

Total System Inversion The Alchemy of Realisation

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Abstract

"Big Bang" is often being used as a representation for universal unification: the one starting point for the universe as a whole. It is a key concept in the quest for a Grand Theory of Unification, in which all of the forms of the universe can be reduced into one point of creation. As is seen in mathematics, when a dimension is compressed its specifications change from quantitative to qualitative: the structures become less determinable than their relationships. In Total System Inversion, this relation is made explicit, relating the Closed System to the Open System. To distinguish the two a different mode of observation is required. A Field *and* a Boundary must be regarded and considered at the same time. This requires a mental state in which left brain and right brain are in balance; this has been described as the D'ai Qi of I Ching. The formalism of state transition includes its dynamics, transformation and emergence; all can be described in the same terms if the constraint of determinable/determined description is released in describing how the same takes place for any identifiable system. The concept of Total System Inversion is essential for understanding properties and principles that can not be perceived: the singularities in our *own* functioning are the gateways to knowing more of the unknown.

Keywords: System, Singularity, Inversion, Transformation, Integrity

Introduction

We perceive the world 'inside our head'. Whatever happens around us is taken in 1) via nervous cell responses (to stimuli), mediated via 2) nerve strands and 3) nerve plexus into 4) the brain complex (Fig. 1). Reality as such does not exist; it is but a realisation. The Objectivity that we know is a Subjective sensation. The rich full composite 'experience of reality' is only an inverted image of all that exists around us. All that we know of, are cellular interactions in our body. The understanding of how the reality around us is related to our realisations within us is essential, in order to eliminate confusion between the two. Especially in medicine and science, the distinction between reality and realisation, or object and subject, is not sufficiently made. Many people hold whatever they perceive to be objective, while it is only subjective. It is not reality, but a realisation. Many of the codes on conducts in cultural collectives are conditioned to construct a consensus. This makes it difficult to address and assess the subjective components while discussing objectivity. Objectivity is based on a collective composite of subjective sensations. It is necessary to understand how this collective consensus

construct is culturally conditioned. One of the steps towards this involves the understanding of the relationship between the universe as it exists around us; and the universe as it exists within us: the Priverse. (Kjelman, 1999).

The distinction between 'outside' and 'inside' can be condensed into the concept of "crossing of a boundary"; they are discerned by an interface that sets the 'outside' and the 'inside' apart. (Yet they are still two 'different' facets of the same continuum) *Crossing a boundary involves an inversion of phase*; this is the principal means to identify a boundary (a change of phase). This can be understood in a more general sense: a point inverting phase (a "Gabor Point"). The universe as a whole is then composed of such (4D) points; and all relationships in the universe likewise. This can be seen best in living beings.

The work of Lawrence Edwards (1993) has shown how our own embryologic development, as well as that of the unfoldment of seeds and flowers and leaves of plants follow a pattern of *inversion*. This can be described geometrically as a line inverting through one of its points. The shapes that result can be seen as vortices, ovoids, toroids and stellates (Dan Winter, 1992), which are all simply different representations of the same concept: Inversion. For the purpose of this paper this concept is extended: in order to understand how it is possible to 'have a picture of the world in our head', we must see how what exists around us is internalised within us.

This means that we need to understand how we understand, and think about how we think. We need to understand that, and how, *reality is only a realisation*. The following deals with this by addressing our nervous system, our experience of our sensations, our encoding of this in (mathematical) language, and our projection of this onto our physical 'environment' (as done in the study of physics; here presented by Cosmology.) The somatic and psychological aspects of our awareness and consciousness will thereby be related to their projected representations in the form of our 'universe' in terms of Cosmogogenesis, and the mathematical formulation for system inversion. It needs to be made clear that the mathematical formulations, and their applications to physics as in Cosmogogenesis, are applications of the way our body (thus brain) functions, not the other way around.

In order to be able to address this seeming complexity with greater ease, the terminology of Systems Theory will be introduced and used, because it allows different system aspects to be described from an integral perspective. It offers a perspective on contemplating the system boundary simultaneously as separator and connector; 'from inside and outside'.

1 Beyond Systems

Systems Theory has offered a more encompassing representation of/for the reality that we perceive: any object can be described as a process, conditioned by its interactions with/in its environment, of which it forms part. *This makes it possible to relate 'objective' 'external' 'reality' to our internal subjective realisation*. This is required for relating the part (our internal world image) to the whole (our external 'reality'), of which we are integral part; and which we do not perceive except via our

interpretation of our *sensations* by our sensory cells. In relating the (analytical, left brain) part to the (synthesised, right brain) whole, the specific (identified, fore brain) part is re-related to the integral (undefined, hind brain) whole (Fidelman, 1999). The 'boundary' between part and whole is thereby transcended: it does not serve as (analytic) *separator* but as (synthesising) *connector*.

Practically this means that *anything* (even its description) needs to comprise four aspects: 1) The structure, 2) its processes, 3) its transformation in context, and 4) its integration into its environment.

This can be described also as the transition *over* the system boundary, by which the system is set into its environment. This boundary transition can be described as "Outside", "In Touch", "In Transit", and "Inside". This is the customary view of 'objective' analytical 'physical' science. This is by the point of perspective of an 'Outsider-Observer'. ((Psycho-Logics; O#o, 1999a) The "Outsider Observers" do not exist: they too are *identities*, determined by a process, interacting with/in a process, of which they form part. In Psychological interventions, the Insider-Outside, and Outsider-Inside are known respectively as the Inner Child, and the Inner Critic. These are important psychological constructs, which are however often ignored in scientific discussions. Their role in determine scientific consensus is as a consequence also not understood.)

There is an alternative perspective: that is the Participant-Insider: it depicts the transition *of* the System Boundary. This is the position of the involved subjective participant; the Mystic experience.. This is the customary view of subjective integral "spiritual" science. In this realisation, the system state is seen to 'dissolve' into the system processes, by which it functions. These 'evaporate' into the systemic transformations, by which they are formulated. Those again 'lose themselves' into the changes of logic (or paradigms), in and by which they are realised.

Evidently the perspectives of involvement differ; this has been described in STEC and Options & Choices, Doubts & Decisions (O#o, 1999c, 2000b). The Outsider and Insider do not stand apart but are told apart by 'crossing a boundary'; which involves a change in their own involvement.

Instead of regarding the System Boundary, as basis of system definition, it is also possible to regard the System Field, from the respective relative probable manifestations of Structure, Process, Transform and Emergence. This means that the whole system itself is perceived from these perspectives; which amounts to a formulation of the way it emerges from its environment, manifests itself into an identifiable form of coherence, and proper structure (suited to the context).

2 Beyond Matter

This understanding of boundary transcendence in terms of Systems formulation is relevant for dealing with transmaterialisation: a topic normally denied from the perspective of classical physical science. The classical form of science deals only with 'objective' (collective) reality, ignoring that it is based on subjective (individual) realisations. Transmaterialisation involves those changes of state, in which physicality

is no longer an issue. It is based on the relationship in organisation of phase, in the form of plasma, ionic gasses, fluid molecular dynamics and structured physical states. Each of these forms of manifestation pertains to different types of organisation of the systemic *degrees of freedom*. They also relate to different *forms of involvement*, as each of these four (alchemical/material) phase states requires a different boundary definition in order to be discerned. This means that the reference systems of classical physics no longer apply, and one needs to resort to those of metaphysics. It is no longer feasible to refer to these phase states as states of *materialisation*; they have relevance only as phase *information* transformation dynamics; modes of information. (Patterns in Processes: O#o: 1989).

Although this may perhaps be a difficult feat for Classical Science, it is a normal endeavour for modern Physics. In the quest for understanding matter, it became clear that Matter can be considered as composed of Molecules, themselves composed from Atoms, which are modulations of fields of waves: physics is in fact "Phasics": a field of modulation of phase. It is the domain of phase information. Its essence for understanding is the organisation of information (consciousness). This is the formulation of phase in its most abstract and fundamental sense.

These realisations are normal to in the studies of Cosmology: the emergence (and immergence) of universes, such as those of which we form part. Here the presented image is the same: matter (Earth) was formed out of fluid phases (stars, like the Sun), which again were condensed forms of cosmic gas; which –'somehow'– emerged out of a "Big Bang".

Big Bang can be most easily interpreted as a site of inversion of phase: it is a bounding point of the Universe at its point of inception. Albeit a point, it is a boundary still, and – as any boundary – defined by its traits of inversion of phase at (and of) the interface. The relationship between the cosmologic emergence of the physical reality that we perceive and 'live in', and the phase relationships in its formation is described separately in "Dimensional (De)Compression" (O#o, 2003a): the tracing of the transition from closed/material systems into open/information systems, as they can be illustrated in the transition through a local (closed system) black hole into the universal open system. Here we deal with the complement; not by the outsiders view as we project these relationships on the universe that we 'perceive' around us, but as the subjective changes of state of consciousness, by which the reorganisation of internal degrees of freedom is achieved. And the relationship between the part (our individual realisation) and the whole (the universe that we form part of) can be modulated cq. achieved. This is thus a description of the psychological (experiential) aspect of the same concept. This pertains to our own changes in involvement: in life, in observation, in realisation; and in the projected definitions of 'reality', as this is done in science. (Language, Science, and Reality are a conditioned collective consensus construct.)

Instead of regarding the boundary of a system (or even in its extreme, as a point instead of a surface) it is possible to regard the system itself; i.e. its own Field. In this case, the field itself (e.g. our universe) can be collapsed into a Gabor point (e.g. its point of emergence: Big Bang). This means: the inversion Point, and whole system, are the

same. The understanding of this requires a description of a critical cascade of dimensional (de)compression, which will be separately described. By this mechanism, the collapse of phase state with respect to each other can be described. The boundary transitions involved pertain to a set of orthonormal transformations, which – together – define a Total System Inversion. (In brief: it requires a combined symmetry separation operation, in which right-left, front-rear, top-bottom are combined to, together, allow for the inside-outside *inversion* operation. This requires a co-joint description along three orthonormal axes of transformation, in a conjunct 4th point of description that is internal-external to the system (a system singularity point, which is simultaneously a point of dimensional transition). This can not be described in classical analytical logic; it requires an integral multi-valued (4D) logic, with properties suitable to describe dimensional phase state dynamics. (4D-D Logic; O#o 1982).

3 Integral Understanding

The concept of Total System Inversion requires a different type of thinking than that which is used in classical science (and the forms of mathematics that support it). The realisation that the Point and the Whole, are in essence (and fact) quite the same, requires the skill of holotropic thinking.

Holotropic thinking is a natural feat of our mind: the superposition of points of thoughts (in the left hemisphere of the brain) and integral insight (in the right hemisphere of the brain) can be superimposed and fused (in the Pontine System of the brain) into the Aha-Erlebniss (a process involving a system phase state collapse) of integral understanding. This process can be described in terms of the principle of Dimensional (de)compression (O#o, 2002a). The description of the dimensional dynamics of our thinking processes are relevant for understanding how we create our realisation of reality. This is essential for all descriptions on science (See O#o, 2001a; the STEC-vector requires explicit formulation of our involvement in the formulations in science, for which our state of consciousness needs to be part of the equations.

This has practical implications: we need to understand the process of realisation. We need to think about reality in a different way than commonly used in science. (Fidelman, 1999) Analytical logic (left brain analysis) is unable to address systemic integrity, as it sets reality apart from realisation, and regards Objectivity while disregarding the Subjectivity of our own involvement. Right brain synthesis is required to keep the integral relatedness in perspective. Apart from the focused (forebrain) description of reality, we also need to understand our (rear brain) mode of involvement.

A brief neuropsychological reflection is relevant also; the model of a tetrahedron is presented to address the organisation of systemic logic for understanding the way our body operates the 4 phase integration within our context: In the brain the principle of integration (relating the part to the whole) is seen in the relationship between the four brain halves.

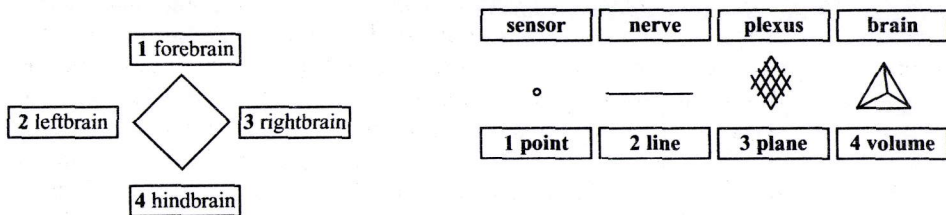


Figure 1: dimensional logical (de)compression in our brain and nervous system

The **front** brain allows us the realisation of a (0D) single point perspective, as a result of interference between the following brain aspects. This perspective can be represented by an apex of the tetrahedron.

The **left** brain allows for a (1D) linear train of thought; compare it to a rib of the tetrahedron. This is where one-to-one mappings can be addressed.

The **right** brain offers a (2D) plane of reflection, which can be imagined as a side of a tetrahedron. This offers a reference for discrimination of known and unknown.

The **hind** brain offers a total integration; the part is also the whole (a Gabor Point). This connects the closed system to the open system, by a process of Total System Inversion (O#o 2003b, 1995, 1999e). This can be represented by the (3D) tetrahedron as a whole. This model offers a means to understand symmetry of the system with/in itself.

The geometrical relationship of the brain can also be found in the dynamics of perception. In the information cascade from a nerve sensor (cell) to the brain the same concept can be discerned.

The **sensor** cells are comparable to the (0D) point perspective, i.e. the apex of the tetrahedron.

The **nerve** linking the sensor with the body can be compared to the (1D) linear logic of the left brain analytical function; the rib of the tetrahedron.

The **plexus** of the nerves is the (2D) interface of attunement; the discriminate logic for integration in which many strands of perception join in creating a composite image. Compare it to the side of the tetrahedron.

The **brain** is the aggregate in which the sensory impulses from our contact with our context are integrated, and inverted, in making an (3D) image of 'the world' inside of our body.

Total System Inversion addresses some of the issues involved: Holographic perspectives require not a *static* model, but (like any system) need to address – simultaneously – 1) the system state, 2) the systemic processes, 3) the system transformation, and 4) the system emergence. In other words: *any formulation of reality, must include the formulation of its realisation.* (O#o, 1999c).

The relationship between the part and the whole (or, Boundary and Field) of the system implies the aforementioned important concept: of Dimensional (De)Compression: the system singularity set itself must be reorganised, and

reconfigured, for the system singularities to (re)combine and condense into/out of each other. (During this process the system is ostensibly not defined, because the system state definition takes place in another domain, that of dimensional phase state transition; this is a virtual (spiritual) information state, it might be considered 'unreal' if one is used to refer (O#o, 2001c) to the material phase states in describing 'reality', and its transitions. It is however the basis of all that we hold to be real. In this approach, the abstractions of pure mathematics, designed to be able to deal with this level of pre-existence of phase organisation as the basis of matter, is indeed very real. And also much more realistic from a scientific perspective, as it deals with the emergence of matter. Meta-physics is therefore, from this perspective, also more tangible than physics. It deals not only with all we perceive, but also with how this comes to be. How we come to perceive this. And how matter comes into existence. All this is needed to understand how reality is realised.

As mentioned above: this requires an understanding of the relationships in phase states, the degrees of freedom they represent, and the dimensional changes that are involved. All of these are 'perceptions' based on the internal processes taking place in our awareness (but ascribed to 'external' realisations). The realisations are wholly internal: they reflect changes of state in our own being. This consecutive process of transformation of the system singularities is the operative principle (or Quintessence) of Alchemy, by which the transitions of state (from Plasma (Big Bang) to (Cosmic) Gas to Fluid (sun) to Solid (Earth) can be understood. The phase transitions require a re-phasing at the level of coherence of phase. (i.e., it represents a reformulation of the (trans)systemic logic). This again pertains to a systemic change in dimensional organisation; by principles of (phase information reorganisation) that are implied. The concept of Total System inversion brings out these implied dimensional system transformation relations. As described above: they are essential to understanding the difference between living beings and 'inert' material 'objects'.

4 Living Beings

Total System Inversion is not 'just' a concept that can be 'imagined' at the astronomical perspective of cosmologic emergence, or at the universal perspective of subatomic phase organisation dynamics: it takes place as a natural phenomenon as the biologic transmutations of living organisms as described by Louis **Kervran** (1976).

It is also seen in the development of the living organisms themselves: whole trees emerge out of seeds (which again forms fruits to form seeds): most, if not all, living beings undergo staged phase transitions in which the system inverts, as a whole, as described by Lawrence **Edwards** (1993).

Not just the cosmological or philological, embryological development and ageing of individuals and species are described by this principle of (meta-recursive) Total System Inversion, but also their complement: the staged phases of psychological evolution; of individuals, of cultures, and their complexes such as organisations and e.g. the evolution of language (Maturana & Varela, 1980), and of science. (At this level,

the indescribable needs to be described. This can only be done by inference (MetaThematics; O#o, forthcoming).)

Total System Inversion is in dire need for a description; a concise formulation. Living Organisms operate by fundamentally different principles than described by Physics. Physics addresses the states of phase of matter. Classical physics limited this to the states of phase of dead matter, by basing itself on a preference of reference for inertial systems. This was of help to understand the physicality of material objects; but not the physicality of living being. (Classical physics used and imposed reductionistic assumptions of linearisation, homogenisation and uniformisation, which have not only crippled the progress of (life) science but is also severely damaging Earth.)

Living beings show that such “dead” matter is what our body is composed of, not composed by. Modern Medicine is severely crippled (and quite obsolete) by the models derived from classical physics. ‘Dead matter’ is no measure for living beings. And a different approach is much needed to understand health and life, instead of death and disease.

The main difference between living beings and dead matter is *the ability to reorganise their internal degrees of freedom*: they can operate the alchemical transmutations of phase, to change the interfacing characteristics of the being from a Closed to Open System.

This is of fundamental importance: Solids, Liquids, Gasses and Plasma are all integrated into the composition of our body. Living Beings are at the same time Anatomical, Physiological, Neurocrine Regulated and Integral Psychological beings. In other words: Closed Systems, Open Closed Systems, Closed Open Systems and Open Systems, all at the same time. (This is but a different way of expressing that living beings can ‘turn in on themselves’: they do not only operate the systemic of transitions of phase (The Four Elements), but also operate the underlying logic (The Quintessence, or Quint Essence) of the logic of phase integration. This is the level where all 4 physical phases are in essence the same, and can ‘turn into’ one another. This involves the 4D dynamic logic of phase inversion (or dimensional compression). (O#o, 2003b)

5 Phasics; the nature of Meta Physics

Total System Inversion cannot be described in 3D formulations. Although indeed this involves an inversion between left and right, front and back, up and down, it also involves a preservation of their coherence: only this integral co-ordination allows for a (de)compression “inside-out”). (This involves a dimensional (de)compression, because by this 4D transformation the outside and inside are directly related. In physical terms: the scope of the event horizon of a space-time process is directly related to the pivotal inversion singularity in the apex of the “light cone”).

(Technically, this requires a dual Minkovsky trans-tensor; in which 3 Real components of Space are complemented by 1 Imaginary component in Space, and 1 Real component in Time is complemented by 3 Imaginary components in Time. The 4

transcendent operators are part of this trans-tensor description; they too are components of the 'trans-vector'-notation, defining the 4 forms of Energy, each reflecting a different degree of involvement in the trans-formation.)

Due to the process of dimensional reorganisation (and the corresponding changes in the System Singularity Set) there is a change of scale of length (spatial compression, length reduction), thus a temporal expansion (the frequencies go up), due to which the Energy (in)stability can become in-/explosive; which is a sign that system process transform integrity is lost. Information and formation, at this moment, become the same.

The models of relativity and quantum theory ignore these internal relationships between space, time, energy and coherence. In relativistic models this needs to be remedied by an explicit formulation of the relationship between waves and wave groups, wave envelopes and the Soliton they compose; in the quantum theoretical models it requires the explicit relationship between Planck wave lengths and the (sub)harmonics of these Planck wave lengths; also in inverse- and dual space.

(The basis for this can be found in the Bohr/Schrödinger model: atomic patterns are systems of vibrations of phase; the transition between orbits is not a linear leap but a boundary phase state transition: thus involves an inversion of phase. The quantum leap is thus not orthonormal to consecutive atomic orbits, but involves a 4D spin in the local tangent of the momentary orbit, at the moment of the 'jump'. This phase rotation can only be understood as part of the general pattern: the local rotation – as in a gyroscope – can only occur as part of the general phase-state transformation process.)

Total System Inversion thus needs to be formulated beyond 3D: the coordination between the system-reference axes themselves needs to be taken into account (O#o, 2001c; 1999c). This means that it can not be described in terms of classical local particular material physics.

Also, the process dynamics/stability needs to be considered, as the system condenses in space, expands in time, and diffuses in energy: the specific transformation process *coordination* needs to be taken into account. This requires transcendence beyond the limitation of the localised singular event horizons of relativistic process dynamic physics.

This is practically seen in terms of the models of modern physics: in the condensation of matter in e.g. a Black Hole (an astronomical compaction singularity, or node of dimensional compression): the formulations in terms of *matter* need to be replaced by those of *molecules* (as system states dissolve into system dynamics), which again need to be replaced by those of *atoms* (when the system processes evaporate into system transformations), which again need to be replaced by subatomic *phase* relationships; which physics can not yet well describe (and needs description in terms of Physics). This however requires a perspective beyond the scope of the multiple probabilities of linearised localised quantum states. What is needed is an integral dynamic perspective, in which the part is seen in relationship (not only statically but also dynamically) with the whole.

These descriptions operate at the level of dimensional organisation of phase information. It is at this level that the **Objective Reality can be understood as Subjective Realisation**. Their link is at the participational process level: not the description, but the describing creates our understanding of our relationship with our context. In this approach to integral science our descriptions are regarded as sets of instructions to choreograph changes in perspective in participation: physical states of matter need to be redefined as chemical processes of molecules, which again need to be reinterpreted as electromagnetic transformations in atoms, which finally need to be realised as *integral information of phase*. This means that, ultimately, the universe and all its forms can only be described in terms of the dynamics of coherence of phase; this has been long understood, and done by the alchemists. Physics is thereby related to metaphysics, materiality to information, subjectivity to objectivity, and states of being to the essence of creation (O#o, 1989).

The dynamics of coherence of phase are not simply the relationships of one phase state change with respect to another; as in the dissolution of *ice* into *water*, evaporating into *vapour* and ending up in *steam* (the ancient Nordic model for the transitions of phase). Every phase change is always in context: whatever gain in phase coherence takes place on one side of the boundary, takes place in equal amount on the outside of the system, or in the boundary, or in its dissolution/manifestation. A boundary has not just two external facets, but also two internal aspects. The external boundaries define its function as filter for discrimination; the internal boundary traits define its functor for adaptation. The state of being and information dynamics thus are always simultaneously described.

The principles of manifestation are steadfastly ignored in Physics: it assumes that atoms are Perpetuum Mobiles (which according to physics cannot exist); yet at the same time wants to describes how atoms are formed in a Big Bang (Steven Weinberg, 1977). In an integral formulation of cosmology, which does not only hold for physical objects but also for living beings, a more encompassing view is needed. This can be found in the application of the Big Bang as an ongoing process: the phase space inversion taking place in the Big Bang, takes place – still – in all living beings (as Edwards' and Kervran's works imply).

6 Open |X| Closed Systems

There is an advantage to describing this in terms of Total System Inversion: the terminology of systems already implies the convolute nature of state, process, transformation and (e)mergence. Also, Systems Theory has been applied to all fields of human knowledge, making is more readily possible to see the link between them, and the concept of system inversion. Also, there is great ease in showing the integral interrelationship between already known concepts: of the Closed System (of structure/states of Objects), the Closed Open System (of the fluid nature of process/time cycles), the Open Closed System (of the evasive nature of energy/transformation) and the Open System (of the indescribable nature of consciousness/realisation).

Total System Inversion stresses another important aspect: these phase state transitions are all interrelated; the shifts of degrees of freedom are logical consequences of the correlation of the local transformation with/in its context. (This is especially characteristic and evident in living beings.)

The relationship involved, in local terms (of quantum leaps), general constrains (as Event Horizons) and the relationship between them (phase change co-ordination) requires a perspective of integral representation (again, this is why Total System Inversion is a more imaginable concept, than what is more easily described: the Dimensional Singularity (Daath Node) transition. The principle is the same: that of dimensional (de)compression, which will now be described.

(The relationship between the transition between System Opening and System Closure is described in the dual paper, Dimensional (De)Compression (O#o, 2003b). This is where an and/or gating ($|x|$) takes place; always in context (which is why an understanding of the system environment, and its integration in it, must form part of the system description.)

These transitions represent the phases of reorganisation of the system coherence (and its perception), as *the system turns inside out*. The principle involved is a logical reorganisation of its internal degrees of freedom. These are known, in physics, as the changes of phase. Traditionally these have been described as the phase transmutations, as Alchemy used the terms. This has recently acquired new meaning, on the one hand by the discovery that transmutation is a natural event in living beings (Kervran, 1976). Also, because the shifts of degrees of freedom are fundamental for System State relations. This text describes this by the concept of Total System Inversion: the concept of Phase Transitions (and the change of operational logic) can be most readily seen in Total System Inversion. Total System Inversion occurs when a system turns itself inside out: this is a normal phenomenon seen in life forms, during many phases of their development (such as the growth of a plant out of seed, producing fruits which contain seeds). (Edwards, 1993)

Conclusions

Living beings operate by totally different principles than those described by Classical Material Science. This is based on premises – meant for simplification – in the initial approaches to this line of mental exploration. By searching for simplicity, the unresolved complexities – that would not be resolvable by that method – could come to view more clearly. This is a method used also in e.g. Fourier Analysis: a systematic reduction of complexity in the perception, by the systematic elimination-reduction of what can be explained by the known. This method has worked well; and now it is clear that Life differs fundamentally from Physical Matter, as defined by this form of science. The difference lies in the internal degrees of freedom. Classical physics eliminated the presence of internal degree of freedom, and led to a fundamental understanding of invariant inert matter. This knowledge is however deadly for healing: in medicine one deals with living beings, and the use of methods and models that were designed for inert

invariant objects are lethal if used for those living beings. What is needed is a concept by which their continued varied adaptation in a wide range of conditions can be understood. This understanding can be found in the notion of Total System Inversion; an extension of the concepts already explored by Lawrence Edwards and depicted by Dan Winter: in nature growth and development take place by the process of inversion. This involves a systematic transition of system singularities, as a result of which the system's critical boundary can be transcended, and the system's material states can be understood in terms of (phase) information. This concept is not new: it was already defined in the understanding of Alchemists, who regarded the principles of material (phase) transformations in order to understand our subjective internal processes, related to the dynamic organisation of our internal (subjective) degrees of freedom. It is possible to see how the perceived physical transformations of material phases, as seen in physics of cosmology, operate by the same principles as the experienced subjective changes of involvement; and personal development. What is needed is a concise formulation by which the dynamics of dimensional (phase) organisation can be understood and described in a way by which the subjective and objective experiences are linked; and reality can be understood to be a realisation. The concept of total system inversion makes clear how a co-ordinate multi-axial system symmetry inversion, allows for the possibility to explicitly relate the inside to the outside of any system. By understanding this as not a state but as a dynamic, the relationship between dead matter and living beings can be understood; also how they all represent different aspects of phase information (consciousness). This requires STEC (O#o, 1999c), an explicit formulation of our own (subjective) degree of involvement ("realisation") in the formulations of (objective) physical science ('reality'). The mathematical 'mechanics' of the coherent cascade of dimensional transitions is separately described in "Dimensional (De)Compression". The concept of Total System Inversion, as presented above, makes it possible to preserve and maintain all the knowledge obtained in Classical Physics, and apply it to living beings, by adding the understanding of the alchemists: the coherent relationship between transitions of material phase. Our living body is composed of anatomical physical material states, physiological chemical process dynamics, Neurocrine regulatory interaction transformations, and psychological integrative conscious creation. These are not separate states but identifiable aspects of an ongoing transformation, of Total System Inversion, by which we are simultaneously embedded in this universe, and able to act upon it. This means that we are not separate from our context, but identified with it. Not 'outsider-observers' but responsible creators. It leads to the conclusion that the understanding of our involvement matters for all our existence.

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