perspective which provides both an intuitive balance between relevant factors and a sense of integrative possibilities. To the extent that this capacity is lacking, evaluation of external factors is negative or indecisive thus hindering further development.

12.8 is characterized by the capacity to respond spontaneously to higher order goals and possibilities even if the prevailing set of lower order goals and possibilities (with which it is identified) must be abandoned in order to do so. To the extent that the capacity for this transformation is lacking, the lower order goals and possibilities are distorted and reinforced to the detriment of further development.

12.9 is characterized by the spontaneous initiation of higher order processes which are focused in order to transform the operation of pre-existing lower order processes by which it is governed. To the extent that this capacity is inappropriately developed, any processes initiated are misdirected to the detriment of further development.

12.10 is characterized by an explicit pattern of control processes governing future possibilities, or current needs and opportunities. To the extent that this capacity is inappropriately developed, there is a tendency to over-control which is detrimental to further development.

12.11 is characterized by the capacity to engender appropriate design in the light of significant new insights which bring possibilities and constraints into focus in an unforeseen and fruitful manner, thus facilitating effective action for their development. To the extent that this capacity is inappropriately developed, it results in automatic negative reaction to external initiatives and conditions, to the detriment of their further developments.

12.12 is characterized by a response pattern of reconciliation between all potential initiatives or conflicts. This unifying pattern thus acts as a stabilizing influence ensuring continuity, particularly between higher and lower-order processes. To the extent that this capacity is inappropriately developed, the response pattern becomes confused, reacting inadequately to spurious conditions.

Time-binding learning Space-binding learning		Unconscious (In-volution)	Unconscious registration of information	Homeostatic equilibrium Unconscious adaptation	Auto-catalytic response Self-impulsion	Uncoordinated action Victim of discontinuity
		Conscious (Re-volution)	Timeless awareness Non-duration	Conscious adaptive response Awareness	Comparison with norms or memory of previous experience Self-awareness	Comparison with previous comparisons Awareness of self-awareness Transcended discontinuity
Unconscious (In-volution)	Conscious (Re-volution)	Symbol	T ⁰	T ¹	T ²	T ³
Unintended shift of perspective - position - reference Displacement of focus	Intentional shift of perspective - position - reference Range of conscious attention span "Distance" from object of focus	M ⁰ L Acts Abstract Schematic	L Observation; act of considering; position determination; reactive learning based on immediate registration of phenomena; assessment of distance; "sizing up"	L/T Adaptive change; reaction; passive adaptation or change of position in response to changing circumstances	L/T ² Spontaneous initiation of transformative action; commitment to a new course of action	L/T ³ Control of transformative action
Unconscious impression of significance	(See HLT ⁰)	ML States Motivated Considered	ML Recognition of moment(ousness), relevance (as related to leverage), significance (as in "matters of great moment"); weight of facts; bringing matters into focus	ML/T Recognition of the momentum (of an issue) resulting from a change, namely the consequential transformation of awareness or perspective	ML/T ² Forcefulness engendered, experienced or embodied as a result of transformative action; constructive (or disruptive) action potential; enhanced sense of being	ML/T ³ Establishment of disciplined pattern of response; consolidated or harmonious control of action potential; holding forces in check
Subject to an unintended shift of perspective	Projection of an intended shift of perspective into reality	ML ² Relationships Application Follow-through Commitment	ML ² Faith in current paradigm or perception of reality; unexamined or habitual commitment to a process projection, or understanding, irrespective of inconsistent disturbing factors	ML ² /T Decision or impulse to act or initiate a process determining the future	ML ² /T ² Achievement of a desired result by application of understanding (and adjustment of implicit beliefs) in response to external factors; working action on reality	ML ² /T ³ Power of acquired knowledge know-how; integrated or embodied experience; capacity (including that of not acting); non-action
Unexplained problems Imponderables External constraints	Mass of information Amassed experience Internal constraints Mass of evidence "Matter of fact"	M				

Tentative characteristics of phases in 12-phase learning/action cycles (adapted and developed from Young (68), as mentioned in entry KD2275)
 Distinct strategies may be used to explore these, as indicated in Figures 2a and 2b

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Articulation exercise:*Creative renewal*

Renewal is dependent on the emergence of a creative response to:

- 13.1 any impotence and enfeeblement of action associated with the form in its current mode.
- 13.2 any fragmented or inconsistent action associated with the form in its current mode.
- 13.3 any fragmented or inconsistent action associated with the form in its current mode.
- 13.4 any non-viable products of action associated with the form in its current mode.
- 13.5 any dependence and powerlessness of the form in its current mode.
- 13.6 any rigidity or crystallization of the form in its current mode.
- 13.7 any impracticality or shortsightedness of action associated with the form in its current mode.
- 13.8 any sense of futility associated with the form in its current mode, or to any (consequent) self-destructive processes.
- 13.9 any apathy or pessimism associated with the form in its current mode.
- 13.10 any unpredictability or uncontrollability associated with the form in its current mode.
- 13.11 any action associated with the form becoming narrowly focused as an end in itself.
- 13.12 any corruption or dissolution of the form in its current mode.
- 13.13 the total disappearance of the form in its current mode.

Articulation exercise:*Cycle of development processes*

The cycle of development processes includes extreme phases characterized by:

- 14.1 static, unchanging forms.
- 14.2 the breakdown of forms into their component elements.
- 14.3 the coalescence of forms through which a new form is engendered.
- 14.4 the harmonious interaction of forms which retain their identity.
- 14.5 a unified, continuous pattern of forms.
- 14.6 a diversity of separate, discrete forms.
- 14.7 specific conflictual relationships between forms.
- 14.8 qualitatively significant undefinable relationships between forms.
- 14.9 chance-determined forms.
- 14.10 forms which result as a natural and predictable consequence of those processes.
- 14.11 forms whose existence in the spatio-temporal world is self-explanatory.
- 14.12 forms whose existence cannot be adequately explained in terms of the spatio-temporal frame of reference.
- 14.13 fluidity, turbulence and chaos.
- 14.14 ordered systems and well-defined patterns.

Articulation exercise:*Construction and development of form*

Construction of form and the logical prediction of its future development requires:

- 15.1 direct or indirect observation of empirical facts, whether events, processes, or phenomena.
- 15.2 appropriate procedures of measurement of empirical quantitative can be obtained.
- 15.3 appropriate procedures for the design and interpretation of significant experiments.
- 15.4 appropriate procedures of empirical generalization and descriptive classification to organize empirical data in a preliminary way in preparation for systematic classification.
- 15.5 appropriate procedures whereby explanatory results can be represented.
- 15.6 the use of conceptual elements, whether characteristic abstractions, terminology or techniques, which constitute the intellectual keys by which phenomena are made intelligible.
- 15.7 hypothesis formation, namely postulation through creative insight of a conceptual model based on assumptions concerning existing experimental observations or measurements.
- 15.8 recognition of a problem which appears susceptible to solution by use, or extension, of available techniques.
- 15.9 the possible adjustment or replacement of a conceptual model as a result of new observations or measurements.
- 15.10 the selection of a particular style of explanatory procedure required for the application of a given group of concepts.
- 15.11 use of formal or mathematical elements, whether computational, construction or analytic procedures.
- 15.12 use of techniques of formal transformation, whether formalization (reduction to relations while disregarding the nature of the related) or axiomatization (tracing of entailments back to accepted axioms).
- 15.13 validation of a conceptual model by checking its predictions against observations or measurements using techniques of confirmation, corroboration or falsification.
- 15.14 the production of rigorous formal definitions of the validity, probability, degree of confirmation, and other evidential relations involved in the judgement of a logical argument.
- 15.15 the use of a formal propositional system having a definite, essential logical structure, namely a formal scheme of propositions and axioms bound together by logical relations.

Articulation exercise:*Values and assumptions*

Recognition of the values underlying a form highlights any unfounded assumption that:

- 16.1 the form is without imperfection.
- 16.2 the form is an end in itself.
- 16.3 there is a permanent dimension to the form.
- 16.4 the form is composed of independent external features.
- 16.5 the inadequacies of the form have no cause or are their own cause.
- 16.6 the inadequacies of the form arise from irrelevant causes.
- 16.7 the inadequacies of the form are only due to one cause, independent of conditions or secondary circumstances.
- 16.8 the inadequacies of the form are necessarily permanent.
- 16.9 it is impossible to generate an adequate form.
- 16.10 the form as achieved is adequate, can be accepted, and that further effort to generate a more adequate form should cease.
- 16.11 the most abstract forms constitute the ultimate achievement.
- 16.12 however perfect the form engendered, its inadequacy will eventually become apparent.
- 16.13 there is no method adequate to the current circumstances.
- 16.14 there is no suitable method, or pattern of methods, whereby acentric significance can be effectively perceived or reflected in a form.
- 16.15 supports the practice of methods which yield no useful results.
- 16.16 there are no effective remedies for the inadequacies of the existing form.

Articulation exercise:*Relationship potential of a form*

The relationship potential of a form to other forms, namely the extent to which it is assimilated into a larger set of differing forms, is directly dependent on:

- 17.1 its relative imperfection. Absence of imperfection reduces dependency arising from formal incompleteness thus removing any basis for interdependency. However, the nature of the imperfection strongly influences the quality of interdependence with which the form can be associated.
- 17.2 the recognition that the form is not an end in itself.
- 17.3 recognition of the impermanence of the form. The larger the set of forms within which relationships may exist, the greater the probability that such relationships will involve patterns of formal development and transformation in which any invariance will be at a higher level of abstraction than that of the form as originally recognized.
- 17.4 recognition that the form is itself the integrated development of interdependent forms.
- 17.5 recognition of the causes of the perceived inadequacies of the form. Such recognition establishes a relationship between the form and other forms. However the nature of the perceived cause strongly influences the quality of interdependence with which the form can be associated.
- 17.6 recognition that the inadequacies of the form arise from relevant causes and not from causes irrelevant to the nature of the form.
- 17.7 recognition that the inadequacies of the form are due to a multiplicity of causes themselves dependent on conditions and secondary circumstances.
- 17.8 recognition that the inadequacies of the form and their causes are necessarily of a temporary nature.
- 17.9 conviction that it is possible to generate a more adequate form. By focusing attention on possible adaptation of the form, its evolving relationship to other forms thus becomes evident.
- 17.10 continuing effort to generate a more adequate form and refusal as adequate of what has already been achieved. This ensures that the form is placed in a context of forms in process of transformation rather than in isolation.
- 17.11 recognition that elaboration and retention of the most abstract form does not constitute the ultimate achievement. To the extent that this recognition is lacking, any such form, despite its sophistication, is a hindrance to the dynamics of further development.
- 17.12 conviction that forms can be engendered which will not subsequently come to be perceived as inadequate. Such forms must necessarily incorporate and counterbalance the factors which make for the emergence of inadequacy in an evolving set of forms.
- 17.13 conviction that there is a method, or pattern of methods, which can be followed and is adequate to current circumstances. To the extent that this conviction is lacking, it is unlikely that significant relationships between forms will be recognized.
- 17.14 conviction that a suitable method, or pattern of methods, may emerge whereby acentric significance can be effectively perceived or reflected in form. To the extent that this conviction is lacking, methods used will continue to be centred on particular approaches which fail to take account simultaneously of insights emerging from those centred on other approaches.
- 17.15 recognition of the futility of practising methods which yield no fruitful results. To the extent that this recognition is lacking, the methods pursued will limit the range and richness of relationships which can be established between forms.
- 17.16 conviction that there are effective remedies for the inadequacies of the existing form.
- 17.17 (intuitive) recognition of the permeability and variability of the boundary of that form.

Articulation exercise:*Inadequate transformation attempts*

Attempts at the transformation of form tend to be undermined by destructive energy-dissipating conflict between methodological extremes such as:

- 18.1 the assembly or mobilization of operational resources in accordance with a predetermined concept. This tends to engender either subservience or considerable resistance and alienation of potential support. Such forcing initiatives may well prevent formation of linkages vital to the future integrity of the operation and may lead to its early abortion or a considerable limitation in its scope.
- 18.2 allowing operational resources to assemble, as and when they may, according to the emergent processes of their initial interaction. This tends to result in considerable confusion, seldom with any creative operational outcome of other than a superficial nature. Such initiatives then lack coherence, continuity and any capacity for endurance.
- 18.3 the imposition of a programme of operations. This immediately splits the resources mobilized into the empowered and the disempowered. The strength of the former then tends to be overestimated, whilst their weaknesses are underestimated, and the full contribution of the disempowered is blocked. The imposed programme is never called into question. This procedure further alienates potential support and increases the risk that the operation will go out of control if circumstances later arise in which the blocked or alienated resources are essential.
- 18.4 the dependence on spontaneous, participative self-organization of operational programmes. This tends to result in uncertainty and conflicting activities which reinforce lack of coherence, of continuity, and of any capacity for endurance. Any programmes which emerge are immediately called into question.
- 18.5 the reassessment of objectives and direction through detailed analysis following the initiation of the operation, this tends to be a destructive, unfruitful exercise providing little more than an intellectual framework as support for programme integration. The exercise then serves to alienate involvement in the operation, rather than to uncover new reserves of support for it.
- 18.6 the reassessment of objectives and direction through resensitizing processes, affirmation, and celebration of solidarity, following the initiation of the operation. This tends to emphasize the dimensions of consensus (whether intangible or superficial) at the expense of the dimensions of disagreement (often specific and fundamental). Operational coherence is then dependent on the former without any adequate framework to balance the issues raised by the latter.
- 18.7 the preparation or partial destructuring of the operation (for subsequent transformation), according to a rigid procedure unresponsive to contextual feedback. This tends to result in the accumulation of conditions which disrupt the procedure. The operation can then only be continued by overriding such obstacles or by limiting its original scope. Both solutions generate difficulties necessitating future operations for their elimination.
- 18.8 the preparation or partial destructuring of the raw materials of the operation (for subsequent transformation) according to a procedure totally responsive to contextual feedback. This tends to result in the erosion (and eventual dissipation) of the procedure whose impetus is then absorbed into the contextual processes.
- 18.9 the transformation of the raw materials of the operation by a series of precisely defined (and reproducible) changes of structure. This tends to limit such operations to those of essentially mechanical scope and renders them inapplicable to transformations of perception, attitude or value.
- 18.10 the transformation of the raw materials of the operation by a set of intuitive, irreproducible processes. This tends to limit such operations to those of essentially intangible scope. This renders them inapplicable to transformations of tangible conditions which should reflect such changes and give them a measure of permanence.
- 18.11 evaluating the transformation in terms of the quality of the results achieved, without taking into consideration the viability of the process as a means to that end. This facilitates the emergence of processes whose by-products set the stage for later difficulties.
- 18.12 evaluating the transformation in terms of the viability of the process, without taking into consideration the quality of the results achieved (if any). This facilitates the emergence of processes carried out as an end in themselves, but which generate little of permanent benefit to the context in which they take place.
- 18.13 abrupt separation of the emergent product from the process which gives rise to it. Such sudden separation endangers the product in its final phases of dependency on the process.
- 18.14 continuing dependence of the emergent product on the process which gives rise to it. This pattern of dependency endangers the ultimate self-sufficiency of the product.
- 18.15 delivery of the final product to the originally intended setting in a manner insensitive to reactions from that setting. This tends to lead to the early rejection of the product.
- 18.16 delivery of the final product to the originally intended setting in a manner overly sensitive to reactions from that setting. Unless the normal resistance to new products is overcome, this tends to prevent the product from being delivered.
- 18.17 complete rejection of any subsequent evaluation of the process or association with it. This tends to deprive subsequent initiatives from any value of the process as a learning experience.
- 18.18 continuing identification with the process after its completion. This tends to distort any subsequent initiatives.

Articulation exercise:*Qualitative transformation*

Qualitative transformation depends on harmonious transfer of focus, alternating from (and to):

- 19.1 the assembly or mobilization of, in accordance with a predetermined concept.
- 19.2 allowing operational resources to assemble naturally of their own accord.
- 19.3 the imposition of a programme of operations.
- 19.4 the dependence on spontaneous, participative self-organization of operational programmes.
- 19.5 the reassessment of objectives and direction through detailed analysis, following the initiation of the operation.
- 19.6 the reassessment of objectives and direction through resensitizing processes, following the initiation of the operation.
- 19.7 the preparation or partial restructuring of the elements of the operation, according to a rigid procedure unresponsive to contextual feedback.
- 19.8 the preparation or partial restructuring of the elements of the operation, according to a procedure totally responsive to contextual feedback.
- 19.9 the transformation of the elements of the operation by a series of precisely defined changes of structure.
- 19.10 the transformation of the elements of the operation by a set of intuitive, irreproducible processes.
- 19.11 evaluating the transformation in terms of the quality of the results achieved, without taking into consideration the viability of the process as a means to that end.
- 19.12 evaluating the transformation in terms of the process, without taking into consideration the quality of the results achieved.
- 19.13 abrupt separation of the emergent product which gives rise to it.
- 19.14 continuing dependence of the emergent product on the process which gives rise to it.
- 19.15 delivery of the final product to the originally intended setting in a manner insensitive to reactions from that setting.
- 19.16 delivery of the final product to the originally intended setting in a manner extremely sensitive to reactions from that setting.
- 19.17 complete rejection of any subsequent evaluation of the process or association with it.
- 19.18 continuing identification with the process after its completion.
- 19.19 Qualitative transformation depends on harmonious transfer of focus between extremes whilst maintaining an appropriate periodicity for such transfers within a self-organizing pattern.

Articulation exercise:*Significance of mutually constraining forms*

The significance of mutually constraining forms emerges with:

20.1 their avoidance of unnecessary or excessive response to each other. To the extent that this forbearance is lacking, the significance is obscured by the turbulent nature of that response.

20.2 affirmation of their affinity. To the extent that this affirmation is lacking, the significance is obscured by the consequences of previous unbalanced interactions.

20.3 their controlled interaction. To the extent that such control is lacking, the significance is obscured by the uncontrolled nature of their interaction.

20.4 recognition of their sensitively supportive response to each other's condition. To the extent that this sensitivity is lacking, the significance is obscured by destructive interactions.

20.5 reconciliation of their respective characteristics. To the extent that this reconciliation is lacking, the significance is obscured by non-recognition or non-acceptance of some characteristics.

20.6 acknowledgement of inadequacies. To the extent that such acknowledgement is lacking, the significance will be obscured by distortion of the relationship for short-term advantage.

20.7 abandonment of claims to non-existent qualities. To the extent that such claims are not relinquished, the significance will be obscured by efforts to achieve short-term advantage.

20.8 the implicit development of principles governing their actions. To the extent that such implicit principles are lacking, the significance is obscured by unconstrained actions and their consequences.

20.9 the explicit development of principles governing their actions. To the extent that such principles are lacking, the significance is obscured by unconstrained actions and their consequences.

20.10 acknowledgement of obstacles to further development. To the extent that such acknowledgement is lacking, the significance is obscured and their power reinforced.

20.11 abandonment of efforts to increase the resources associated with either form. To the extent that this is not achieved, the significance is obscured by the dependence created on the resource-seeking activity.

20.12 reservations concerning the resources and characteristics associated with the forms. To the extent that this reserve is lacking, the significance is obscured by preoccupation with these attributes.

20.13 enthusiasm for the functions with which they are associated. To the extent that this enthusiasm is lacking, the significance is obscured by indifference to those functions.

20.14 perseverance. To the extent that such persistent attention is lacking, the significance is obscured.

20.15 recognition of the constructive and destructive consequences of their interaction. To the extent that this recognition is lacking, the significance is obscured.

20.16 recollection of the multiple aspects of their interaction. To the extent that such memories are eroded, the significance is obscured.

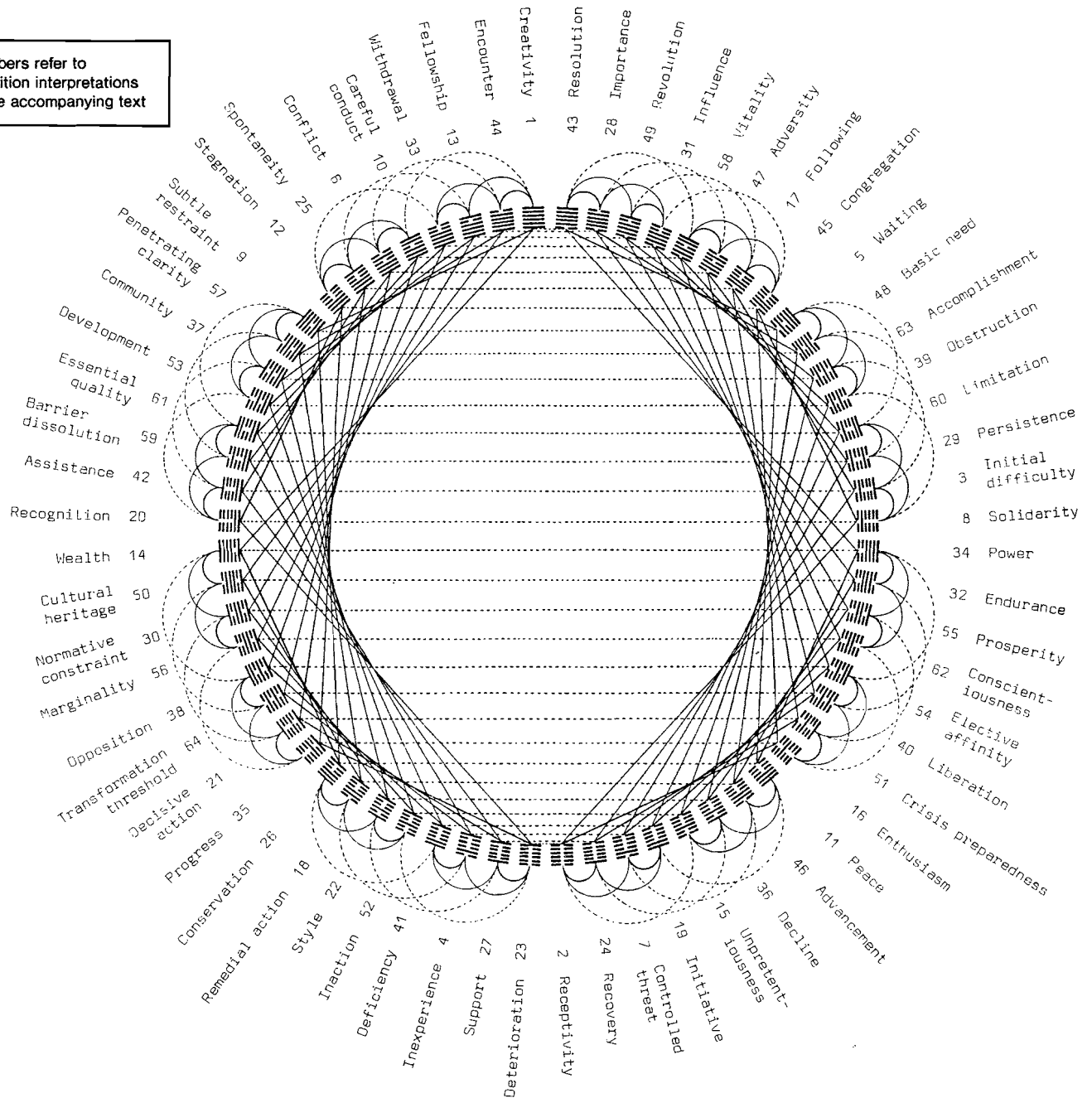
20.17 alertness to potential confusion. To the extent that such attentiveness is lacking the significance is obscured.

20.18 intelligent interest in their interaction. To the extent that such interest is lacking the significance is obscured.

20.19 balanced attention to them. To the extent that there is preoccupation with one form the significance is obscured.

20.20 ability to focus on their interaction. To the extent that such focus cannot be maintained, the significance is obscured.

Numbers refer to condition interpretations in the accompanying text



Transformations (curves)	Transformations (straight lines)
(- - -) 3rd sub-condition	(- - -) 6th sub-condition
(long) 2nd sub-condition	(long) 5th sub-condition
(short) 1st sub-condition	(short) 4th sub-condition

Map of transformations between global, « heads-together » networking conditions (« top-in »)

The conditions are denoted by hexagrams in a traditional circular order (each facing its negative image). The 6 transformations shown interlinking these conditions are those described in the accompanying text (in which only one line of each hexagram code is modified; see Figure 5 for multiple line modifications).

The hexagram code is read here with the top line closest to the centre

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