

Methodology and research process

Research setting and context

In my Masters, I explored social, psycho-spiritual and mental ‘realities’ (both experientially and the theories or philosophies about them, Bouchon 1998). My interest in the ‘creation of reality’ then shifted to a more concrete aspect ‘created’, to what we consider material in daily life, or a ‘physical’ space, and how we represent that. I set out to find out:

Do we 'create reality', as 'New Age' and 'New Paradigm' proponents put it, and if so, how and to what extent do we do that for physical space, including body?

This research aimed to challenge the classic tandem that supports the New Age/Paradigm view, of constructivist explanation and phenomena of developmental experience, both rooted in philosophical traditions about the core role of humans (and their ‘self’) in ‘reality’ (cosmologies/gonies, ‘world models’ – see Endnotes <C6\ Core culture, ‘secret’ traditions>).¹ ‘Reality’ can be interpreted in several different ways. The ‘physical space’ of physical sciences includes a local or core part, the body (the preferred realm of medicine), and a generalised part, variously called ‘nature’, ‘the environment’, ‘space’, etc.

Ecology, studies the ‘natural environment’ (but not the human ‘animal body’), which is often understood as a wilderness sadly seen as little relevant to most people’s daily life, although the study increasingly includes the effects of collective human behaviours on animals and ecosystems. Originally a physical science, it spawned social ecology (Hill 1996), which studies this limited interaction between the environment and people from the human

¹ This is an ‘internal’ view. The correlate ‘external’ tandem of social-construction and ‘shared’ experience is not investigated here because it relates to ‘biosocial’ aspects of the ‘embodied self’ or ‘emotional self’, and cannot illuminate the nature of physical body or reality independently of the human self and its externally visible behaviour.

viewpoint, sometimes also extending to spirituality, ‘sense of place’, and man-made material spaces. Ecology also gave rise to the discipline of environmental medicine, which studies and manipulates the interactions between the human body and the environment (in part man-made: chemical exposure), especially in chronic and stress-related conditions, them. It is related to complementary medicine, which includes ‘natural’, ‘alternative’, and herbal treatments for low-grade conditions and the management of diet and lifestyle. The related ‘nutritional science’ is a technical form of metabolism manipulation involving medical biochemistry, and which derives much of its knowledge from studying physiological strain and deploying effort in athletes (sports medicine). This provided a particularly well suited angle to begin an exploratory study of experience and explanation by focusing my research question on a narrower domain that was becoming relevant to my daily life at the time:

Do we ‘create’ the physical reality of bodies feeling ill or healthy, to what extent, and how?

It turned out that considering that ‘we’ cause, trigger, or initiate this in many ways, individually and collectively, is a limited view that makes us central to a generalised ‘the world’ in which we ‘have to survive’. This also involves an expanded view of our representations of an ‘emergent’ reality in which we both ‘create’ wonders of culture and civilisation (or mind and material reality), *and* need ‘saving’. The narrower research question could not be completely separated from the broader question.

Consequently, a further phase of research widened the question again, using the results of the exploration and mapping phase, to generalise from the conventional notions of physical space/ body and human spaces (eg material, embodied, emotional, etc.) in order to generate a modelling of this process of ‘creation’ of ‘emergent’ realities, as a topologic ‘deployment’ (see Appendix C, <Endnote C4\ Topology>). This relates to representations not just of the body and human health, but of all sorts of circumstances that may influence humans physically and mentally, and not just humans.

Naturalistic setting

The involvement of my research adviser, Professor Stuart Hill, with the developments of the 1930's Peckham Experiment in health ecology (Hill 2004, Stallibrass 1989, Williamson & Pearse 1980) (see chapter <Health and illness>), inspired the choice of a naturalistic setting to support a practical rather than an idealised analysis.

The Peckham Experiment was conducted between 1926 and 1951, at the Pioneer Health Centre, which was specially built in London, to discover non-intrusively the 'nature of health'. The observation of people in their daily activities focused on biological health and psycho-sociology, and was conducted with as little interference as possible. The researchers found that only 10% of the initial population studied had no diagnosable disease, and that 60% (over the age of five) were diseased but 'acted like healthy people', unaware of their condition. 'They differed conspicuously from the sick [the remaining 30%] in being able to sustain their positions in their work and in society without any professional assistance.' They believed themselves healthy and, 'in spite of the disorders found to be present, felt they were fit or in their usual health.' They 'remained oblivious of their actual physical state of disorder' thanks to the clinically well-known process of drawing on the body's reserves to compensate, but were limited despite being apparently 'well'. Only 30% were sick and aware of being sick (to no worse degree of severity than the 60%) (Williamson & Pearse p.14-15). This early twentieth century finding is relevant today in Australia, where many are not aware of their condition of diabetes, metabolic syndrome, or of warning signs of other diseases, particularly degenerative conditions.

Following Laughlin, who considers that 'any theory that fails to ground itself in the empirical reality... of [one's] common experience... is doomed to failure' (Laughlin & Brady 1978 p ix & 1), it seemed that my personal health situation (see <Introduction>) would provide a sound grounding for the study of the issues affecting stress-related, low-grade chronic syndromes. In these syndromes, the Peckham situation is often inverted: patients are aware of being unwell (not necessarily 'diseased'), but diagnosis is not forthcoming, and others, seeing them objectively, regard them as in apparent good health. The grounding in actual

experience of daily life had also become the best direction to follow for research, after an inquiry into a particular aspect of health – dental health – that I conducted twelve years ago (summary booklet with illustrations, Bouchon 1994, unpublished). After one year of reading and summarising literature concerning periodontitis, and talking to dental surgeons, I had been stopped by the unwillingness of specialists to guide my deeper exploration of nutrition effects and of causal explanations. This unwillingness led me to investigating paradigms and theoretical assumptions, which I studied in my Masters. The physical aspect remained to be explored, together with the fit between accepted explanations and descriptions of health, and my actual experience of illness and of ‘being well’.

Small changes in illness

Hill’s (2001) emphasis on ‘small meaningful initiatives’, as well as the low-grade nature and variability of the illnesses studied, oriented the inquiry toward daily life health adaptability and ordinary daily experience. Organic injury, medical emergencies, cures and targeted treatments are the normal object of medicine. Spontaneous remission in grave diseases is now fairly well known (Chopra 1989, Weil 1995), as are special capacities of the brain and mind to trigger healing, and even some extraordinary capacities of the body (Murphy 1992). Although these are accepted as objects of research, their investigation has tended to reinforce the main paradigm challenged by my research question (see <Endnote C1\ New paradigm>). The on-going, small changes in health and degeneration are much less understood or studied, and more likely to produce new understanding than catastrophes and miracles of health. An example in <Extracts F20 – Published ‘Exceptional Experiences’\ Saint Teresa of Avila> points to the neglected low-grade wasting that can be felt and could be prevented if such strange dreams of looking directly into internal bodily degradation were not interpreted or invalidated (chapter <Validity and Valuing> discusses what is deemed ‘evidence’).

Research frame

The development of the complex methodological plan for this project is summarised in figure 42 (at the end of this chapter, p.78), and is reassessed in <Deployment of perspectives>, in a simpler way. The situation studied in this project involves both a practical problem of health that is not well understood, according to medical literature (see <Extract F4\ Syndromes of instability>), and its basis in the unexplained immediacy of the ‘physical world’ of humans, especially that of the body. This requires a complex methodology to understand different ‘orders’ of expression or organisation within this world, as apprehended both scientifically as the ‘physical’ and humanly as the ‘material’ (including matter, but also the material conditions of daily living). The design and techniques were selected in relation to three basic aspects: (1) theorising, and practical exploration, divided into (2) experiential observation and (3) physical experimentation. The combination of methods includes existing methods and techniques, some extended, with the addition of new ones. The design is emergent to cater for new types of information, and the observation of induced phenomena. The ‘native capacity’ for gauging mentioned in the introduction, at first undefined, is used as a benchmark.

A generalist study

This project is ‘generalist’ (Korzybski 1933, Von Bertalanffy 1968) in its aim of producing a theoretically and empirically based analysis of general notions covering both the domains of human and physical sciences. Yet, the modelling method developed in this project (‘nexial-topology’, expressed through visual maps and animations) is not limited to the general-systemic view. In fact, it is the development of this view, which is now spreading among sciences, and its origin, which are being modelled here.

Integral approach

In keeping with the inclusion of the two domains (physical/ scientific and human), an ‘integral’ methodology (see <Endnote C2\ The term ‘integral’>), which combines quantitative and qualitative methods, also ensures continuity with my previous studies.

Developed in transpersonal psychology, this methodology (Braud 1998 chapt.3) allows the researcher to make observations from both objective and subjective viewpoints, and encourages a wide-ranging, relevant cross-field literature review (see <Extract F19\ Integral Inquiry (summary)>). The understanding sought, however, does not concern the mind, consciousness, and the ‘highest’ human potential (ibid. p.37), but rather the prosaic material world of everyday life and the health of the physical body.

Radical empirical observation

The research tradition that developed the integral paradigm claims its roots in the ‘radical empirical’ stance of William James (1912 pp.39-91). This provides an added ‘depth’ by opening a wider range to observation, not only mental: the word ‘empirical’ does not exclude the body. Special experiences can be included, such as spiritual experience (Hart, Nelson & Puhakka 1997, Krippner 2000a), ‘Exceptional Experiences’ (White 1995 & 1998), parapsychology (Tart 1972) and ‘anomalous’ experience (PEAR 2002), spontaneous healing (Weil 1997), but also anything unusual. This ‘unusual’ takes here the form of ‘induced phenomena’ (see below), aspects of health no longer described in medical literature, and unexplained lifeworld events (see <Endnote C3\ Special experiences and the unexplained>). The open range of observation can also be understood as a non-focused way of looking at ‘reality’, an ‘aperspectival’ view, or ‘natural awareness’ (Tulku 1976 & 1977) or a ‘seeing’ what is ‘actually’ there. This can counter the habit of giving observations almost immediately a form according to conventions of experience such as space and time, or objective and subjective self-world boundaries. Thus, perceptual or cognitive constructions can be studied in themselves, as well as the very process of scientific observation (Rubinstein, Laughlin & McManus 1984).

Techniques for ‘direct’ observation include ‘mature meditation’ (Laughlin 1990) and other meditation and intuitive techniques. However, I mostly used Husserl’s ‘bracketing’ (Husserl 1931), a method of philosophical inquiry, consisting in suspending judgment and subjectivity. I extended it to suspending also ‘objectivation’ (or reification) of the observed.

This radical stance aims to obtain a 'fresh eye' view on the question and health situation studied, and to challenge notions of 'evidence' (discussed in chapter <Validity & valuing>).

Problems of definition

The notions of 'cross-field', and 'integration', are somewhat confusing. 'Cross-field' studies are mostly interpreted as *multi-disciplinary* research performed by collaborative teams, and producing 'integrative' results that are relevant to all members and their specialised fields. I did not perceive the term in the same way at the outset of this project. In the same vein, my understanding of the words 'general', 'generalist', and 'general system' was different from others' understanding. The word 'general' is often used interchangeably with the word 'generic', and does have a common root in *genus, genera*, but I understood them as 'not specific', valid 'in general'. The problem is not just mine, and is far from new. It is echoed in the distinction of applied versus fundamental research (underlying all specialised fields), which aim respectively to produce 'innovations' (eg techniques, technological applications), as opposed to fundamental 'innovation' in knowledge, method, or experimental discovery. As it turned out, this singular-plural difference is characteristic of very different perspectives that also are symmetric. It is of particular importance for the current academic development of general-systemic and multi-disciplinary research and, in particular, for defining the methodological approach chosen here.

To me, 'general' and 'integral' qualified two aspects of the same body of understanding, one scientific or physical, the other human or mental. Adding the blinkers-views of the many specialised disciplines of both domains would only produce an additive picture of great detail, which we already have, and would only refine, without taking a new viewpoint. It yields the professed lack of understanding of chronic illness syndromes. Questions about the 'physical reality' (and the body, and senses) perceived by humans have been debated throughout history, and answers remain controversial. The formative influences of Wilber (1977, 1985, 1996), Stace (1960, 2001) Feuerstein (1992, Feuerstein et al. 1995), combined with my previous studies, had convinced me that the ways of philosophical, scientific and mystic inquiries into the 'physical', *used separately*, are based on sets of ontologically

biased, and too specific, methods. They only result in disagreements concerning what the ‘physical’ world and body are and where they come from. This is how I approached my methodology.

(1) I had to exclude nothing from the field of study:

To be radical, empiricism must neither admit into its constructions any element that is not directly experienced, nor exclude from them any element that is directly experienced.’
(James 1912 p.42).

(2) to approach the field wholistically (both physical world and body)

(3) find a less disjointed, fragmentary or differentiating way of looking at it

(4) and produce something more grounded in daily life and practically applicable to physical health.

Choice of research design: experimentation and experience

‘Direct’ observation is a term relative to experience, and it comes from the human sciences. Empiricism is a scientific term relative to experimentation, to the notions of being objective and dealing with ‘facts’. To exclude neither, an exploration of depth can combine observing experience as it arises (or disappears) and experimenting with its physical basis.

Experience: self-as-subject

Observing (for instance the mental model of the ‘embodied’ self and the cognitive construction of the perceptual body schema) is difficult to study vicariously through other people as subjects, and through self-reports that risk possible misinterpretation. A six-months search for other subjects, observers who would be subtle enough, and be willing to challenge their ontology, failed, partly due to this researcher’s incapacitation and constraints. The obvious option was then a self-as-subject design (Varela & Shear 1999, Hut 1999, Ellis & Bochner 2000).

Pitfalls of self-as-subject design

Positivist science considers subjectivity as an unreliable ‘surface’, objectivity being more accurate, fundamental, or real. In some human sciences, on the other hand, the ‘self’ or spiritual ‘subject’ tends to be considered ‘deeper’ than reified objectivity, the self being ‘the

user of one's own cognitions, of intentions and doings... of one's own mind... of muscle...' (Varela & Shear 1999). This style of observation is used in 'first-person' methodology (ibid.), which includes some forms of phenomenology, and it can help understand the role of language in apprehending the body and the interaction between mind and body. The role of 'discourse' in the biosocial interaction is outside the range of this study, which does not review literature concerning 'external' aspects (see pages 33 and 57 below.) The role of language and words, instead, is discussed. Using oneself as a subject of experience, as the self that is at the centre of a life-story and a medical case has, however, several pitfalls: subjectivity, linguistic interpretations, and biased view:

'Often, cases are... accounts of important factors as self-perceived and self-interpreted... There are possibilities of subjective distortions... resulting from biased recall, observation, or reporting.' (Braud 1998 p.280)

This can be offset by studying cognitive processes in the researcher's mind and brain, approaching 'science as a cognitive process' (Rubinstein, Laughlin & McManus 1984)

'to integrate our understanding of consciousness, culture and brain in a single perspective... simultaneously neurobiological, phenomenological and sociocultural, [...] First and foremost, we require that any phenomenon be treated with reference to the structures of the body, especially the neural structures producing it, as well as the sociocultural conditioning, the phenomenon and the experiential dimensions that inform the phenomenon. [...] One point to be drawn from all this is that the human brain is inherently mystical; that is, the human brain is driven by its own inherent structure to know the hidden.' (Miller 2002 – This notion of 'hidden' turned out to be a major element in the present work, relevant to topology).

Even if they are considered as sources of functional consciousness, the brain and 'structures' of body are a drastic reduction of physical existence. I was interested in the 'workings' of the body-brain system, in relation to mind, experience, and other aspects of 'existence'. I also wanted to explore the origin of the object 'body' as an element of material space, not just of the mental space (eg perceptual body schema) creating the 'body' or representing it.

Experimentation: single-subject

The converse approach, the scientific way of experimenting with the physical and matter, is external, usually separating researcher from subjects that are objects of research. I could find no suitable subjects interested in internal variations that are *physical* rather than psycho-emotional or cognitive, and so the single-subject seemed an option. The ‘approach... is useful when few participants are available’ (Braud 1998 p.273). My early realisation that drugs for the body could create violent reactions, unwilling but with unwanted effects on the mind, and could, on the other hand, compensate for stress as a whole in a way that precludes its study, had me turn to ‘alternative’ treatments and nutrition. The plethora of sweeping claims made for them suggested that effects were probably different for different individuals and for different states of health. This required that I test them for myself to find out the actual effects for chronic conditions in a case like mine, and compare with medical reports. The single-subject design allows repetitive experimentation, separately for different inputs, to detect short-term effects, and to study the reactions and extremes of both body and mind—a crucial aspect of a stress-related condition.

Pitfalls of single-subject design

This design is mostly used in the behavioural tradition, and can be superficial, if an experiential ‘depth’ is not included: both are needed in this study. Braud mentions another weakness of this design:

‘There may be difficulties with shifting baselines; non-reversible baselines; and residual after-effects of applying, withdrawing, or reversing variables.’ (Braud 1998 p.273)

This is, in fact, what made the single-case design attractive, because it could bring to light these very characteristics, which are normally considered an impediment, are not clearly visible, and also are not studied purposefully. For example, the side-effects of treatments, sometimes unclear for a long time, as well as the general baseline that we call ‘health’, in both medical and social terms, and which relies on standards of normality, are both of interest for chronic conditions. This very baseline is unstable in low-grade chronic syndromes (eg recurring periods with allergic reactions to normally innocuous substances

and conditions, with periods in which they cause no reaction). This behavioural approach highlighted, for example, an inversion between conventional medicine, which considers certain conditions irreversible, and nutritional and alternative medicines that find them reversible (as did I). Another advantage is to include directly behaviours such as ‘induced’ phenomena that cannot be construed as voluntary or intentional (even ‘subconscious’), without the difficulty that a subjective viewpoint needs to name some psychologically external source of intent or will, if none is found internally. The simplest kind is an ‘induced’ behaviour that does not appear to be a ‘reaction’ caused by something in particular nor to result from any special ‘drive’: Allergies are often part of multi-factorial syndromes, but the term sometimes becomes rather inadequate (for example, a ‘water allergy’).

The combination of self-as-subject and a pointed single-subject experimentation produces a breadth of data and is not a rare choice in medical fields. There is a long tradition of such self-experimentation among health professionals, doctors (eg Chopra 1989, Grof 1987, Khalsa 1999) and physiotherapists (see list in section ‘Experimental tests’ below).

I would add one more pitfall to the single-subject design, especially in its behavioural form. Mental phenomena can be interpreted in the reduced form of a ‘behaviour of the brain’ (mind as ‘epiphenomenon’ of the brain or of physical matter), to which much psychology reacts with opposite perspectives. ‘Behaviour’ however, is a good medium to reach operational understanding of ‘how things work’, and cognition a good medium to reach connective understanding of perspectives, general or specific. A deeper problem is that body can also be interpreted as an underlying core of reality, the source or the resulting ‘manifestation’ of mental realities, and physical reality as a concretion or aggregation of ‘Mind’. It is struggling with this that led me to choosing the research design described next, and to the nexial-topology of a ‘place’ that is not reified as either physical or mental, body or self, nor an integration of the two. (See further discussion in <A global field accessed locally>, p. 55.)

An experimental-experiential 'local-case' design

A combined experimental-experiential design, with 'radical' observation, enabled me to deconstruct the subject-self as well as the object 'body-brain', and their behaviour (normal or not). Observations could include the body, brain, and mind, in conjunction with both present and absent treatments (including nutrition, exercise, sleep, etc.). The term 'behaviour' may be understood in the mental and social terms of a self (eg externally visible 'personal' behaviour and internal functions such as cognitive activity and subjective psychology). It may also be understood in the physical terms of the body (eg externally visible behaviour such as symptoms or vital activity such as breathing or 'self-care' activity, and internal operations related to physiology, and metabolism). Yet another meaning involves subtle sensations related to the anatomy of both body and brain, even if they are not objectively measurable or are difficult to describe in words (and therefore difficult to report). All these behaviours can be viewed as characteristics that belong to the individual. Nevertheless, 'behaviour' is apprehended here in a broader way, as a 'state' of health-sanity, including all these 'workings' which are not necessarily individual (eg ethnic-related genetic tendencies). A state can be individual (eg a 'stress state' or an 'altered state of consciousness' [Tart 1990]), but also collectively 'human' (eg civilised characteristics of 'normal' health). Such a global state has general characteristics that affect health states in individuals, and their 'lifeworld' (a term introduced by Husserl). Such is the case for the general definition of 'normal health', the definition of which is a major difficulty in the medical treatment of chronic illness.

Over a long period of research engagement (eight years for this study), several such states came under observation and were studied. For example, certain long-term side effects of general ways of treating the body (eg sedentary living, using pain killers, purified medical drugs, processed foods, constant mental and sensory focus), and patterns in the shifts of baseline, appeared to affect health (eg effect of intense sedentary 'work-style' on eyesight and on proneness to systemic inflammation). As used here, the term 'local', therefore, covers generically complex aspects that involve locally a certain case and subject (the health of the

person-self-body and the experiential lifeworld of this researcher). It also involves global properties that are broader than their mere expression in the particular local-case. They need not be unilaterally attributed to the ‘local expression’ in this case and subject, which was chosen because it was the most convenient and appropriate to study this process of expression. With this approach, I aimed to deconstruct the entire notion of ‘health’ and that of ‘body’, and to understand how the health of a local body (human or not) is influenced by the global properties of the ‘physical-material world of humans’ (including bodies), whatever this might turn out to mean. This approach helped me understand what those who prescribe or give treatments mean by a ‘healthy body’, as opposed to ‘disease’ and a ‘sickness behaviour’, to find out what it was that I sensed as ‘off track’ yet not quite ‘sick’ or diseased. (I refer to subtle indicators of ‘early change’, even before ‘subclinical’ condition, ‘pre-condition’, or medical ‘risk’.)

Pitfalls of ‘local-case’ design

The main difficulties with this double design are (a) the capacity for generalisation of specific effects (eg of different baselines) and, (b) despite the elimination of both objective assumptions and subjective bias, the ‘orienting’ that arises from the local tool of observation – the ‘human instrument’ (body-mind), rooted in its propensity to rely on its ‘human’ mind and brain more than its physical or animal nature. These are addressed in several ways, discussed below and in the chapters <Validity & valuing>, and <Conclusions>.

A broad literature review

Low-grade syndromes involve both individual and collective issues, across both domains of physical and human sciences, as the words *medicine* and *health* denote, and so the literature review must be broad. It covers sciences of the body (and techniques), theories (of health and in other spheres), the variations of experience, as reported formally, but also as recounted in informal ways. It also extends to abstract areas such as models and symbols, complex sciences, and as far back as the earliest archaic writings (sacred texts and myths). The scope is further detailed below, but the citations necessarily represent only a partial sampling.

The process of research in Phase one

This research is characterised by repetition (eg in experiments and in theoretical abstraction) and cycling, which can be formulated dynamically and statically as the following three on-going processes illustrate.

A-‘Experiential correlates’ in ‘Soma-Analysis’

In the observation of experience (human domain), one goal was to correlate the three modes of observation of the integral approach: objective measures (from medical and other tests); subjective self-assessment of the experience of health, body, cognitive effects (eg concentration, short term memory), but also events in the lifeworld (eg stressful event, or changes in socio-material living conditions); and ‘direct’ observations of the body-mind, including sensations and perception. Details of these correlates (objective/physical, subjective/mental and direct/lifeworld) are provided below in the section <Specific methods and techniques – Phase one>.

As my techniques became refined, physical internal sensation became differentiated into many features. They were all there from the start, but not formulated separately until I had found a vocabulary and imagery to differentiate them. One of the most persistent observations to appear in the experiential correlates is the recursive sensation of swelling, which is known in medicine under various names at various degrees of gravity.

B-Triangulation in experimentation

In the scientific domain, I studied the body system, but not only this. The generalist approach aims to triangulate, in experimentation, the behaviours of:

- (a) the specific or individual system we call the ‘physical body’;
- (b) the general, collective arena or world system we call ‘physical world’ (man-made and wilderness);
- (c) the wholistic material sphere of living, which includes the individual body, food, lifestyle conditions, machines and other artefacts, etc.

This triangulation allows to include all sorts of practices regarding the body, models of it, and worldviews that do not fit within academic standards of validity, and yet do exist in human experience and explanation of physicality or spatiality. The correlates and triangulation enabled me to make unusual connections. For example, abdominal swelling is a known feature in medicine, whatever the cause, whatever the evaluation (eg normal or abnormal), and is a feature commonly noticed in daily life:

- (1) the Italian matron becoming fat with age, including a large swollen belly,
- (2) a woman's pre-menstrual distended abdomen from 'water retention',
- (3) the huge belly of a malnourished child in Africa,
- (4) an older man's 'normal' potbelly, called in Australia a 'beer belly',

This strategy allowed me to include experiences (and their explanations) that are not generally considered part of what is relevant to medicine, and yet still involve standards of normality.

- (5) the 'beautiful round belly' of a male mystic yogi practicing *samadhi* daily,
- (6) the round belly of a normal child, supposed to flatten with the onset of puberty.

Neither the medical nor other literatures seem to make the connection between these particular examples of a general physical feature of the body, preferring a variety of explanations that are mutually inconsistent. Experimentation with stimulating foods and levels of activity allowed me to map out the appearance and disappearance of this feature (swelling and the stopping of it), and correlate with the general condition of the lifeworld. Other such features or properties occur in other areas and may be considered as blind spots for conventionalised perspectives.

C-Cycling between abstract and concrete steps of research

Theory and practice (experiment and experience) have an equal role in this project, and the research work cycles between the theory and practice, constantly comparing experimental observations with experiential explorations of other's viewpoints. In two methodologies from which I borrowed, Naturalistic Inquiry (Lincoln & Guba 1985) and Grounded Theory (Charmaz 2000), the research process goes through cycles between abstract and concrete

work, ‘until redundancy is achieved, the theory is stabilised’ (Lincoln & Guba 1985 p.188) (or ‘saturated’). Here, the cycling is between theorising and practical activities (ie experiment-experience), and they stabilise into ‘perspectives’ that include explanations and experiences, with an unformulated foundation in observed physical ‘self-evidence’. The cycles of deconstruction-reconstruction produced coherent frameworks (grounded theory ‘saturation’) three times:

(a) an analysis of general perspectives based on two analytical fundamental parameters, which allowed the formalisation of the native animated geometry as ‘nexial-topology’ and the discovery of animations made by topologists,

(b) a topographic mapping of the perspectives, using flat images, which presented the basic perspectives and complex models deemed ‘more complete’ or ‘best fit’ for the common reality of daily life, as a ‘surface spreading’ phenomenon, despite the human ‘depth’, and

(c) a full modelling (concepts and imaging, and also experienced) of their ‘topologic deployment’ (represented as ‘unfolding’ and ‘enfolding’ see <Nexial-topologic deployment>), related to critical and boundary phenomena, and repetition. [The scientific notion of ‘localisation’ in a space and the philosophical term ‘extension’ seem equivalent notions, as is the naturalistic image of the acorn.]

This modelling method is, itself, the *deployed* form of nexial-topology. (This notion will become clearer in the course of reading the thesis.) The analysis, mapping, and modelling are consistent with each other, although in three orders of complexity, and they have the same domain of application, different from that of the native gauging (undeployed nexial-topology), and with different implications, for health in particular. The overall research strategy in Phase one is, on one hand, analytical and aiming to classification and mapping, aiming at ‘circumnavigating the perspectives’ (explained below), and on the other hand comparative.

CircumNavigating the perspectives

These strategies can be summarised in the idea of ‘circum-navigation’. The entire Phase one explores systematically and separately the various perspectives, in their various forms. This

allowed me to experiment with (a) many explanations, building them into a kind of meta-review of models, specific and general, and with (b) many experiential styles I read or heard about, including some that are not familiar to me, and which I found harder to experience (eg homoeopathic effects, ‘circulating energies’). In both cases, I always compared these perspectives with my ‘direct’ observations of the material-physical sphere as I could ‘see’ it locally (normal detection and intuitive imaging – think of the expression, “Oh, I see...”).

The various techniques used are tools to experiment with the diverse epistemies and their models of the physical body and its health, and to explore systematically many particular perspectives, which I classified in taxonomies and typologies. The resulting categories are combined sets of explanation-experience, which I called ‘general perspectives’. They are worldviews, world-models, meta-models, and are consistent with normal living in society. They are also mutually consistent in that they have a common basis in the unchallenged self-evidence of physical ontology. However, these frameworks raised more questions about details, anomalies and limits than they answered, and addressed problems of validity and researcher bias only partially. The methodological plan of Phase one brought out the self-consistency of these world-models and sets or types of explanation-experience. The research explored them in a progression from one general perspective (and its specific sub-perspectives) to another, eventually coming back to square one, and restarting another cycle. This is what I called ‘circum-navigating’ the perspectives, and it compensates for any *perspectival* bias on the researcher’s part. Unfortunately, this keeps repeating itself, going around in circles. (This feature explains some problems of not reaching ‘saturation’ in grounded theory). This ushered in Phase two of the research, thanks to the emergent design.

The process of research in Phase two

Emergent data & methods

In both Naturalistic and Grounded Theory methodologies, the design is ‘emergent’: new data (or forms of) appear during the cycling, and, in Naturalistic Inquiry, the new data types require new analytical techniques. Inevitably, new forms of information appear (eg

dimensionality of abstract or meta-models, and simple geometry), but also new facts that do not fit with the frameworks built (eg anomalies of experience, limit cases in explanation, extremes in my observations, or the unexplained instability of the syndromes studied). The literature review must extend to new areas at each cycle. The particular techniques to explore them experimentally and experientially have to also change to match the new information types as they emerge:

‘Too often, researchers cling to a single method or to a small number of methods... that may not be the most appropriate for addressing the issues at hand.’ [...] ‘The integral inquirer favours... integration, and discerning discrimination... choosing particular tools for particular purposes –... from among a large number of tools provided by different paradigms, ... [and which] are more or less appropriate to different problems or purposes.’ (Braud 1998 pp.36 & 67)

Each new stage still uses previous methods, but adds new ones to the panoply. The tools are also transferred from one sphere of research to another. For example ‘gauging’ techniques (see below) are derived from physical experimentation, but are also adapted for theorising. For example, from using words to classify specialised theories and experiential styles in Phase one, the analysis expands, in Phase two, to collecting theoretical and philosophical schemas and to using the gauging techniques to ‘place’ these general perspectives in an overall map.

The notion of an ‘emergent’ research design is based on the idea of inductive reasoning to account for new data. In this case, the theorising does not seek a better explanation: it simply consists in creating classifications (taxonomies and typologies in Phase one, an overall scheme in Phase two). There is no inductive *reasoning*; instead a number of phenomena *induced in relation to the physical ‘state’* are observed, that have to be part of the facts explained by both theories and experiential styles, but are ignored by dominant perspectives. This prevents the perspectival mapping from being considered complete without exploring these induced and marginal phenomena.

Making use of induced phenomena

Concurrently with the systematic work, a number of induced phenomena kept ‘happening’. Some of these unintended phenomena are listed below. Their occurrence challenged the completeness of the models I found and made and provided a basis for comparison, to gauge the adequacy of the models to the direct observations. I also explored the common assumption of some ‘external agency’ that drives the ‘inducing’ (see in particular <Endnote C8\ Spontaneous Yoga>), and found an unusual way of accounting for them (through ‘global’ or ‘non-local’ properties, defined in chapter <Nexial-topologic deployment>). These induced phenomena guided the cycling of deconstruction of general knowledge and experience, as well as the re-starting of construction (eg shifting from the simpler models to more complex models, from perspectival analysis to topology). Some of the phenomena, intellectual in nature (eg alliteration, iconic imaging of worded descriptions, some of which are included in the Power Point presentations), guided more directly the later stages of the theoretical study, and even suggested physical tests in the earlier stages.

Gauging techniques (spatial topography)

Phase two relies on geometric techniques of *spatial* ‘gauging’ that I devised for *physical* observation: topographic patterns, nexial activities or movements (details below). These put in focus the importance of general properties such as ‘swelling’ or ‘spreading’, in their spatial and physical expressions. I studied, for example, the sensation of ‘swelling’, where it is located (eg eyelids, fingers, belly), and its reverse, ‘shrinking’ (eg the sensation of a dry brain or of wasting of the muscles in fingers). I observed its changes or activity, how it arises, spreads, and disappears (eg does it appear to have a source or an end location?, Is there a clear path or surface spreading in between, such as moving from one finger to another, or from head down to body or from body-up?), and its time-correlation with other events (eg any external food triggers, or relation to psychological stress and the related internal toxic biochemical metabolites? Any synchronicity with unforeseen, unprovoked, coincidental life problems to deal with or social survival to cope with?). One of the simplest techniques involves noticing swelling on the fingers where I wear a ring. (more such detail

below). These techniques were also applied to the theoretical work on perspectives, since these can be ‘placed’ topographically in ‘maps’ and related to human and physical ‘spaces’. For example, ‘swelling’ exists in psychological self-aggrandisement, in the global economy (swelling profits, globalisation), in civilisation (building ever bigger), in linguistic and culture (thick dictionaries or phone books), and other areas. Something that ‘spins-up’ also increases in size and swells: for example, I traced many linguistic expressions of this property back to a pre-archaic form called ‘Wind’ (in chapter <Ancient perspectivalism, The Earth, & The East>). I considered ‘swelling’ and other such properties first as geometric or topographic properties that change. This allowed later to approach them as ‘global notions’ (see <Ancient Perspectivalism>) related to distortion, and then as ‘non-local’ topologic properties. No longer differentiating their manifestations in the various contexts (such as systems in cultural constructions of health or aspects of a person’s sanity and safety), they can be viewed as simply ‘expressed’ in physical and human domains. Thus, imaging that arises from *physical* sensation was found capable of arising and changing in the same ways from any field of the two domains, two ‘spaces’. The changing expressions developed in these spaces, some found with this *spatial* gauging technique, are modelled through topologic properties of a non-local ‘topologic space’, which is also a ‘global notion’ less differentiated than ‘reality/-ies’ and ‘physical space’.

Tracking ends and tracing origins

In Phase two the most widespread models that ‘best fit’ normal daily experience and concepts were no longer taken into account because they leave the syndromes studied unexplained and often consider them unreal. The aim was, instead, to understand how we come to have the general ‘perspectives’ that invalidate these syndromes, and ways of being, and to understand their general properties, by:

- (1) tracking their developments (one-way) into specific and generalised forms, and
- (2) ‘tracing back to origins’ (the other way) their speciation, differentiation, and individuations through small clues.

The inversion between these two will be most easily understood through viewing the images and animations included in the dissertation. The animations and Power Point presentations are included in the attached CD disc (list and summary in images after the table of contents). In general, and in research in particular, we consider certain aspects of physico-mental life as 'self-evident', and we presuppose them when observing. For example, most people assume small discomforts to be 'natural' (and alternative medicine writings say this need not be so – for example, pain in heels,). Another example is researcher 'bias' (here considered to be perspective-based; what I call 'researcher orienting' is also discussed in chapter <Validity and valuing>). To challenge this, I analysed the properties not only in my physical experience, but also in the literature (both archaic and modern) and other information. The analysis was done in 3 ways [thus matching a 3-modal logic], with techniques drawn organically from cultural habits: (a) trying to understand the essential meaning of words (looking in a dictionary, or asking someone 'what it really means'); (b) habit of looking for a 'development' and creating imaged analogies for it, in words and gesture (eg the arrow of time [throwing the hand forward], tree of evolution [spreading arms, hands and fingers 'up and out'], or expanded balloon of 'greater wholes' [widening two facing cupped hands]); (c) using small clues 'left by history' to understand how things came to be the way they are (spatial traces, time imprints, 'forensic' clues). I found that these habits, transferred to the domain of research, have been described as formal, systematic methods and this confirmed the usefulness of this phase. The closest ones are:

(a) Etymology and philology (respectively Gebser 1985 pp.123-129, and Romanes 1888 pp.240-245): Tracking words from the languages accessible to me (English, French, Greek, Latin) to their Indo-European roots, down to one-syllable roots; and sound variations of Chinese one-character signs. I included nexial and topographic means in my tools, to find analogies and correlations. I then used nexial-topology to retrace their progression from 'core' meanings to altered meanings (eg character shaping in Chinese, and sound shifts in Western languages). Feuerstein, Kak and Frawley (1995 p.52, 56-7) warn of intellectual

risks in attributing reality to the notions derived from very primitive roots. Considering a ‘topologic’ space (rather than real or natural) avoids this.

(b) Imaginal deployment (Newton 1994):

Tracking stages of development of ancient and archaic meanings in the cryptic notions found in Chinese alchemy and biblical prophetic texts, into multi-perspectives and various spaces (physical-‘natural’ and material-‘real’), and into eschatology. I worked with older texts than Newton (the oldest sections of the Hebrew Old Testament – as dated by agreement of a cross section of biblical historians –, rather than ‘Revelations’ and the Christian New Testament), but came to the same way of construing the *progression* of semantic changes as an ordinal development into increasingly multiple perspective-based variations. I retraced their origin from archaic remnants of (probably Neolithic) meanings (see <Ancient perspectivalism>). My study differs from Newton’s also in that the tracking was also done on sensations arising from experiments with nutrition and cognition. The large table <Nexial-topologic vocabulary> in appendix A collates some words from the literature that are strikingly similar to those I used for description in the ‘patient illness talk’ style (before I was aware of that literature). These words are unusual in that they denote an underlying apprehension of topologic properties.

(c) Cryptic ‘clues’ left behind by history (Ginzburg 1989) **in the core symbols of culture and learning:** Seeking clues, in the multiplicity of the symbols images of arcane traditions (see <Endnote C6\ Core culture>), for general geometric shapes, and detecting them also in modern general, or ‘advanced’ scientific models. I finally construed them as topologic projections (geometric projections of one-sided notions of progression, development, evolution, growth, *unfoldment* or *enfoldment*, etc.)

Eliade’s work (1961 & 1978), Piagetian genetic epistemology, and seeing science as a cognitive process (Rubinstein, Laughlin & McManus 1984) particularly influenced the way I approached this, externally through comparative religion and internally through cognition. Two of them also provided confirmations *a posteriori* (Eliade 1954, Piaget 1929), although one aspect of my findings is different (one could say ‘goes farther back in time’).

The overall research strategy in Phase two is, on the one hand, to track forward the progression of all our general perspectives (eg evolution, development, growth, progression) and, on the other hand, to trace backward their ‘origination’, using three techniques. The result of these origins and ends, is our complex views and ways of ‘completion’, (including health optimisations such as anti-ageing strategies).

In Phase two, I compared these ‘completion’ models graphically, to direct observation (using the ‘gauging’ of nexial-topology) of the induced phenomena, sensations, and impressions of both generation and degeneration, in the physical realm. In the example of ‘swelling’, the native ‘gauging’ viewed this property as producing a surface that ‘spreads’, and that eventually closes itself like a ‘complete’ bubble, this being very different from not swelling in the first place. This benchmark native gauging brings out a crucial topologic difference that has implications for health and other areas.

Epistemic iteration

The tracking forward and tracing backward of perspectives produces different views and ways of explanation-experience and, altogether, different ontologies (eg models of ‘completion’ or ‘perfection’). If viewed as a full or ‘complete’ development, they also constitute a successive unfolding and refolding, which produces reformulations. This is characteristic of the entire research, as well as of the general perspectives. ‘Advanced’ perspectives (eg general-systemic complexity, or simplicity of a unity underlying ontologies) just reformulate the same old explanations and experiences in different formats, and their common basis is different.

Chang (2004) uses the term ‘epistemic iteration’ to describe reformulations of the notion of ‘temperature’ during scientific development. The term appears also adequate to describe the development of the modelling method of nexial-topologic *deployment*, thanks to the stages of Phases one and two of this research. One of the elements that was significant in the experimentation with, and direct observation of health, underwent such reformulations: swelling is correlated with perspectival distinctions (warm-cold, hot-dry), with a ‘nexial activation’ (visible in topographic changes of temperature distribution in the body), with

‘projection to the head’ (explained later), and is most notable at surfaces (eg skin, lungs) – various interpretations of this criterium (swelling) govern the naming of a ‘sick’ state (eg inflammation) or a disease (eg asthma, Chronic Lung Obstruction Syndrome, emphysema). From a topologic viewpoint, ‘swelling’ has covariant aspects in various spheres of existence.

A kind of ‘quadrangulation’

In Phases one and two, what is usually viewed as finding the ‘origin’ or ‘source’, or ‘processes’ of ‘origination’ (or ‘effective causation’ in Piaget’s terms), can be envisaged as an ‘expression’ in words of something that is better described in terms of geometrical projection. What is being ‘projected’ or ‘expressed’ is like a ‘4th dimension’ from which are derived descriptions in terms of a 3-modal logic (eg objective, subjective, and direct), which can be viewed as a ‘triangulation’.

‘It seems likely that the term “triangulation” had its origins in the metaphor of radio triangulation, that is, determining the point of origin of a radio broadcast by using directional antennas set up at the two ends of a known baseline. By measuring the angle at which each of the antennas receives the most powerful signal, a triangle can be erected and solved, using simple geometry, to pinpoint the source at the vertex of the triangle opposite the baseline.’ (Lincoln & Guba 1985 p.305)

Phase two, emerging from Phase one, is more than a ‘triangulation’. It seeks the ‘space’ that is already represented as ‘triangulated’ by the 3-modal logic (eg an ‘origin’). This could be qualified as a kind of ‘quadrangulation’ that completes a view of the global domain. [Apologies if I am using inappropriately this word, which is new to me but is intuitively meaningful, geometrically.] In this way, it re-integrates the differentiation of that domain into ‘scientific’ and ‘human’ artificially introduced by words and the flat images of symbols and deployed nexial-topology, and thus counters the dual logic of the methodology. This could be considered an effective *relating* of the ‘localisation’ of ‘observing’ in the researcher, with the ‘global field’ that is viewed through both the researcher and the viewpoints reviewed (theoretical and experiential). The ‘native’ or ‘undeployed’ nexial-topology simply does not differentiate them, apprehends the global domain as such. Nexial-topology, as a method for modelling deployment, and as a native gauging is detailed further

in this chapter, and is used in the chapter <Nexial-topologic deployment>. This, again, will be easier to apprehend through the first animation presented in the dissertation.

A complex research design

This complex research design (figure 42, at the end of this chapter), ultimately, allowed me to (a) not limit the practical findings to something valid only for my local-case, but make room for generalisation to a category of similar cases (not only the physical syndromes), (b) nor produce a self-consistently valid representation adequate for humans in general, but leaving other cases unexplained (as the current state of knowledge does). Instead, the findings have a domain of application that is related to the ‘local’ view of a ‘global field’, gained through this approach. It permitted me to draw an understanding that is less constrained by specialised complexities and abstractions, and less limited by the simplifications of conceptual generalisations of containment (eg physical objects, bodies, selves, systems).

Studying both physical and anthropomorphic aspects of the ‘physical world of humans’ poses many problems such as the mind-body problem, and what I call ‘cross-paradoxes’ between the scientific and human domains (for example, the transfer of an idea or practice from a physical-perceptual to a mental-social ‘self’ context, or the opposite, *also* inverts any value, positive-negative or of optimisation /improvement). Another example is the drift phenomenon of immunity-based auto-destruction of the body (‘defence of self’ becoming counter-productive, or ‘wasting’ in unspecialised parlance). In a paper entitled ‘Problems of reproducibility in complex mind-matter systems’, Atmanspacher and Jahn (2003 – see the PEAR project in <Extract F8\ Establish and forms of stability>) argue that ‘second-order approaches’ to epistemology and method ‘can illuminate questions of reference and validity’. The methodological approach chosen for this work seems to fit their discussion, and produces a modelling of reference frames and of conventionalisations of ‘valid reality’. This work addresses a third-order: the deployment of second-order representations, epistemologies, methods, and their development and degeneration into frameworks counter-productive for human well-being. The nexial-topologic effects that can be reproduced are

not, however, ‘empirical data that can be compared with theoretical approaches’, because the field studied is not limited to ‘mind-matter’ from the viewpoint of an intentional individual (see <Endnotes C3\ Special experiences and the unexplained>), or to the ‘givens’ of ‘empirical’ data. This meta-modelling of our ‘ways’ to ‘create reality’, through framing and conventionalisation, is consistent with Nersessian’s (2002) view of modelling as a rigorous method, but also as an intuitive ‘way of thinking’ that is not algorithmic:

‘Within philosophy, the identification of reasoning with argument and logic is deeply ingrained. Traditional accounts of scientific reasoning have restricted the notion of reasoning primarily to deductive and inductive arguments. Embracing modelling practices as “methods” of conceptual change in science requires expanding... [to] forms [...] which cannot be reduced to an algorithm in application...’ (Nersessian 2002 p.135)

The following revisits the research process, in context, to describe the specific methods and techniques used, and then details the particular steps of research and nature of the records.

Specific methods & techniques – Phase one

Preliminary stage: The recording of ‘experiential correlates’ started as a psychosomatic practice of self-assessment as used in nutrition and allergy clinical practice. This matured into two aspects:

Observing experiential correlates

The tripartite correlation (objective, subjective, and direct) produced three basic categories, soon differentiated into many aspects, and changing as new aspects became known:

- Objective elements: symptoms and medical test results.
- Subjective self-assessment: psycho-bio-social meanings (in the psychoanalytical style mentioned previously), the naming of emotions and of ‘general mood’ (less versatile, constant over a period of days or even weeks), and cognitive and perceptual elements that I came to construe as ‘behaviours of the brain-mind’. General mood became an aspect of the general ‘state’.
- ‘Depth’ elements: physical sensations:
 - proprioceptive or interoceptive sensations

-sensations of brain activity (physical and cognitive);

-progressively I began to distinguish 'signs' (patterns) from 'signals' (activities) both more subtle, less visible than 'symptoms', less accessible to a doctor's objective assessment.

This developed into new information gained from gauging techniques (see below). Among early such observations were 'gradients' (eg for temperature, pressure, and water).

Physical experimentation produced a further category:

- Behavioural elements, include vital functions (eg breathing, sleep, feeding) and vital personal behaviour (eg self-care and family care capacity in general), and the general 'state'.

I also recorded life events that appeared somehow linked to the general state (eg material or socio-economic difficulties), induced phenomena (see below), and other unexplained phenomena (see <Endnote\ C3>).

Soma-analysis and medical biochemistry

The analysis of these correlates involved biochemistry:

-linking inferred neuro-transmitters and hormonal dysfunctions with emotions and behaviours (including of the brain: cognition)

-detecting signs of sub-clinical malnutrition due to malabsorption or stress (see 'hidden hunger' in <Extract F4> and comparing some lifelong such conditions to symptoms described in certain nutritional diseases;

-doing the same with signals, comparing to the sets of symptoms of neurological, hormonal and immunological medical conditions that constitute named diseases.

These 'signs' and 'signals' I found in many experiential stories from others, and they were the experiential basis that led me to amalgamate theoretical explanations or philosophical worldviews and experiential styles into the 'perspectives', and to derive the abstract parameters (N2d-dual and N3p-polar) that are the basis of perspectival analysis.

Thanks to these observations, experimental tests, and my learning in biochemistry, and by designing several successive customised programs that I tested too, I progressively built a personal biochemical profile, and came to choose nutritional and other elements most appropriate for me (see <D5\ Formulas>).

In a second stage, I traced backward the origin of this personal profile through my physico-cognitive ‘inheritance’ from parents and family history, on to human history of sedentary civilisation, and even Neanderthal, together with a view of present cultural habits regarding the body. A few individuals with chronic conditions describe some such reflections on the Internet. This helped me to investigate the origins of our notions of health.

The major problem was that biochemical and physical explanations did not match these human explanations (described next).

Inverting psycho-somatics

My search for understanding the physical body was related at first to the psycho-social meaning (particularly the notion of stress). In time, the psycho-emotional elements became less interesting (explored in earlier years) than cognitive and behavioural elements, particularly extreme cases, and the comparison to others’ experience. For instance an interpersonal ‘powerful reaction’ correlated with increase in body temperature and projection of heat to the head found an explanation in a description given by a correspondent, who framed it as an ‘advanced’ experience in Tai Chi, called ‘Da Mo’s eyes’. Such examples brought to light an inversion in meaning (my experience felt very ‘primal’ and spontaneous – certainly not ‘advanced’, and not triggered by any practice). (See <Extract F13\ San Jiao and inversion> and <Endnote C7\ Spiritually ‘advanced’>.)

I came to realise that my entire analysis of my observations was also inverted, and I came to call it ‘soma-analysis’. Like psychosomatics, soma-analysis is interested in the body, but the ‘mind-body connection’ and brain-body is reversed. The normal direction explores body dysfunction for causal meaning in the *mental space* (psyche, emotions, intellect, motivation of the self as causal agent, choice of lifestyle behaviour, etc) or in the *brain space* (failure of the brain to control the body). Instead, here, dysfunctions of both body *and* the brain-mind-head space are explored as a whole for *global* meaning in the *physical space of humans*, which includes the socio-material world (eg triggers to a ‘stressed state’ and lifeworld in turmoil). (See further discussion in <Nexial-topologic deployment\ Vertical Axis>).

The western notion of 'soma', comes from the Greek *somatikos*, body, coming from an Indo-European root meaning 'to swell'. It is related, through etymologic derivations, to the Indian *soma*, 'drink of the gods', to birth, and to various notions that are part of a nexus of meaning that relates to activation and projection, and to which pressure, stress 'battle stations' also belong. The root of *soma* is less differentiating than body-and-mind/soul/spirit/emotion. This was my uneducated understanding when I named this 'soma-analysis'. It led to a more physically complete analysis of the situation of illness than the notion of 'embodiment' which is attached to psycho-socio-emotional meaning (Griffin 1999) or religious meaning (Isherwood & Stuart 1998). The implication is a reversal of the kind of explanations given in psycho-neuro-immunology (PNI 2006 and Degabriele 20002), including for the self-attacking behaviour of the immune system (Clark 1995; also, see discussion of this reversal in <Extract F13\ San Jiao & inversion>).

The practical reversal and inversion of meaning were found also through the theoretical study of explanations of health, experiences of illness and models of the body with perspectival analysis. This 'turn-around' is reflected in the above discussion of the words *general* and *integral*, and is a major property throughout the research, from beginning to end. The following example will clarify what the inversion means.

The preliminary search for explanation in the human realm was conducted in the same way as a psycho-analysis, tracking back in time to childhood re-scripting the personal health past in psycho-social terms, going through the same stages of attributing causes to self, parents, education, society (medical science in this case), and back to self as agent of positive change. As in transpersonal therapy, it moved on to identifying with the collective past. This produced helplessness about the imperfection of the body (including at birth) and the damages of ageing, both apparently inevitable except by 'working at it', and about the problems of the female body. These issues are what make outside medical monitoring and help a necessity. This helplessness is reflected in the widespread acceptance of these problems throughout history, rationalised through various models of the body. Even a scant review of the literature in history of medicine and medical anthropology can detect this.

Judging by the experiential and spiritual life-stories I reviewed, such a process seems to usually lead, to fixing one's attention on one particular general explanation of the 'creation' of the physical world-system that humans see, 'manifest' in the body. Whichever is chosen, the same basic foundation appears. It is at odds with the benchmark image given by the native gauging (which gives a sense that physical living *can* be 'with ease', without permanently having to 'cope' with crises and to 'work at it'). This had to be investigated.

A global field accessed locally

In this way, soma-analysis and experiential correlates gave access 'locally', through the researcher's health, body, to the field of human physical experience 'in general' (not differentiating myself from others, now from the past, or this culture or place from another) – a global field. The same field was surveyed as part of the theoretical work. The properties of this field manifest 'non-locally' in anybody's health and in the 'physical world'.

Perspectival analysis and perspectival mapping

Perspectival analysis and perspectival mapping developed from two techniques.

The first was a 'worldview mapping' that I used in my Master's study. One of my teachers' methods (Pinn 1997) inspired it: 'cultural mapping', a communal process of putting together artefact and linguistic elements for people to portray collectively their geographical area and community. I had adapted it to using theoretical and experiential elements for mapping synthetic philosophical world-models and other models in specific fields (eg transpersonal psychology).

From this, I drew more general meta-models, and started 'placing' all models in integral maps of a graphic nature (Power Point slides introduced later present an exemplary collection). This 'placing' have similarities with Korzybski's 'extensional devices' (1958 p.xlix), especially indexing any statement with a relevant date:

'Individualizing (indexes) [to highlight context] and temporal devices (dates), etc., should be used conjointly. Thus, obviously, chair₁¹⁶⁰⁰ is not the 'same' as chair₁¹⁹⁴⁰, nor is Smith₁^{Monday} the 'same' as Smith₁^{Tuesday}.... Through training in the consciousness of abstracting... we become conscious of ... generalizations.' (Korzybski 1933 p.li)

‘Action is one of the terms of pre-einsteinian physics which has survived unmodified, the only other one being entropy.’ (Korzybski 1933 p.680)

This can also be likened to the psychological practice of using ‘I-statements’ rather than generalising. The statement is ‘indexed’ by its location of observation (valid for ‘me’, from my viewpoint). Korzybski indexed them by the time at which they were valid. Scholars do that when they tell of a state-of-the-art knowledge (eg saying ‘in the present state of knowledge, this is how it works’), or tell of a generally accepted idea introduced by an author – at a certain time in the history of a field. A simplified form of this time indexing is a citation that contains a date. The simplified form of context indexing is to write for a particular field of research, using its preferred jargon. In this case, I indexed any model, specific interpretation, or limited observation by its belonging to a general perspectival category or, as I came to think of them, to a perspectival ‘space’ that is a general ‘way’ of explaining, experiencing, and even observing. One such perspectival ‘space’ is ‘the Way’ of the Daoists. Another is ‘good science’. Yet another is ‘value-based’ social practice (including some research). Such a space is characterised by a particular type of vocabulary (a jargon). I therefore used a kind of ‘linguistic indexing’ to analyse a piece of text in order to find in it the type of jargon it uses in order to classify it as belonging to a certain type of particular perspective, to a general perspective. For example *cliches*, *leitmotiv* words, pet names for processes or systems, preferred words of theory, philosophy, hypothesis, etc., easily betray the writer’s assumptions and general perspective. This is what I called ‘perspectival analysis’, and it can be performed on a simple paragraph or two. This method was invaluable in discerning an archaic frame of thought from the translators’ or the text interpreter’s. It is even more practical in detecting quickly the learned framework of an interlocutor, and distinguishing educated explanations and descriptions of experience, from the uneducated way of describing ‘what is going on’, which is directly related to rather unconscious gesturing. This is particularly relevant to understand the (usually not patient) ‘illness talk’ of a ‘patient’ in the clinical situation (myself included). These general perspectives are what I started mapping *topographically* and this is what I called

‘perspectival mapping’. Eventually this brought out two fundamental parameters that can describe any perspective, general or specific, and I developed ‘perspectival analysis’. The two parameters, approached graphically, lead to a *topologic* view, which I used to develop the ‘mapping’ into a more ambitious modelling of the global ‘deployment’ of perspectives (using nexial-topology). Perspectival analysis and mapping are detailed in <Nexial-topologic deployment>.

Specific Emergent techniques – Phase two

Gauging techniques for ‘health mapping’

The need to observe internal sensations that cannot be described in sensory terms, and cognitive processes not easily put into words, such as ‘activation’ (or ‘induced’) and ‘projection’ (or ‘oriented’), independently of conventions of space-time, self-world, body-environment, led me to devise ‘gauging’ techniques – ie. nexial, topographic, nexial-topologic– to map progressive ‘shaping’ (small distortions) of the sensations or ideas.

- ***Ring for topographic heat distribution*** (see <EEs> in Appendix E)
- ***‘Nexial’ mapping using 2 ‘sides’ of twisting – Left-Right:*** For example, weakness of the body on one side and hyperactive brain on the other side give a sense of being twisted, and do produce unevenness in the appearance of the face and the spinal posture. Pressure gradients can also give this sense. It may also not be physically concrete. For example, ‘reacting’ is a leaning or tendency to the left, and feeling stressed and ‘pushed’ twists to the right; basic intellectual activity and problem solving direct my mind to the left, but complex details, socialising and emotions twist it to the right. ‘Leaning’ is less active and ‘projected’ than ‘twisting’ (see chapter <Ancient perspectivalism>).
- ***Topographic mapping using 6 directions:*** Left-Right, Up-down, core-surface. (See two examples in slides 17, 18 in <PPT1 Body>.) When I experienced sensations such as pain, heat, pressure (etc.) that way, I recorded my observations onto standard copies of body or head sections, drawn from textbooks. Then I checked with anatomical descriptions to determine what body part or system might be affected. This might involve locating

topographically (eg mapping pains inside the head [slide 17], dry skin, accumulation of fat under the skin or in particular spots, swelling of lung alveoli surfaces or nasal mucosa, placement of boils along the spine or on the face, etc.). It could also be mapping a moving sensation: such as projection to surface (eg ‘burning pain’ that spreads [slide 18], histamine flush to skin in reaction to the sun’s or a shower’s heat) or a vertical projection (eg vertical heat going up to the head in ‘hot flashes’, or cytokine release ‘stinging’ down from head to coccyx. Some sensations spread ‘through the mass’ (eg swelling starting from the sphenoid sinuses and spreading with pain through the inside of the bones of the face; a sense of ‘turning to water’ and ‘melting away’ that signifies tissue breakdown; a sense of ‘shrinking’ that is a spatial collapse, as in the ‘sinking’ need to breathe located in the diaphragm; or a sense of ‘blowing up like a bubble’ in swelling of belly, extremities, or facial features). Such locating apparently has no meaning to most members of the medical professions and is rarely mentioned in the literature – except the ‘dermatomes’ of nerve pain. This concrete manifestation is how I discovered topologic ‘deployment’ and understood ‘turn-around’ or ‘inversion’.

- ***Nexial-topologic placing using colours***
- ***‘Body indicators of state’***: These are parts or processes, locations or behaviours of the body that have global meaning: they ‘present’ an indication of the global, or nexial-topologic ‘state’ (eg an order of activation-projection such as the ‘allergic state’). Some are idiosyncratic and can be interpreted in causal terms. (For example, a little hole at the root of the ear lobe can become smelly and indicate rampant low-grade infection in the head; the meaning is also global: vertical projection up – to head in the body, but also emergency ‘coming to a head’ – see <EEs >).
- ***Topographic perspectival ‘placing’***: placing the perspective of a theoretician’s model, words or numbers in non-developmental tables.

A new modelling method: Nexial-topology

Nexial-topology is the major innovation of this work and is proposed to the scrutiny of other researchers. It is derived from the ‘native’ capacity that is a ‘lived animated geometry’, by ‘deployment’. I use the expression ‘nexial-topology’ in two ways: it can be

(a) ‘deployed’ Nexial-topology – a method for global situation modelling:

As such, it is a means to parameterise and model ‘deployment’ (the appearance-disappearance, or unfolding and enfolding) of the physical-human space (a ‘historical space’), and the unfolding-refolding of the perspectives that are ‘multi-dimensional realities’, ‘manifest’ for the human mind and brain (known and perceived), and are felt emotionally or energetically. This ‘deployment’ is operated according to topological principles (or logical), rather than the more usual way of developing by using a conventionalised framing (eg a ‘development’ attributed to time), which produces the many perspectival biases.

It can also be used to formalise (for explanation and description), the known native capacity. Nexial-topology emerged from Phase one and from induced phenomena, as a solution to the disparity between these and the native ‘gauging’, and in the form of *spatial* ‘gauging’ techniques. (The term ‘gauging’ is explained in the section ‘*Gauging techniques*’ below and in <Validity and Valuing>). This simple tool (nexial-topology) uses two parameters to gauge a third (see chapter <Deployment of Perspectives>). For example, it gauges ‘swelling’ by noticing activity that becomes ‘activation’, and orienting that becomes ‘direction’, whether these properties appear first in the physical body (eg state of ‘alert’), the physical world (eg expansion of the universe), or the material human lifeworld (eg the mushrooming of sprawling cities or the physical consequences of economical globalisation). In a vocabulary consistent with *geometric* topology, ‘activation’ and ‘direction’ (no longer ‘even’) can be seen as drawn from a notion of ‘oriented pressure’. In common parlance,–this is another form of ‘boundary’: a critical state that ‘orients’ behaviour. This will be demonstrated formally through the rest of the thesis. A crucial finding is that ‘Boundary’ also constitutes a ‘baseline’ sensation and a hypothesis or assumption underlying our various ‘representations’, which use perspective, and is at the same time the ultimate result of representation, ‘found’

in reality. In Phase two, nexial-topology becomes a *modelling method*, a way to explain the *shaping, mishaping and re-shaping* of the schemas used by theorists and of the geometric icons of culture that underlie experience, including that of health or illness. *As a method* for modelling, nexial-topologic ‘deployment’ is also a means to integrate all general perspectives into an overall model-scheme. (See <Nexial-topologic deployment>.)

Mathematically, it may be considered a ‘reduced’ form of topology, ie. limited to modal *geometric* projections in three orders of deployment (rather than ‘many dimensions’). From the human viewpoint, it differentiates a dual set of two symmetric directions of ‘deployment’ (eg unfolding and enfolding, as opposed to a single vectorial direction of ‘development’, growth or evolution). From the ‘native’ viewpoint, however, it is *less* ‘compacted’ than *conventionalised* topology, less compacted by one dimensional order (or if you will, less ‘reduced’, by one logical order, to contracted/expanded and localised/’extended’ spaces). It is also less compacted, by *two* dimensional orders, than the *calculated* topology of point-set defined ‘systems’.

(b) ‘non-deployed’ Nexial-topology – a ‘lived’ animated geometry:

As such, ‘nexial-topology’ is just a ‘lived’ animated geometry felt through the body-brain as a local instrument of apprehension. It is a ‘native’ capacity for ‘gauging’ globally – that is, without ‘deployment’ into conventionalised framing such as systems, self-world, body-environment, time-space, etc. It does not make the normal distinctions, including between the scientific or technical and the human domains, or body-mind and body-brain. It describes a geometric or *topologic* ‘global field’ (or ‘non-local’) that is neither ‘real’ nor ‘natural’, neither physicalist nor anthropomorphic, but simply an undifferentiated domain, a ‘the situation’. *The native capacity* ‘nexial-topology’ is lost if it is ‘deployed’ beyond a certain stage to create abstract explanations, concrete experiences, and combined models. What this native capacity can show that is not accessible otherwise will be easier to grasp through the power-point presentation concerning the body (see <PPT1 Body > presentation).

In retrospect, the entire research process that developed from this methodology, may be considered to be itself a deployment of nexial-topology ‘by doing it’, in theory, in experience (see for example the section ‘Writing processes’ below), and in experimentation with the body (see <EEs>). The explanation of the process (methodology, methods, techniques) is, however, unavoidably complicated because it requires conventional concepts and words.

Detailed steps of research

Theory, experimentation, and experience had equal roles in this study, and were the object of records. The abstraction necessary to formulate what this generalist study uncovered requires leaving details behind, for both experience and physical experiments, as well as the detailed contents of theories and models. These are not the objects of direct reporting here. Given the many facets of this project, however, I now present in some depth the details of the particular steps of research I took, and the nature of my records. Some specifics are provided in <D\ Research materials and techniques> and <EEs>.

Auto-didact education

My ongoing learning has included many fields such as philosophy, mysticism, mathematics, physics, etc. The sharpest curve concerned medical knowledge of the body, which, apart from high-school education, I only knew from the practical viewpoint of a healthy person and an ex-gymnast: as sensation. Testing therapies and healing practices helped me to begin my education in anatomy and physiology, learning to relate my sensations with elements of medical description of the body (eg nerve pain to dermatomes) and to localise them in particular organs.

My biochemistry education began with testing nutritional substances, particularly vitamin and minerals interactions, and with analysing my quantitative medical test results. Apart from questioning medical practitioners, my main on-going resources are listed under ‘Auto-didact education’ in the reference list.

Literature review: across-domains, multi-disciplinary – extent and limits

The early exploration of the literature on medical theories showed that the notion of health is hazy, has no precise definition, and Williamson and Pearse concur:

‘The word “health” is open to devious interpretations by medical scientist and layman alike. [...] it appears to be without technical status as a distinct process in biological science. Wherever no signs of disorder or disease obtrude, a state of health is tacitly assumed to exist.’(Williamson & Pearse 1980 p.309)

This is not an object of much research, and those who seek the meaning of the word in etymology stop at the historical point where interpretation supports their perspective. The range of literature must therefore explore these perspectives, how they are applied, justified (‘proven true’ by ‘natural’ or scientific observation and experimentation), in order to detect the implications in the case of the syndromes studied.

The literature review was characterised primarily by its inclusion of both physical sciences and human sciences, both being relevant to medicine, but also by:

- relevance to human daily living (eg excluding bio-ecology, but not physics, which produces models used to explain mystic experiences),
- an internal approach rather than external or ‘outer’ (eg excluding socio-economics, politics, etc., or literature on physical perception, preferring direct experimentation.),
- interest in the physical brain (neurology) rather than psycho-cognitive neuro-sciences the mind, psycho-spirituality, and philosophy of mind, which were covered during my Masters (Bouchon 1998).
- medical literature more focused on low-grade illnesses than the more common critical diseases that would occasion medical emergencies without biomedical treatment; and also focused on alternative and nutritional strategies rather than based on medicinal drugs (this alternative is little available for major diseases or extreme body-mind conditions such as bipolar disorder and epilepsy). This began with a review of theories on ‘the cause of all disease’ and of ageing,

-modern literature limited to a Western view, mostly Anglo-Saxon (some French), but it is extended to the past through 19th century, medieval and ancient texts from other cultures (China, India, Middle East), and texts based on traditions.

The review covered a wide range of disciplines, and had to be reoriented at each step of the project, eventually extending back to some of the earliest stories in written history. This could be a never-ending task, as my recent discovery of the fields concerned with model-based reasoning, icons, and gesture demonstrates. Many taxonomies and models I created already exist in the store of knowledge, although no one puts them all together. To avoid duplication, a constantly sustained search of the literature was necessary. Many ‘sensation-indicators’ of the health ‘state’ (internal sensations, proprioceptive, interoceptive, etc.) that I rediscovered (see <D4\ Rediscoveries>) also are already described, albeit in diagnostic systems that are often unreliable or denatured, but not always. For example, earlobe prickling correlated with struggle or strain of certain organs is described in acupuncture, although not the correlation between earwax release or canal itch and the side of brain activity. As for many of my direct observations (real discoveries to me), finding literature describing them gave names to them and avoided wasting time in unnecessary detailed descriptions or further exploration. Hence the necessity, to include in the range even what is not academically validated material (critically of course) – this is too often discounted because not fitting frameworks or classic reason, but it leads to duplication.

My reading also included textbooks, and countless specific searches for particular details, especially in medicine, and definitions of words, and so I made great use of encyclopedias, dictionaries, and the Internet (see <References\ Auto-didact education>).

Observed induced phenomena: rediscoveries

The following phenomena have all been described in the history of knowledge about experience, but are left aside in most academic research, and often forgotten or unknown in the dominant culture because they happen only in certain states, different from normal state.

- ***Rediscoveries of aspects of many medical frameworks and models of the body:*** For example, I rediscovered many sensations which, with some attention, one can correlate with

something wrong in body areas, and which have been built into systems of healing (eg acupuncture points in the ear lobe) (see <D4\ Rediscoveries>). The same process led me to designate certain recurrent observations as ‘body indicators of state’ (see below).

Some reports of the more obviously induced events are included in <EEs>. The following types disappear in more normal or adaptive states, but reappear without fail in the adequate state, and many of them are described in literature not recognised as valid for most academic research.

- ***Spontaneous Yoga:*** This is a type of involuntary, unwilled behaviour of the body that happens in a certain state, less active physically and mentally than ‘normal’. The movements are not automatic, compensatory, or entrained (eg by music), but tend to decondition deleterious physical habits or metabolic patterns, and restore bodily integrity and health (see <Endnote C8\ Spontaneous Yoga> – or rather spontaneous ‘Dao Yin’, which is less forceful or not necessarily corrective). The current general drift in health in Western societies would make this phenomenon important to study.
- ***‘Autonomic’ learning:*** These are involuntary physical behaviours that I associate with agitation, but which tend to produce learning. They create new patterns in the mind, as opposed to undoing them. For example, I described in my Masters thesis an experience of very fast eye movements (REM type), that taught me about ‘integration’ of many superposed patterns into a single one. During this doctorate project, the ‘autonomic learning’ was more like a process of warning (rediscovered meaning of sensations) and teaching. The latter, I surmise, could be an experiential source of the word ‘inTuition’. These took several forms that could fit the appellation of ‘generic receipts’ (Romanes 1888 p.59), although not the animal attribution to which Romanes limits them.
- ***‘Morning messages’ and teaching dreams:*** see a few examples in <EEs>.
- ***Alliteration:*** I associated this with archaic remnants of even earlier myths in which women’s wisdom is said to take the form of ‘Naming’ general aspects of reality. Alliterations helped me in abstracting fundamental categories.
- ***Uncontrolled lifeworld events:*** see <Endnote C3\ Nexial resonance> and <EEs>.

Non-induced and non-oriented 'spontaneous' phenomena

Some of the phenomena cannot be qualified as 'induced' per se, or as 'directive' although they are 'spontaneous'. They appear in connection with the stopping of most 'states' (including normal, which I consider a chronically induced-directive state). They are non-oriented-activities of body-mind and lifeworld that match the animated imaging given by the native capacity, whereas all other observations and frameworks are mis-matching, 'turned inside-out'. Through that capacity, they are apprehended as the most relevant to health, providing an effortless maintenance of the body (and lifeworld). The most striking of these is the 'lived animated geometry', the 'native' capacity to detect 'being induced' and 'being oriented'. This is what I used as a benchmark.

Research notes, tables, and collections: words, theories, models

- In the early part of the project, my notebooks contained collected words, many mind-maps, questions, and other reflections. I accumulated a large collection of words drawn from my readings, that I classified in lists corresponding to developmental or evolutionary classifications, as well as lists of 2 columns (eg general-specific concepts), 3 (eg modal) and 4 columns (eg double-symmetries).
- Later (on the computer) I organised them into tables to 'place' them in non-developmental schemes. I collected, analysed, compared, and classified a large number of theories and general models from many fields, as well as experience types, and made well over two hundred tables. This was a continual process designed to create taxonomies and typologies, and check for consistency and completeness. My notes reflect this and contain theoretical insights, analyses, nexial-topologic observations, drawings, and iconic images found in ancient texts. I also organised into computer files a number of images drawn from theories and models I collected. A short selection is included in the presentation <PPT2 Models collected>. The number of tables and the complexities of language are such that only extracts of my tables are included in this text.

Accessory studies

My notes and computer files include records of pointed studies to further certain aspects.

- **Phenomenological portraits** of views of ‘the body’ in several ‘voices’ representing the most general perspectives (body-machine, body-vehicle, body-container); periodic rewriting of my ‘patient history’, according to new perspectives.
- **Exploration of artistic abstraction:** an exploration of this function in painters under the guidance of artist friend Zig Jaworowski.
- **Collaborative exploration:** Monthly meetings for three or four hours each, with a group of locals, to explore the deepest *practical* (daily life) motivations for a person’s interest in experiential spirituality. This allowed me to confirm the experiential valence of perspectives, and bring out the logical problems that come with the philosophical counterpart.
- **Exploration of ritual:** I interacted, for a period of six months, with a local practitioner of ritual as a means of healing, to determine similarities between acting-out ritual and hand-and-body gesturing from which I later derived the geometry that corresponds to the dual and polar parameters of perspectival analysis. This brought out the dimension of expression of generalist thinking that exists in religious symbolism, which I later understood in terms of modelling.
- **Writing processes:** Experiments with writing processes such as text ‘flowing’ from the pen, ‘multi-tracking’, colour coding, and observations concerning ‘getting lost in details’ and endless reorganisation of text (a danger known in grounded theory, which can result in endless reshuffling of theoretical categories). I spent a number of weeks writing a paper on concepts of the self, as a first attempt to formulate perspectival analysis, and this helped bring out the incompleteness of perspectival classifications, and the current focus on mind and brain. After exploring many specialised vocabularies to find one general enough but practical enough to convey the findings – and failing –, the two final years of this project were spent in experimenting with various semantic combinations of word and image, and various specific topic to approach the general findings.
- **Development of others’ questioning:** Following the questioning and development of the writing career of a few authors: Walter Stace, Catherine Despeux, and of the models of Ken Wilber (see reference list).

- **A ‘syncretic’ style study of the element water:** I paid particular attention to the ‘syncretic’ style (see *Ancient Perspectivalism*), by spending several months reviewing literature on water, from both scientific and human viewpoints, and writing an entire paper using this style (‘Bodies of water’, unpublished). This brought out the fact that water can be made to fit *any* perspective and is an adequate subject to gather a ‘complete’ perspectival map – which I did. It also led me to archaic imaging.
- **A two-year study of the origin of the ‘4 directions of the Earth’ and of the nature of ‘space’**, which involved an in-depth study of a number of archaic texts, etymology and topographic imagery. This led me to gathering *Nexial-topologic vocabulary*, introduced and collated in <Table 9/ Nexial-topologic vocabulary>, which confirmed the two fundamental parameters (dual and polar), and the usefulness of using topology to model our consequential views of ‘the body’ as various types of ‘system’ or ‘container’. It also brought out the intimate involvement of medicine with the origins of spirituality and religion.
- **Development of my own model making:** A perspectival analysis of the models I made for my Masters, and of the shape that could be discerned in the general typologies I built from the literature, using the two fundamental parameters of duality and polarity. I studied, in this development, both a complexification (increased numbers of categories) and simplification (recurring integrative shapes), and found these two processes both in authors in the history of religious philosophies since antiquity. The deployment of my more primitive imaging, I found echoed in the archaic interpretations of Neolithic myths. This development correlates to the development of experiential styles, and to the increasing difficulties of health. This was instrumental in my being able to produce images of the deployment of the perspectives, as proposed in this work.
- **Conferences:** Early on, I attended a conference on ME-CFIDS² in Brisbane, and one in Melbourne on mind-body healing techniques, with an added training day on stress with an expert in the field. Presenting at a conference in China on model-based reasoning in medicine, in June 2006, convinced me that the format chosen for this thesis may be (short of

² Myalgia Encephalitis and Chronic Fatigue Immuno Dysfunctions Syndrome, also called, Fibromyalgia.

being allowed to give a live presentation or oral defence). the most effective, including the way methodology is described in this chapter Attending the second conference also uncovered two research fields that are relevant to nexial-topology, and which could have possibly saved some complication in this project: (a) the study of the gestures that accompany speech, which has similarities with the study of ritual; (b) scientific model-based reasoning (eg physical analogy in Nersessian 2002), as distinguished from ‘model building’ in humanities. ‘Model’ is another notion that has different meanings in the two domains (eg Nouvel 2002), basic in one and advanced in the other, with computer-based modelling and ‘abductive reasoning’ to integrate both.

Experiential correlates

My early observations comprised informal notes taken during physiotherapy and medical treatments, while my inquiry slowly came into focus. Once the issues of stress and of recurrent ‘allergic states’, appeared crucial, I took more pointed notes, having determined that my versatile ‘states’ were crucial to my understanding. I kept records of conventional medical tests in which I analysed physical measures for small changes at the edge of normal ranges (in particular, in which direction: away from normal or closer). I recorded my observations daily, more often if necessary (even at night). After a few months of preliminary explorations, once I started nutritional experiments, the records became structured into pro-forma sheets according to the objective, subjective, and behavioural categories, and ‘deep’ or ‘internal’ physical sensations. A few examples of my notes are gathered in <PPT6 Research notes>. I also kept a journal of personal reflections, special experiences, and of aspects of my health, later split from experimental notes, analyses of medical results, and notes in medicine.

Experimental tests performed

The early period, before diagnosis, was spent in passive observation of the effects of treatments advised by various doctors, especially physio-therapies and some medical drugs that provoked violent reactions (eg near-epileptic, or feeling like a zombie), this happening later again with other medicines (eg anti-smoking, anti-asthma). After less than a year, I

started testing repetitively herbs, vitamin complexes and nutrition advice as advised medically, and gathered a large documentation in the nutritional field, including on biochemical interactions of nutrients, while educating myself in other medical disciplines.

Most of the following tests were performed over a period of five years.

- ***Phenomenological exploration of healing techniques:***

For the purpose of perspectival mapping of experiential styles (eg what do ‘energies’ feel like?), I explored directly the phenomenologies produced by various health management and healing techniques. A number of them are documented: Benson (1975, ‘Relaxation response’), Feldenkreis (1981, ‘functional integration’, see also Hanna 1993), Garbourg (1997, ‘Ring muscles’), Masters (1994, ‘muscular micromotions’), Alexander (Brennan 1996, ‘Alexander technique’), Heller (Golten 1999, ‘Hellerwork’ or ‘myofascial treatment’), Hayashima (1997, ‘*Dō-In*’), De Langre (1971, ‘Do-In’), Chia (1993), Pilates (Pilates 1998), Erasmus (1986, using fats and oils – see nutritional tests). For deep oxygenation, I used breathing techniques from Kundalini Yoga (Shakti Parwha Kaur Khalsa, 1996) and the ‘Chi

machine’ (Sun Ancon) (shakes the feet and moves the body like a fish).



Other practices include: osteopathy, postures from hatha yoga, eye exercises, ‘energy healing’ techniques, technology-based brain altering techniques (eg delta brain wave entrainment by Centerpointe [Harris 2002], music tapes [stopped because it came to cause arrests of my weakened breath and heart]), music treatment for tinnitus (Tomatis 1991; stopped because of asymmetric brain pain). I did not use psycho-mental based techniques, visualisation, motivational ‘choice’ (will, intent...), or ‘behavioural change’ (explored in earlier years, and which had left me with the problem shifted from the psycho-mental realm to the physical brain). I explored in some depth the explanations and experiences of homoeopathy (which had no detectable effect on me), acupuncture, chiropractics, ‘gym ball’ exercises, several forms of Qi Gong and yoga, and the ‘Kundalini Syndrome’ (Greenwell 1990 & Greyson 1993), more in its physical form (Sanella 1987 – see <Endnote C8\ Spontaneous Yoga>).

- ***Symptomatic self-tests:*** a number of self-testing techniques gathered from medical and nutritional literature and from the Internet (eg for low blood pressure) eliminated diagnostics, provided specific information about particular functions and observation opportunities.
- ***Nutritional substances tested*** to learn about biochemical interactions: The most important groups tested separately, systematically, repetitively, were: amino-acids ('essential' for adults and children, plus a few others, and HMB-beta-hydroxy beta-methylbutyrate – claimed to prevent catabolism and, in my experience, also stops various pains of the kind I consider 'autophagic'), oils including cheeses (cooked and uncooked) (effective for various forms of inflammation), glucides (carbohydrates), vitamins and minerals, salt (against swelling of extremities), and ('abstract') extracted substances such as colostrum, glucosamine, MSM-methylsulfonylmethane, and some herbs. I tested the degree and nature of processing of glucides which helped explore craving, addiction, and allergy: glucose sugar (adversely affects the brain and nerves, but can promote temporary general compensation, like a placebo), xylitol sugar (makes intestines work, up to spasms at high dose); highly processed carbohydrates (grain flour and potato products promote activities of work, decision, choice and 'hyper-'), cooked starchy root-vegetables (eg potato, and carrot help 'coping' effort), concentrated sweetened Nestle milk (effective against emotional crisis, helplessness, suicidal ideas, and pain, but causes apathy), a particular brand of chocolate ice cream containing less sugar and additives than usual (helps 'detail' intellectual activity and writing, while preventing too much systemic damage, but not dehydration, eyesight loss, cytokine related pain, and 'burning') [all these dehydrate me and cause swelling], gelatine (prevents low-grade proteinuria in urine, contains ribose sugar, which is widespread in the body's tissues). Other tests included: two diets (Gittleman 1996 'Beyond Pritikin', Atkins 1999) while I reviewed the confusing and contradictory literature on 'ideal' diets (medical and alternative), eggs (white, yolk, cooked, raw), uncooked organic fruits/vegetables and juices (better digested, help adaptive metabolism, especially carrot-based juice to 'balance' and 'cleanse'), water fruits (tomato, cherries), fresh leaves of bitter salads, parsley, spinach, catnip herb (diuretic, 'tonic'), a number of 'natural health' targeted composite formulations

for metabolic support (Restore for brain, glyconutrient mix Ambrotose, LiveManna seeds mix, digestive enzymes), some of which I still use, such as Ultra Muscleze (electrolytes/minerals for neuromuscular system), Tussiban (gentle herbal cough syrup), Lyprinol (oil blend for asthma), Moducare (Bouic 1996, 1999, immune modulation), and a formula-recipe devised by German biochemist Joanna Budwig (1957, 1971, 1996, 2000, see <D6\ Budwig spread>) for heart, arthritis, and cancer conditions (Roehm 1990). Some observed effects go beyond what is described in the literature: lemon in water (seems to act on Krebs cycle in cellular energy, and help water metabolism), unprocessed, raw foods (berries, nuts, seeds, cucumber) have a particular role ('restarting' the sense of 'feeling alive').

- **Complex programs:** Among the large number of substances tested separately, I chose the most effective (for different purposes and states), organised them into therapeutic programs based on different theories, with strictly determined doses/times, combined with techniques (eg breathing), for trials geared toward my symptoms. The programs changed as my symptoms changed. As a result of these tests and my theoretical work, and inspired by a doctor-advised anti-proteinuria CFIDS formula and an 'eye health' formula, I designed two nutritional formulas containing amino-acids, vitamins, minerals, geared to different 'states', which I tested for two years and still use (see <D\ Research materials\ Formulas>).

Experimental reproduction: I examined the phenomenon of 'reproducibility' by various means. (a) Repeatedly testing, in the style of environmental medicine for allergy, various food elements, techniques, and lifestyle aspects (eg exercise) at different times and in different 'states' of health, showed great variations in the particular physico-mental effects, and that the improvement value of some interventions (eg Tomatis music, sugar) can be completely inverted, compared to the effect on most people or for different states. Noting sensations and global effects on the lifeworld showed specific variability, but also the essentially self-similar nature of some manifestations of the 'states' (see <Extracts F11\ Red> and <EEs>). (b) Changes in taste showed reproducible features that are consistent with ancient explanations of taste (but not tradition-based tastes as types or correspondences). For example, craving certain foods repeatedly correlated with certain states. Salty and bitter

tastes in the mouth correlated with different forms of tissue degeneration, and I linked them to kidney difficulty and proteinuria (or ‘autophagic’ being ‘consumed’). ‘Bitter taste in the mouth’ is usually attributed to both critical ‘silent killer’ diseases and subclinical conditions.

(c) Certain states characterised by various degrees of pain and strain-stress, and loss of self-care capacity reproduce automatically and periodically (see <EE15>, <EE16>, <EE17>, <EE18>). I achieved a state closer to the ‘normal’ or ‘adapted’ state of health only once and not stably (this was during a later period of writing this thesis). For a couple of weeks, my work capacity was normal rather than ‘hyper-’, I did take weekly days off, my eating was ‘normal’ (3 full ‘meals’ a day, carbohydrates, cooked food). I also I experienced more even emotions, but also loss of internal sensation, no longer aware of the pain indicating ongoing physical damage, and patterned behaviour of intellect (normal thinking), among other things.

(d) The occurrence of alliteration and spontaneous yoga were particularly fascinating: could a ‘state’ defined in nexial-topologic terms (rather than as a personal condition) reliably trigger them (yes), would the particular ideas or behaviours repeat (they do not), what state was required (‘order 1 deployment’ – see <Nexial-topologic deployment>), can certain breathing, gentle walking and swimming ‘allow’ this required state (yes, under certain conditions)?

(e) The most difficult state to ‘reproduce’ is the very uncommon ‘ease’ (or ‘proto-health’). Although it is characterised by physical effects (eg easier breathing, a ‘well-watered’ body – see <EE1>, <EE3>, <EE4>, <EE5>), mental aspects (eg defocused, quiet intellect- psyche – see <EE2>), and a local ‘state’ in which stress, strain, problems and effort to find solutions or meet needs are ‘undone’, it is also a ‘global’ (or non-local) situation. Personal, purposeful action or decision (by self or others) and ‘external’ conditions have no *direct influence* on its onset or its staying – only on its being lost (usually within six weeks).

Validity

Validation procedures

Given the complexity of this project, and the amount of materials I worked with, I used a number of practices.

- **Study length:** The length of the study (7 years, following 2 years of Masters), and its intimate involvement in the researcher's daily life ensured proper grounding, as opposed to theorising irrelevant to real situations. It also prevented premature closure of the conceptualisation before the dark corners could be explored. Many unexplained things, rather than being questioned, are commonly dismissed as probably meaningless, 'without known use', or as chance or statistical error, or are accepted uncritically as approximation and a necessary step of fine-tuning. On the other hand, the grounding in my daily life health prevented the research cycling from being endless.
- **Individual external contacts:** One of them was to maintain various intellectual contacts (email correspondence with researchers and other individuals, talking with healers and medical practitioners), but also listening to people in daily life, watching their gestures, and a few intimate relationships (for sharing experience in words and gestures).
- **Regular medical tests:** I submitted myself regularly to conventional medical tests prescribed by a medical doctor, and analysed the results, as well as to a number of expensive 'alternative' tests for sub-clinical distortions or dysfunctions (eg blood cells). This was a means of exploring or confirming the small changes at the margin of statistically 'normal' quantities, and helped fool-proofing the possible negative effects of my experimentations. This, and talking with the doctor, also made sure I did not derive mistaken understanding of the technicalities of medical sciences, or views of health biased beyond all common sense (as is sometimes the case in herbalists, scantily educated in physiology and anatomy). These tests were also crucial in correlating (a) biochemical explanations of effects claimed with sensations I mapped, and (b) my 'native' animated geometry and nexial-topologic modelling of the illness developments, with medical explanations and diagnostic names.
- **Confirmations and invalidations:** Throughout the project, I sought to establish and maintain a constant stream of both validation and invalidation, specific and general, to counter any possible researcher bias, and to relate my findings to the store of knowledge and common experience. The means to obtain these included:

-seeking negative cases, opposite views, logical flaws, breakdown limits of reasoning and of the representation capacity (anomalies), 'edges' that do not fit with maps and models, and basic falsification attempts in particular cases (eg counter-examples or fundamental difference in experience);

-checking what meaning is attached to words (often 'turned around', compared to my original understanding);

-confirmation that certain forms of experience exist for some people, very 'real' to them (eg 'energies' and 'blocks', excitement of living 'on the edge'), even if they are not so easily experienced or so 'real' for me; seeking and experimenting with techniques to trigger the phenomenologies in myself; reading biographies, illness stories, experiential self-reports, questions in Internet 'posts', and interacting with others;

-constantly circulating between explanation and experience for consistency, and seeking literature that might already contain explanations, descriptions, theories, philosophies, maps, models, etc., similar to mine, and verifying the implications;

-always seeking all perspectives on any particular topic, that is, 'walking in others shoes', asking myself, 'How would such and such perspective view/experience this?', 'What name is given to this in such and such field?', 'How do they present this in another area?', etc.;

-simply observing people's reactions when I speak and 'bouncing ideas off them' to detect what makes no sense to them.

- ***Reproducing the effects:*** See 'Experimental reproduction' (p.60), and <Conclusions>.
- ***Researcher bias and Researcher 'topologic orienting'*** are discussed further in chapter <Validity and valuing>, as well as valid 'evidence'.

Validity of 'perspectival mapping'

At the end of three years (Phase one), I tested the structure of perspectival analysis and the related mapping against (a) a detailed analysis of the attributes of a complex 'meta-model' (Goldspink 1999 pp.223-232), (b) a short description of a 'good model' in computing, and (c) a philosophical description of 'theory with inner perfection' (Einstein 1991 pp.21-37) (simple and 'beautiful' theory in physics). It met all the criteria (yet something was missing).

In subsequent years, the two fundamental parameters of perspectival analysis were confirmed by every accessory study, every field investigated, every body-mind-lifeworld behaviour, logic, and model found to be already described (albeit in a scattered way), including the types of questions they leave unanswered. Of course, I have not reviewed the entire store of knowledge or experiences, but this is a good indication of a general validity. It also appears that the same fundamental parameters are consistent with human sensory perception, and compatible with the recognised ‘uncanny fit’ of mathematics for describing the universe ‘finely tuned’ for the existence of humans.

Validity of ‘nexial-topology’

Mathematical topology (calculated dimensional geometry) is a known tool that is used in physics (quantum) and ‘sciences of complexity’ (chaos, non-linear dynamics) but not in human sciences, in which using the results of these fields for metaphors is subject to contention (eg Goldspink 1999). Nexial-topology uses an unmeasured *geometric* form of simple topology that describes small deformation (topologically without tear or hole; see <Endnote C4\ Topology>).

(a) As a modelling method, nexial-topology corroborates the validity of the cryptic language and symbolic imagery of texts found in archaic and ‘core culture’ (see <Endnote C6\ Core culture>) to describe what more common frameworks leave out. The nexial-topologic modelling of our views and ways (perspectives of explanation and experience) is also confirmed sporadically by examples found in fields not explored systematically in this project. For example, the placing ‘left’ or ‘right’ and the properties of ‘spreading’ and ‘wasting’ are present in economy and politics. At the end of Phase one, the ‘gauging’ techniques helped me detect nexial signals of activation and topographic signs of projection, that denote ‘states’ of ‘oriented activity’. They are global properties (topologically equivalent) of a nexial-topologic ‘space’ that is not located or valued but ‘deploys’. They are, however, habitually interpreted separately to build a topology of scientific space-time or human self-world. At the end of Phase two, these indicators integrated together, degenerating into detecting combined ‘marks’, which I found in ‘advanced’ and ‘completion’ frameworks,

modern and ancient (an example is ‘symptoms’). Such integrative indicators are commonly understood as either marking ‘stages’ in differentiating, individuating, or developmental processes (eg appearance of disease symptoms, or occurrence of adaptive stabilisation), or as spatial tracks and traces of some other realm (eg the past, or ‘other worlds’). Nevertheless, this helped me to find in archaic texts confirmations of some unusual physical observations I made that are no longer described, but remain as cultural rituals of reputedly unknown origin (especially <EE 15/ Red spot> and <Extract F11/ Red>). This requires a ‘physical’ reading of the texts – that is, a physically grounded meaning derived from sensations of health-illness, but not ‘physicalist’ (limited to the ‘body’), considering them instead as presenting a global image, undifferentiated, rather than a wholistic, integrative, or systemic one according to modern conventionalised interpretation (eg personal behaviour, psycho-social-moral or spiritual self, or materialistic body or building) (see chapter <Ancient perspectivalism>).

A nexial-topologic use of the ‘gauging’ does not involve these limitations but a notion of ‘deployment’. This ‘gauging’ capacity is familiar in practice, but is always controversial because it is described under *perspectival* types of formalism that do not win collective agreement in name or explanation (eg physical ‘instinct’, ‘spontaneity’, the thinker’s mind ‘intuition’, the mathematician’s ‘inductive’ creativity, etc.). Presented in these conventionalised forms, it fails ‘reality tests’ in certain circumstances (see discussion in Braud 1998 pp.220-3) and appears invalid. For this reason, the ‘native gauging’ is used here just as the inspiration for the nexial-topologic *deployment* method and gauging techniques, and as a benchmark to gauge the adequacy of models in the practical realm of body-brain health and daily living [as this researcher can access it through the local-case]. It is *not* used as ‘an appraisal of the validity of [one’s] work as a whole’ (Braud 1998 p.221), nor as justification of the ‘existence’ of some more ‘real’ or ‘true’ reality ‘below’ or ‘beyond’ the physical space.

(b) As a native capacity for global ‘gauging’ based on local observation, it can be described in a new formalism based on the parameters of the method of nexial-topology that explicates what ‘deployment’ means, and thus brings out the ‘state’ of non-deployment. This formalism

does not involve ‘perspective’ and so might agree with other presentations of this ‘native’ capacity and state. It might also open the door to a wider validation because of its ability to answer questions about ‘non-local’ and ‘drift’ phenomena that are the core of current ‘fundamental problems’ in many fields. This is used in daily life and by well-respected classic authors (see <Extract F5\ Gauging thinkers>).

Thus understood, nexial-topology has fully proven logically consistent, valid and useful, albeit only from the ‘local’ point of this user, at this stage. Yet, it seems to help some others to make sense of conditions otherwise mysterious. My discovery of this ‘lived’ geometry and its expression in my own and others’ gestures (in a first-order ‘deployment’), was confirmed indirectly, by an article I found recently on gestures that ‘mismatch’ the accompanying speech in children (see <Many perspectives>). Neither form of nexial-topology (‘native’/ ‘undeployed’, and the method to model ‘deployment’) constitute truths or conjectural hypotheses requiring proof, nor are they merely subjective realities dogmatically biased, nor even any ‘better’ way of representing, or explaining. Nexial-topology, deployed or not, simply permits an ‘imaging’ to understand a certain domain that is ‘mysterious’ or ‘hidden’ for other means, and it has a domain of application (defined further in <Conclusions>).

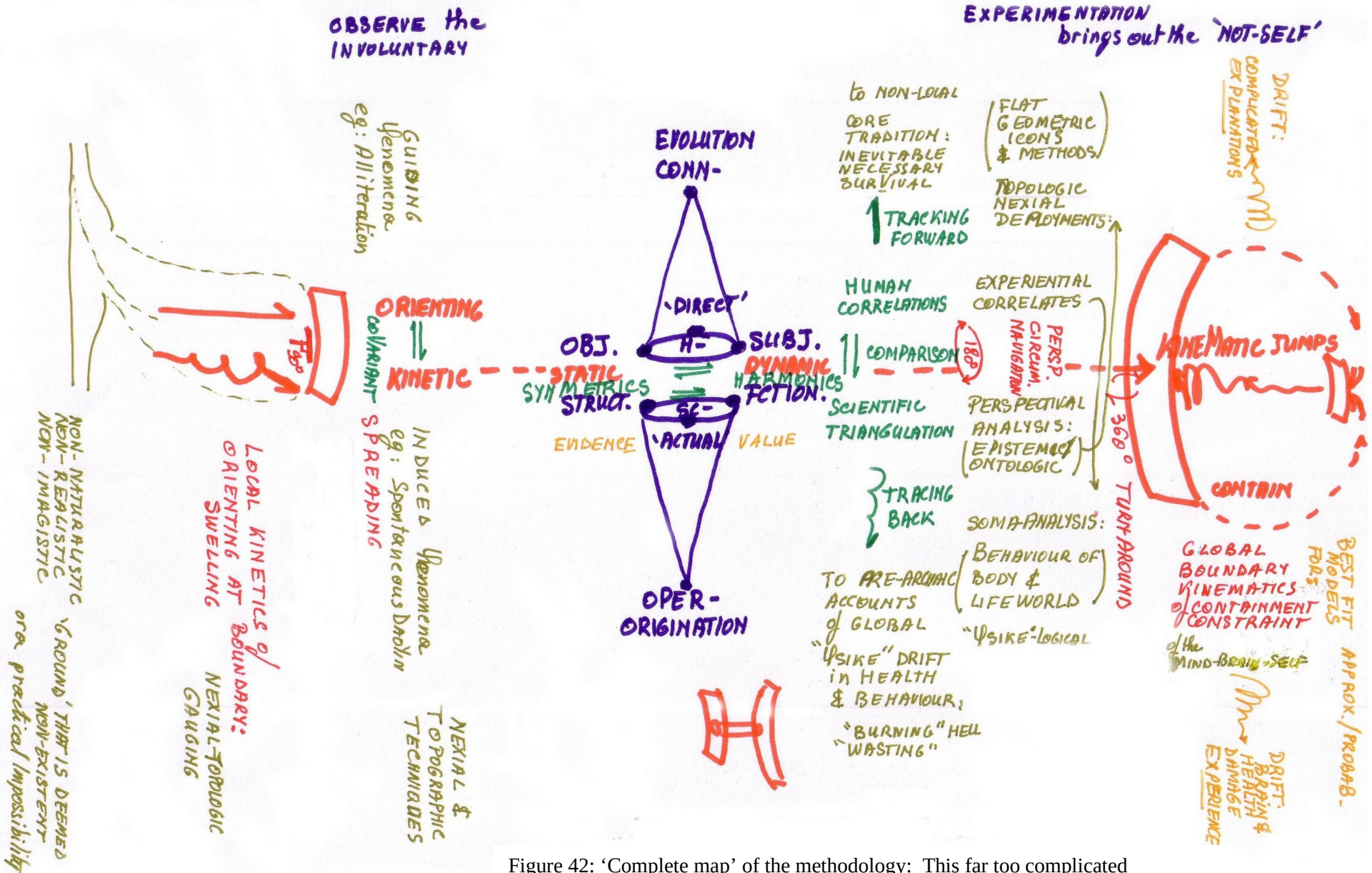


Figure 42: 'Complete map' of the methodology: This far too complicated flat map shows 'drift' but there is a turn-around, hidden by the mapping technique.