

Health and illness

Supporting materials

The following text addresses general strategies of health, rather than specific treatments, definitions, testing methods, or medical information on particular symptoms of chronic illness. A detailed, perspectival approach only brings out the countless controversies and contradictions that plague the literature concerning such conditions. The easiest approach to seeing what, in the body and health, is neglected in our medicines, modern and ancient, is to view the Power Point presentation <PPT1 Body> (slides), while keeping in mind one's own states of health and unexplained sensations. It will be also useful to review it again after reading the thesis: important topologic properties will then be clearer. This visual approach makes the body's places and processes easier to embrace without the distinctions, details, generalisations, and placing of 'causes' that hide global properties. The collected text extracts point to certain patterns, and orient to parts of the medical literature. The sections <Extract F16\ Variable body> and <Extract F17\ Anatomy notes> contain, respectively, remarks and extracts from anatomy books and provide specialised information that is rarely mentioned in literature on health and is little researched. Medical sections are included in many of the other collections, which are classified thematically in the appendices. Two are particularly focused on the body: <Extract F4\ Syndromes of instability> contains sections relative to ME-FM-CFIDS¹ and similar syndromes; <Extract F6\ Brain central control> samples various views on the dominant role ascribed to the brain and mind in health, in the diverse types of medicine. Elements of archaic and 'core culture' views on health (<Endnote C6\ Core culture>), and practical aspects of bodily experience, which are neglected in our

¹ Myalgia Encephalitis-Fibromyalgia-Chronic Fatigue Immuno-Dysfunction Syndrome

modern perspectives, are introduced in appendices C (endnotes), E (special experiences), D (research materials and techniques) or sampled in appendix F (extracts).

Describing the syndromes

During the preliminary phase of this research project, the literature review relating to health concerned mostly explanations of disease and health in general, the Peckham Experiment, representations of illness, stress, allergy, and chronic conditions (Thagard 1999, Bateson-Koch 1994, Peck 1996, Logan & Wong 2001, Thorson 2003, Dunstan 2001, Griffin 1999, etc.). In parallel, I was beginning of my autodidact education in the many specialties of medicine and brain sciences. For over a year, the experimental part was still only exploratory and I worked out ways of recording observations and analysing the literature. The explanations I found reflected the dominant emphasis on neuro-hormonal functions and strong immune defence, and their stimulation. These provide useful compensation for extremes (eg systemic weakness or extreme muscular tension), but effectiveness of both explanation and treatments with this emphasis ran out when allergic phenomena started. These 'reactions' to usual conditions such as foods (eg chicken), and even taking a shower (a mild form similar to 'Aquagenic urticaria', Luong & Nguyen 1998) had never existed before. This brought out a pre-existing and chronic high activity of my immune system, which is reflected in the name Chronic Fatigue Immuno Dysfunction Syndrome. Then my interest converged on low-grade immune defence and inflammation, and shifted my study from psycho-bio-social stress (extremes of fatigue and mood, and exercise / recovery problem) to the body-brain aspects of physiologic and metabolic strain, and perception and cognition in the brain-mind (eg of pain and other sensations).

The focus was now on reaction, hypersensitivity, sensitisation, sensation, sensing, etc. It shifted from the extremes that are *at* the limits of what can be sustained, when there is risk of a crisis, to the critical response itself *before* such limits, at their *approach* – the binary dynamics of a 'reactive state'. By this I mean the sense of being in an 'allergic state' as a whole, in which almost everything, external or internal, becomes stressful. Few things have established patterns or stable activity in this realm. Many chronic illnesses have a general

commonality in symptoms related such a 'reactive state', instability and recurring crises, although each particular set of symptoms defines a differently named illness. I lumped them all under the term 'syndromes of instability' (see <Extracts F4>), after much work to classify them by recognised causes and into types. The importance of this notion is best exposed through reading the examples in <Extract F4\ Syndromes of instability>. The shaping of such experiential manifestations, and of their rationalised explanation, will be more accessible through images, in <Nexial-topologic deployment>.

Sensitivity has a side benefit: it allows observing subtle internal sensations (in body, brain, and head) that are not felt in the 'normal' state. They are integrated, as 'signals' and 'signs', through the nexial and topographic techniques of observation that I developed (see <Appendix D\ Research materials and techniques>). The syndromes are also characterised by some degree of bodily 'wasting', which involves loss of body mass and integrity of the tissues, and reduced water-related tone. This manifests in particular in weak posture, but also in reduced thickness and resistance of the skin, and less tight surfaces. Thanks to this, internal organs and structures can be palpated in ways that bring some information not normally available through touch, about shape and localisation, and changes.

The research then turned to studying progression, origins and ends in both a local sphere – ie previous state of health and shapes of the body, and a global one – ie space and physical existence as humans see them. These are more general than just the material body and world. As a result I began finding historical descriptions that fitted some of my observations (eg some associated with colours), for which I could find no description in the modern literature, biomedical or alternative. The more ancient the texts and stories I read, the better they seemed to fit my less conventional, observations, especially regarding 'placing', first occurrence of signals, and appearance of signs. Many of the sketches I drew to image the texts that scholars consider analogies or metaphors, represented various forms of growth, embryonic generation, development, evolution, etc., but contrarily to the modern positive evaluation of these, the oldest stories warned of global dangers inherent in them, some of which I was discovering first hand.

Scholarly works on medieval medicine and anthropology show the clinical encounter to have been problematic for a long time, particularly for women patients with illnesses that tend to be devalued psycho-socially as ‘hypochondriac’², or associated with the ‘weakness’ of ‘female constitution’ and female instability (physical, behavioural, and ‘emotional lability’). Many patients with low-grade illness have to go through years of searching for medical help to go past the pseudo-diagnoses of “It’s all in your head” or “It’s just stress”. (It took one year in my case, first taken seriously by a sports medicine practitioner.) The study of iconic imagery in Chinese medieval texts, as well as my imaging of archaic ones and of nexial and topographic vocabularies, shed light on the problem in another way: as different approaches to observing, rather than an interpersonal communication problem or a clash of value-based styles. Patient and doctor use different languages, respectively colloquial and medically formalised (Furth 1999), but they also use a different *perspective*. Medically trained professionals think – and look – in terms of objective symptoms and subjective self-observation (eg in psychosomatics and allergy medicine). Self-reports show that patients often use, instead, a topographic and nexial vocabulary of sensation and impressions, signs and signals. Even many educated patients do this, then translating their own expression for the clinician. This is obvious when we tell of our stress or our most wonderful experiences. Sensations and impressions are not distinguished into internal-external, physical-mental, reason-emotion, structure-function, objects-relations, cause-effects, etc. They describe ‘big’ or ‘small’, ‘going too fast’, ‘going too far’, ‘shifts’, ‘starting to’, ‘slowing down’, ‘moving’, ‘stopping’, ‘I can breathe again’, ‘getting out of hand’, ‘not quite on track’, a sense that the situation is ‘grave’ enough to seek help, or has ‘resolved itself’, etc.

Confusing definitions: Examples of inversions and ‘turn around’ in health

Problems of expressing observations are crucial in the clinical encounter, but in medical theories, even definitions themselves are contentious too. The notion of ‘stress’, usually invoked in one form or another for low-grade chronic illness, is particularly confusing:

‘[...] the much more obvious “syndrome of just being sick”.’ (Selye 1976 p.17)

² The physical localisation included in this term actually fits rather well the topographic observations of bodily struggle in such conditions.

‘Some of these changes are merely signs of *damage*; others are manifestations of the body’s adaptive *reactions*..., its mechanism of defense against stress’ (Selye 1976 p.1)

‘Actually, I should have called my phenomenon the “strain reaction” and that which causes it “stress”, which would parallel the use of these terms in physics.’ (Selye 1976 p.50)

‘The word stress is indiscriminately applied to both the agent which produces the G.A.S. [General Adaptation Syndrome] and to the condition of the organism...’ (Selye 1976 p. 50)

Selye’s confusion regarding names appears resolved by a more precise definition, but this has a cost. Compare the two following statements:

‘We are just beginning to see that many common diseases are largely due to errors in our adaptive response to stress, rather than to direct damage by germs, poisons, or life experience. In this sense, many.... disturbances... and renal derangements appear to be essentially *diseases of adaptation*.’ (Selye 1976 p. xvii)

‘It seems unclear why he called these human diseases – diseases of adaptation, rather than calling them diseases of mal-or failed adaptation.’ (Weiner 1992 p.15)

These two authors have different views on the ‘stress reaction’: (a) the reactive dynamics as negative and part of a person’s ‘being sick’ physically in having to face ‘stress’ or (b) as positive and part of a person’s mechanisms for ‘coping with stress’, the sense of sickness being a failure of the dynamics. There is an inversion. Selye’s notion of ‘disease of adaptation’ represents a general ‘syndrome of being sick’ physically (Selye 1976 p.17), (from physical strain). Weiner interprets this as a ‘human’ failure in which:

‘Because of their hetero-geneity stressful experiences do contribute, the person for diverse reasons has failed to cope with them.’ (Weiner 1992 p.15)

The difference involves a symmetry between the physical and the anthropomorphic viewpoints that is most visible in the opposite evaluations of the condition. This inverted value is a generally characteristic interpretation of the symmetry between the scientific and human domain. Weiner’s separation of body and mind (an equivalent physical-mental distinction) and specification of diverse stressors (factors) produces a causal explanation:

‘We know today that these varied diseases are not only multifactorial and heterogenous in their etiology and pathogenesis, but are also characterized by disturbances of the regulation of complex physical systems.’ (Weiner 1977)

The description shifts from *adaptive* reactions that are successful but *appear as* physical sickness, to human illness *caused by* disturbed *regulation* and adaptive reactions *that fail* to produce successful coping. Yet, in Randolph's (1956) 'specific adaptation syndrome' (physical reactions caused by *specific* sensitisation to foods and environmental chemicals (the approach of 'environmental medicine', formerly 'clinical ecology'), it is the adaptive *over-reaction* itself that is a problem, or the 'low' feeling that is linked to withdrawal symptoms in adaptive addiction. My review of the literature was plagued with these sorts of shifts, different placing of 'causes' (internal and/or external, in body and/or mind), inconsistent general and specific explanations, and inversions of evaluation. None took a global enough approach or, rather, they tend to separate, and I found their contentions to be mostly related to differences between scientific and human views, or physical and psychosocial formulations. For example, scales (eg degrees of gravity) combined with positive-negative values yield the notions of 'hyper-' (active), 'hypo-' (active), and thresholds. These are familiar in allergy and stress analyses, and bring models such as Randolph's (1970) 'ups and downs of addicted life' (a 9-levels scale: 4 'up', 4 'down', and a middle 0):

'One valuable insight from his [Randolph] observations is that at different times the symptoms present themselves in "up" (eg. hyperactive) and "down" (eg. depressed) states. Although these are both recognized as being undesirable at the developed end of the spectrum [both ends away from zero], during the early stages of development the "up" conditions (active responsive, enthusiastic, ambitious, witty) may easily be regarded as desirable, its connection with the "down" conditions (stuffy nose, occasional coughing and sneezing, skin disorders, gas, diarrhoea, constipation, frequent urination and various eye and ear symptoms) not being recognized. [...] The negative effects... are either hidden or not taken seriously until they reach crisis proportions.' (Hill 1985)

This scale is drawn from a triangle model inspired by the same 'mountain' icon that also gave us the 'food pyramid'. The highs and lows are not valued in the same way in the human and scientific domains. The complex details and abstract simplifications of both specific and generalised approaches hide a global failure to map adequately cases like that of children's 'normal childhood illnesses' (see <Extract F16/ Variable body>), or the present 'local-case'.

Such views produce deeply confusing paradoxes. For example, a ‘hyperactive’ state can be a negative powerful reaction physically, but it may also be a creative state for the mind. We hear, in allergy medicine, that we (psychologically) ‘crave what we are allergic to’ (what causes allergy). This is symmetric to ‘we develop allergy to what we crave and eat repetitively because it gives us a *high*’ (what causes craving). Another example is the ‘healing crisis’. Causality itself, as an explanation, is confusing for interactive and systemic conditions, and even theorists are caught in their own attempts to be precise: Selye operated such a shift in explanation: ‘...errors in our adaptive response to stress’. Selye’s basic notion of ‘damage syndrome’ is related to distortions that are symptomatic of adaptive strain, or work made necessary by stressful disturbance. In refining a detailed explanation (in Weiner, Randolph, as well as Selye’s full-fledged explanations), the notion of damage appearing with strain related distortions is turned on its head (‘turned around’³), into an abnormal failure of coping with *normal* disturbances, a failure of reacting *to* them, of compensating for them. Another type of explanation approaches the problem as an integrated time-sequence: although ‘adaptation’ is first experienced as a positive reaction to stress, when it persists it becomes a ‘maladapted’ (patterned) behaviour or condition, which has progressive diverse negative consequences. This is related to ideas of conditioning, programming, repetitive exposure to stressors (etc.), that ‘grade’ the ‘whole’, placing first emphasis on the psychological mind or on the physical body. Selye’s view seems to be more related to a distinction of spaces: damage to the body/self-system, which strains to adapt to a stressful world. The fundamental problem is that the various types of explanations produce conflicting evaluations and, experientially, the cultural ‘double bind’ that expresses the ‘constraining shape’ of the ‘context’ of our lives, manifesting in the ‘feeling of weight, pain or force’

³ *On vocabulary*: ‘Turn around’ is an undifferentiated expression. Elsewhere in this work, a ‘turn-around’, can be a ‘turned inside out’, ‘turned upside-down’, or ‘turned on its head’. This depends on which geometric projection is required to explain something in a particular case. These expressions mean the same thing, topologically, but not in terms of words, numbers, classic geometry, or symbols. In conventional explanation or description, such a ‘turn-around’ can be an ‘inversion’ (especially linguistic), a ‘reversal’ (in practice), or a ‘return’ (in theory or arcane texts). The wording depends on the underlying iconic imagery habitually attached to the conventional context described. However, these reduced expressions lose their topologic meaning. Conventionalising this generic notion produces descriptions based on symmetry or circularity (explained in <Nexial-topologic deployment>.

(Harries-Jones 1995 p. 134-139, on Bateson, who considers this ‘context’ also as a non-discrete ecology).

Another example of ‘turn around’ can be found in the Peckham Experiment. The 60% of individuals who believed themselves healthy and felt fit or in their usual health, in spite of the disorders found in them

‘were drawing on the body’s ample reserves and/or on the other hand, were – consciously or unconsciously – limiting their environmental excursion to meet the limitations imposed on them by their concealed and insidious disorders. The progressive failure of their powers [of compensation] thus being successfully masked by either or both of these procedures... In fact, however, they were progressively losing the resilience of health that the body’s reserves sustain and promote.’ (Williamson & Pearse 1980 p.14-15)

The same inversion between the human (or anthropomorphic) and physical / scientific (or ‘physikemorphic’⁴) views are at work here: The ‘body’s reserves’ promote human resilience, but cause physical illness. For nexial-topology, both these physical and human manifestations are expressions of the same ‘state’ of strain-stress, which wastes the body’s resources.

From survival to ‘ease’ and ‘proto-health’

Compensation is one of 3 different modes of existence (or ‘orders’):

‘Until consigned to the grave, man is presumed to be “alive”... It is... within any doctor’s experience that practically a whole lifetime may be spent in the process of “dying” ... We may be in a third state – “surviving” --. [... Man] may be in any one of three different modes...: living, surviving and dying. More precisely: functional existence, compensative existence, and de-compensative existence.’ (Williamson & Pearse 1980 p.13)

‘The totality of these changes [damage and manifestations of adaptive reaction] – the *stress syndrome* – is called the *general adaptation syndrome* (G.A.S.). It develops in

⁴ This term is meant to show the symmetry with anthropomorphism and the reduction of meaning to the ‘*physical*’, ‘*natural*’, or ‘*material*’ spheres. ‘Morphism’ means giving form. ‘Physike’ is the feminine of the Greek word ‘*physikos*’, of nature. In Old French, ‘*phisike*’ meant art of healing. About 1300_{AD}, ‘*fisike*’ was a healing potion. In Middle English, ‘*phisic*’ meant a medicine to move bowels. The root ‘*phyein*’, to bring forth, gave rise to ‘*physics*’, the science of matter and energy, but also to these notions, which are related to medicine – the art that concerns the ‘*natural*’ body (currently conceived as ‘*material*’ or ‘*physical*’ body). The word ‘*physike-morphism*’ is used here to highlight this reduction of meaning.

three stages: (1) the alarm reaction; (2) the stage of resistance; and (3) the stage of exhaustion.’ (Selye 1976 p.1)

Such sets of 3 forms or stages are very common in the construction of explanatory theories. This modal division into 3 forms is parallel to dual notions such as ‘sick or not’, scientific-human, and paradoxes (further discussion in <Many perspectives>). Randolph (1970) has his own version: a scale of activity: ‘up’ (⊕ graded toward ‘hyper-’), ‘down’ (⊖ graded toward ‘hypo-’), and ‘normal’ (0), which is also developed into 9 levels (see below). Comparing such schemes, and trying to match the modal or scaled representations (and many other kinds), reveals some interesting associations. In this case, one match would suggest 3 sets of correlations: (alarm, functional, alive, hyper-), (resistance, compensation, surviving, normal), and (exhaustion, decompensation, dying, hypo-). For example, one could interpret that feeling ‘alive’ is a hyperactive state related to a brain in alarm, yet also makes things work better in the body. Such a matching and correlated global meaning seems to depend on one’s perspectival bias, and more particularly on one’s life experience. Depending on this, many other words can be used (eg adaptation, sensitivity). In this match, *all* three modes may lead to difficulties and problems of health-sanity such as uncontrolled hyperactivity, chronic compensation, or recurring exhaustion. The CFIDS-FM-ME syndromes display symptoms of muscular tension and immune hyperactivity, of exhaustion, and a strong mood of 'trying to survive'. Approaching the issue through such general categorisation begs the question, to which category does the syndrome belong? This depends on interpretations, and the specialised medical literature reflects such orientations in its controversies concerning methods for diagnosis (and treatment). Different thinkers do not attach the same particular meanings to the words (especially because of the choice of human and technical interpretation), and this is a major source of confusion. For example, *human resilience*, which gives ‘powers of compensation’, Selye calls a physical ‘resistance’.

‘The *nervous system* and the *endocrine* (or *hormonal*) *system* play particularly important parts in maintaining resistance during stress. They help to keep the structure and function of the body steady, despite exposure to stress-producing or stressor agents, such as

nervous tension, wounds, infections, poison. This steady state is known as homeostasis.’
(Selye 1976 p.2)

Having to ‘resist’, or a habitually disturbed state, is not a particularly pleasant human state, in my experience. ‘Survival’ (Williamson’s other name for the power of compensation) is, to me, a near-critical balancing act, a difficult state of small ‘emergency’, of ‘battle stations’ to ‘cope’, ruled by adrenalin and cortisol, hormones and nerves, even though it is considered normal and even valued. Although I know some find it exhilarating, the ‘resistance’ and ‘resilience of health’ are, to me, a ‘survival mode’ that uses up the ‘body’s ample reserves’. In low-grade conditions, chronic or acute, in which this use of reserves can be felt directly (from mere sensations up to pains such as that of catabolism), this state gives an impression of ‘in-dying’. (Further discussions in <D3\ Signs of dying and sense of ‘in-dying’>, <EE8\ Undoing the ‘in-dying’>, and <EE 16\ Cold of dying>). Moreover, none of the terms ‘functional, compensative, or de-compensative existence’, and ‘alarm, resistance, or exhaustion’ fit to describe the state I associate with Williamson’s ‘ease’ (explained as ‘non-deployment’ in <Nexial-topologic deployment>, and which I dubbed ‘proto-health’. (Experiential descriptions of some aspects are provided in <EE1 > to <EE5>.)

There are many examples of inversions and ‘turn-around’, in various fields. In <Extracts F13\ San Jiao & Inversion>, in particular, are gathered examples concerning linguistic inversion related to gender, and to the notions of ‘primary’ and ‘secondary’, which are used in defining chronic syndromes (see <F4>). Here is an example that is relevant to the ‘soma-analysis’ method used in Phase one of this study:

‘A similar absence from Iliadic language is a word for body in our sense. The word *soma*, which in the fifth century B.C. comes to mean body, is always in the plural in Homer and means dead limbs or a corpse.’ (Jaynes 2000 p.71)

Consistent with this Greek meaning is the sensation-impression of ‘in-dying’ just mentioned, in which all aspects of the lifeworld, body included, are damaged, ‘dying’, ‘wasting’ (eg

social relationships, economic or professional position...). In modern separating terms, this manifests mentally in a global mood of distress, but also physically in swelling of peripheral areas, at an early stage, which spreads through the mass of the body, and develops into other, worse symptoms (see section ‘Unfolding-enfolding’ of ‘immune defence’ below). These physical correlates are consistent with the Indo-European etymologic root of *soma*, an older etymology. In the nexial-topologic framework, the observations involve pressure, ‘activation’, ‘projection’, and focused or generalised reactions and extremes.

Difficulties with words

The problems of expression in words, and those of value (see chapter <Validity and valuing>), in medicine as in other fields, are a serious impediment to the description of non-specific phenomena that are not generalised, general-systemic, or generic (relative to many *genera*), but simply undifferentiated. This is the case also for non-localised phenomena such as worldwide shifts in human culture, planetary ecology from prehistory (Mithen 2003), and human health. One such phenomenon is that of ‘just being sick’:

‘The Search for a Name: Even such innocuous physiologic experiences as a brief period of muscular work, excitement, or a short exposure to cold proved sufficient to produce certain manifestations of an alarm reaction, such as an adrenocortical reaction. Obviously, these could not be described as strictly noxious agents; we needed a more fitting name... I again stumbled upon the term *stress*, which had long been used in common English, and particularly in engineering, to denote the effects of a force acting against a resistance. For example, the changes induced in a rubber band during stretching, or in a steel spring during pressure, are due to stress. Physical stress is certainly non-specific. [...] It was pointed out that the word *stress* is indiscriminately applied to both the agent which produces G.A.S. (general adaptation syndrome) and to the condition of the organism exposed to it. [...] This lack of distinction between cause and effect was, I supposed, fostered by [my not distinguishing in English] between the words “stress” and “strain”. [...] Actually, I should have called my phenomenon the “strain reaction” and that which causes it “stress”, which would parallel the use of these terms in physics.’ (Selye 1976 pp.45, 50)

Conversely, the notion of ‘health’ has no generally accepted definition:

‘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)

‘Though a tendency to order of entities in the living world has been recognised and discussed by not a few observers, as yet, there has emerged no distinctive word... Let us here name this attribute *Eutropy*. Within this term the observable tendency to health, wholeness and healing comfortably finds its place: a manifestation of the eutropic principle manifest in each living entity. This tendency to the maintenance of wholes and to the origination of new wholes...’ (Williamson & Pearse 1980 p.272)

The second passage involves highly sophisticated ideas and is not equivalent to the first. They represent different perspectives. Throughout this research project, such difficulties with finding words to describe non-specific phenomena, non-localised properties, and an ‘undifferentiated’⁵ field or space that is not ‘real’ or physical, have impaired my formulation of findings and explanation of the images. The same is true for the language of numbers in mathematics, statistics (medical ‘normal health’, ‘returning to normal’) and probabilities (medical ‘risk’ of disease *in the future*, susceptibility acquired *in the past*). The problem is also endemic for theories, and descriptions of the ‘body’ by using flat geometric models and images, the spherical icon for the ‘system’ or ‘environment’, and the asymptotes of ‘approaching’ in conventionalised terms.

The undifferentiated ‘reactive state’, and that of ‘ease of health’, are impossible to express in words without causing language-dependent paradox and perspective-based disagreements (eg confusion of undifferentiated ‘ease’ with ‘easy’ processes and patterns of activity):

‘Ease is one of the outstanding action-patterns of health. It appears, for instance in the infant as *serenity*.’ (Williamson & Pearse p.188)

‘Immune bodies (induced by previous infections) can by no means always be found in all those manifesting insusceptibility. Between the “immune” and the “insusceptible” there is a difference in the body’s action-pattern. We do not, however, yet know on what this attribute of insusceptibility rests.’ (Williamson & Pearse 1980 p.238)

⁵ The word I chose, ‘undifferentiated’, is not quite adequate and is discussed in <Many perspectives\ Problem of the undifferentiated>.

Williamson's state of 'ease' of health is an undifferentiated 'insusceptibility', and a 'being unaffected' ['proto-health' in this dissertation,] but these are often translated into a 'being immune to' (things in general, or particular things or conditions), – that is, a dual formulation, or being 'strong' – a nexial formulation. The perspectival notions of 'patterns of activity' (or 'action-patterns' or 'active patterns') are dualist and polarising, and are the source of a linguistic drift that beats the intent of describing an undifferentiated 'state'.

The mystery Williamson mentions is one of the deepest questions that have plagued medicine and civilisation in general throughout history, in any culture. This is reflected in ancient literature and even archaic myths, and is related to prehistoric concerns not only with survival, but also with thriving rather than being subject to environmental influences, made uncomfortable by 'beasts', drought, temperature, etc. In my observations, this sense of being unaffected is a state of not having the need for resilience, resistance, or for using reserves to react, battle or defend. Being 'unaffected' is not a defence or work to be 'immune to', nor a compensation of disturbance or of a weakness that makes one 'susceptible to' or 'affected by' (etc.). This state requires no purposeful mental attention, no brain central control (see <Extract F6>), no healing work, or practice. It cannot be described with the conventions of our complex views of health or humanity or physicality, except through negatives ('not affected', 'insusceptible') which do not say positively what 'ease' is.

The shaping of health: using topology to image its changes

Only the fluid animated geometry of topology allowed me to restore some integrity to the plethora of divisions, differentiations, individuations, specifications, and reintegrating generalisations, complexification and simplification of our many models and representations, and to our physicality, but not by reframing the material 'body' as 'embodied' or as a 'whole system'. (The latter, however, was a perspectival stage of integration, which I had to deconstruct.) Nexial-topology brings out simple images that underlie our perspectives, including notions of illness and health, and their developments into iconic symbols such as 'growth'. It also clarifies the practical implication: dynamics (or duality) and polarisation (or activation) are *not* the only way to understand the body's health (and everything else).

An imaged or geometric questioning is not rare in philosophical works, although this has not yet been pointed out, it seems, in philosophy of science. Some words in Williamson and Pearse's work provide clues that disclose a form of thinking based on imaging: 'What does health look like?' (Williamson & Pearse 1980 p.23). Their question was less that of physicians seeking solutions and more that of bio-philosophers trying to envision the 'whole picture' attached to health. Their text is sprinkled with topographic terms, such as place, building-up, field, surface. Other thinkers also have this characteristic (please read <Extracts F5\ Gauging thinkers>). This text also contains statements that demonstrate attempts to express the limitation imposed by the systemic notion of boundary and at finding a vocabulary to express an understanding of non-conventionalised, global properties of covariant differentiation:

'...not all that impinges on the external surface of the living organism enters into mutual synthesis in the progressive action of that particular organism... Essentially this synthesis is one of the "self" with the "not-self".' (Williamson & Pearse 1980 p.205)

'The question still remains as to whence comes "direction" of the directable machine [the body].' (Williamson & Pearse 1980 p.154)

'There is no inherent antipathy between the two conventions, Space-Time and Memory-Will [...] the field of choice of the specific diversities in Memory-Will and the field of chance of the equite entities of Space-Time.' (Williamson & Pearse 1980 p.273)

'Motility in Will... is not *effective*: nor is it "causal", inducing a chain of sequential events. On the contrary, motility spontaneously inducing fields of unity – so bringing together apposite diversities in Memory – is *orientational* of the content of Memory. So the *affective* attribute of motility in Will is related to the *effective* operation of the organic mechanism.' (Williamson & Pearse 1980 p. 190)

The words 'orientational', 'direction', and 'surface' even summon directly geometric images used in topology (see also <Extracts F18\ Rules of localisation-extension in the literature>).

Modelling health: from conventional 'growth' to topologic 'deployment'

Inducing, directing, orienting, and producing surfaces, are what a growing foetus does as it temporally 'comes to exist' in space. There are other ways of differentiating what is habitually called 'growth':

‘*Yin* and *yang* are two phases of a single *qi* that give rhythm to life and the circulation in the body. Their deployment in a spatio-temporal closed schema is operated according to cyclical and continuous motion.’ (Despeux & Obringer 1997 p.27, my translation – French text below⁶)

Growth will be presented here as an aspect of ‘deployment’; a full explanation of my understanding of such ‘deployment’ is provided in chapter <Nexial-topologic deployment>. The notion of ‘growth’, central to some cultures (Chinese in particular, see Allen 1997, but also Western: economic growth) makes many of the processes involved invisible. For example, in the formation of kidneys during foetal growth, there is resorption of previous structures developed in early stages, degenerating certain parts. The same is true for the tail of a tadpole that metamorphoses into a frog. The conventionalised notion of growth (as a *directional*, or a sequential timed spatial process) is a gross reduction of ‘deployment’. The limitation involved in the idea of growth has major implications in both health (eg fibrous and cancerous growths) and ecology (eg human and economic growth have destructive impact on health as well as on the wilderness). The technical (scientific) idea of growth is symmetric to that of development in the human domain; both produce the re-integrative idea of evolution. This means to consider deployment automatically as an improvement.

In the following sections, I will touch on three nexial-topologic properties I found empirically, which are of particular interest for the unclear origins of the syndromes of low-grade illness. One particular type of consequences is detailed, which involves the effects of food on a human being. Note that these descriptions relate to the ‘local-case’ studied experimentally (they are ‘what it is like’ for my local observation), and generalisation involves some precautions. Nevertheless, some elements are echoed in the sphere of literature that arises from the core of culture (see <C6>), especially the intuitively derived healing and health mapping techniques (topographic style of ‘diagnosis’ – see <D2\ ‘Body indicators’>). This suggests that the local-case is not unique: there must be a small section of

⁶ [‘*Yin* et *yang* sont deux phases d’un seul et même *qi* rythmant la vie et la circulation dans le corps. Leur déploiement dans un schema spatio-temporel clos s’effectue selon un mouvement cyclique continu.’ (Despeux & Obringer 1997 pp.27)]

population that experiences 'health' generally as it is modelled in the present thesis. The properties described in the following are expressed as they were observed.

'Brain-central-control', loss of sensing, and instability

Property 1: Entraining brain-central-control is accompanied with distortions and limitations, including loss of internal sensation, progressive systemic damage.

Among these limitations are the reduction of the observing activity to that of sensory perception and its derivatives (eg instrumental, imagination, etc.), a reduction of internal sensation and of external awareness, a perspectively biased rise of either pain or pain-killing, progressive 'damage' to systemic integrity, and a loss of the capacity for 'native gauging'.

The reduction of 'external' awareness concerns physical things (hence increased incidence of accidents and involuntary self-injury to the material body-object), and insensitivity to the state of 'other' people or animals (especially their struggle or pain). The self-centred survival mode does not encourage caring for others, place (and the environment in general), or the body.

My observations included the little differentiate 'general mood' that underlies the more labile, agitated emotions. When the brain is entrained (activation-projection – see <F6>), agitated emotions can express either pain and struggle (for the Left- perspectival bias), or pain killing and excitement (for the Right- bias). If positive, we tend to simply use them and 'ride the wave' of a 'high'. If negative, they can be alleviated, or compensated in various ways.

'A further curious fact is that, so versatile are man's emotions, he can enjoy either living, surviving or dying so that existence in whatever state may *feel* and seem worthwhile [...] Unfortunately for the organism, the sense of satisfaction... is seriously misleading, for it permits a lack of awareness of – and so concern for – defects as they arise in the body mechanism.' (Williamson & Pearse 1980 pp.17-18)

'By [the] process [of adaptation,] long-term harmful effects are made to appear beneficial in the short-term. [...] Instead of discomfort, a sense of increased well-being now follows exposure [to stressors]. [...] There is a tendency then to consider oneself to be no longer

reactive [to allergens]... The associated counter reaction goes unrecognised.’ (Mitchell & Hill 1975)

Many current writers on general health and stress consider this ‘awareness’ to be mental, governed by attention (eg Fehmi & Fritz, 1980); and think that it needs to be cultivated, through ‘opening boundaries’:

‘Nonlinear mathematical models are approximate descriptions of the dynamic functions of biological systems. It is acknowledged that a more realistic account of physiological rhythms is needed. Feedback, that in part accounts for them, is provided by information exchange *within* the organism and *between* organisms by signals of a large variety of kinds. In this way, the organism is *kept informed about its own internal state* and the condition of the *external* environment.’ (Weiner 1992 p.283, my italic)

‘Rhythmic functions manifest stability but, being dynamic are perturbable.’ (Weiner 1992 p.284)

Such views are obviously developed from what I will define as ‘advanced’ models, which involve boundary separation. Their related ideas of dynamics and harmonics are inherent in the 2 fundamental parameters at their core (see <Many perspectives>). What is less known is that, as Weiner notices, these perspectives contain an in-built provision for any ‘system’ to be perturbable, disturbable, susceptible, ‘affected’ – in other words, subject to instability.

These parameters of perspectival description govern most of the health strategies we use and our common attitudes toward the body. These often result in such negative health developments, whereas there would be no instability or distortion without the perspectival focus on the mind, brain, and head, and the related attitudes and strategies.

The present study found, instead, that ‘awareness’ involves physical sensation as much as the mind, and is better modelled without distinguishing mind from body or person, and sensory-perceived world from them.

The loss of sensing could be also related, physically, to ‘stress-induced analgesia’:

‘The discovery of the brain-gut peptides and other advances in neurobiology have [... given] a new impetus to stress research. (1) Two forms of stress analgesia have now been described [...] (2) The function of brain peptides is to produce *patterned* physiological changes, which are exactly what an integrated view of the responses to stressful experiences demands.’ (Weiner 1992 p.5)

Stress-induced analgesia uses opioid pathways, well known for their usefulness in case of injury, and similar pathways (eg cannabis-like, used by cancer patients), but also non-opioid mechanisms. The latter involve neurotransmitters, and are altered by age and by oestrogen cycles in females. The difference between males and females appears to be deeply significant for both practices of health and for the cultural models, theories, and icons, we live by. I suspect that this difference, and that between adults and children, would not be relevant in the state in which the 'native gauging' is accessible because sex hormones and central nervous control are not chronically activated and reactivated. Many of the low-grade illness syndromes are characterised by symptoms of pain, reactivity, recurrent crises, and are often construed, conventionally, as 'too sensitive'. This high-sensitivity is different from the subtle sensitivity known to be the 'awareness' necessary for health (PsychoNeuroImmunology Research Society, 2006). In the local case of instability studied here experimentally (my health), the second kind of analgesia does not seem to operate (I have not tested the first, for specific injury), but the third does. At a first order of 'activation', pain disappears. In further strain, small, but sharp pains arise internally without outside cause⁷. 'Pushing it' causes even worse, unbearable pains, from localised auto-destructive processes (see <EE17\ Burning Fire>, <EE 16\ Cold of dying>). This is echoed in the literature on the yogic 'Kundalini' (see <C6>, for which this 'burning' is an 'advanced' experience) and in the archaic texts (see <Ancient perspectivalism>). 'Pushing' the activation-projection capacity and brain central control can compensate (eg putting down a reaction, triggering healing), but it can also add brain-triggered pain (not just 'nervous pain'). This tends to suggest that as much as the brain can be an ally in hard times, it can also be our worst health enemy.

In a compensatory or adaptive state, the awareness of being stressed seems to disappear, is no longer felt (no sensory perception of internal strain or pain), but the cost is drastic:

⁷ For example, from muscle catabolism, and brain-triggered along the spine, probably release of cytokines, which eventually 'projects' topographically (to the surface) into boils on the skin.

‘A man, who was expecting a multiple heart bypass, said to me, in a hydrotherapy session, “How can this happen? You would think it would give some kind of warning! But I didn’t feel a thing!”’ (Bouchon February 2006)

Thus come diseases and ‘sick days’, but also chronic illness (the syndromes of instability) and ageing degeneration – a ‘lifetime of dying’ –, as well as a global but invisible ‘wasting’ away (see <Nexial topologic deployment> and <Conclusions>). Central control can restore health to a point, and displace discomfort with ‘a sense of increased well-being’, but without undoing the lowest-grade (or ‘underlying’) systemic damage.-

‘Delayed effects [and] changes in behaviour, in susceptibility to disease and particularly to the development of degenerative changes follow.’ (Mitchell & Hill 1975)

The general ‘mood’ can reflect this, retaining a low-degree of unease. In my observations, negative emotions (eg stress, struggle) are correlated with specific systemic strain, but the sense of ‘ill ease’ relates to a general, chronic or long-term degeneration damage that colours the general mood to a sense of ‘low’, independently of whether emotions are good or bad, small or extreme. It seems to exist for both L- and R- biases, whether it is recognised or not. The reduction in internal sensation can be useful in emergency (eg not feeling pain while running away, fighting, working hard, or sitting at a computer), but this ‘boundary state’ has another cost: the loss of ‘native gauging’.

The reduced ‘sensing’, which I have formulated (not quite adequately) as internal and external, seems to be what Williamson, Selye, and many others, call ‘awareness’. They go on to extol the virtues of the mind to ‘expand’ it, but cultivating this mind requires working with the brain, and *increases* the hidden damage it is meant to reverse. Using an undifferentiated approach, I will redefine this ‘sensing’ as a ‘native gauging’ and will describe it with nexial-topology. In conventional language, it can be construed as a locally apprehended, global awareness of non-local topologic properties of distortion (‘twisting’ in my imaging vocabulary). What does this mean?

The loss of ‘native gauging’ means that the sense of distortion is lost. This results in the inability to notice distortion and deformation, or warning signals and signs; failing therefore, to detect impending illness or disease and ‘feel it coming’. For example, in the physical

realm, distortions of posture are medically addressed only when they extend beyond certain percentages of bending; and small deformations (for example, of the face) are ignored. Nothing is done about them until they can be categorised as symptoms of a disease. In other realms than the physical, this loss means that the practical capacity to know, in any particular conditions, when ‘it is going too far’, or how to stop the emergency state, disappears. A common saying is, ‘He/she does not know when to stop.’ Being unable to use ‘native gauging’ means that one cannot sense an approaching extreme, or the risk of ‘passing the limit’ or ‘crossing the line’ (‘boundary conditions’).

Cultural strategies for normalising or restoring the ‘body’ or ‘person’ (system separate from the world), involve the brain, the mind, and the self, entraining them, or pushing them ever further. In the experimental local-case of this research, these almost universally recommended health (and related) strategies are a trap rather than a help, both for the long term (physical wasting) and the short term (‘hypersensitivity’ or instability).

This ‘turn around’ is not taken into account in any form of medicine that I investigated, and it keeps both chronic wasting and chronic instability in the shade, unaddressed, and their workings relegated to the most primitive of myths. Nevertheless, my empirical investigation shows that this situation is not irremediable. It brought to light certain spontaneous behaviours that are part of, and restore ‘ease’, and do not entrain volatile emotions or behaviour or all-inclusive instability (see <C8 Spontaneous yoga> [or rather Dao Yin], and <EE1> to <EE6>). They are culturally suppressed, but using the modelling method introduced in this work suggests that this does not have to be.

An application: feeding, effects of food, and drifting taste distortion

Nexial-topology enables to describe 3 ‘orders of deployment’. This is detailed theoretically in chapter <Nexial-topology deployment>, but a practical example will clarify what this means. The modelling of these orders was derived from experimentation with individual nutritional substances and from related observations of other aspects of the lifeworld than the

‘physical body’). The following is a summary and concerns food, herbs, and other substances for healing and are the object controversies, contradictions, and over-generalisations in the literature, and a ‘lost knowledge’ in medicine. The following lists different uses and effects in three different ‘states of health’ (orders).

Order 1: (mostly children and a few women, it seems)

Foods have direct systemic effects on metabolism and physiology, anatomy and appearance, behaviour of person and brain-mind, and a global effect on the lifeworld. Usual foods are chosen instinctively (not quite a well informed ‘choice’, but not unconscious) and have an effect of ‘bringing back on track’ (eg a taste for tomato, carrot, cucumber and other bitter greens in particular have been validated by nutritional science). If healing is necessary, micro-doses of purified substances (eg 1mcg of tertroxin T3) are sufficient to support it.

Order 2: (normal physiology with hidden chronic low-grade damage, similar for *most* adults, but not quite all)

The effects of foods are no longer easily noticed because feeding is habitual (regulated: 3 meals a day, or otherwise subconsciously addictive). For the same reason, instinctive or intuitive food choice becomes ineffective (eg craving), and repetition eventually brings on ‘allergy’. Foods, especially those affecting the brain, are used *unconsciously* as ‘self-medicating’ to stimulate, calm, balance or compensate (eg salt, sweet tastes). Alternatively, greens and other foods may be used, but according to a mental schema of ‘medicine’ or ‘healing’ (eg bitters for bitter taste sickness). The focus is more on medical-helper guidance in the use of herbs or drugs to heal or cure than on auto-reliance in keeping healthy. What is conventionally called ‘small doses’ of purified substances are necessary (eg 20mcg of T3, much larger than the previous micro-doses – 1mcg). In this state, one eats much more to fuel the brain and muscles (especially ‘energy foods’ such as carbohydrates and meats), and drinks either more than in the previous state, or less, but in most cases water has to be ‘spiked’ to be utilised properly (eg with lemon juice, cordials, tea, coffee, chocolate, coca, alcohol, fortifiers, herbs, nutritional supplements, etc., – see <EE1>). This represents normality, and archaic texts mention that we ‘eat a lot and yet still *feel* cold’ [or hot].

Concurrently, body temperature distribution is uneven (this might be related to ‘ground substance’ damage – see <PPT2>). Digestion becomes less effective, the gastro-intestinal tract becomes plagued with anaerobic bacteria, inadequate levels of stomach acids, and other difficulties. Consequently, more processed foods are ‘necessary’. In parallel, the perspectival bias now becomes apparent in changes of taste. One ‘needs’ a lot of protein or lipids (fats, oils), or glucids (carbohydrates), according to a chiral scheme (left, right, middle, not respectively in this list) that seems to drift, collectively, through history, in short and long cycles. Currently, the dominant emphasis laces most of our supermarket food with glucids (eg starch and gums). A child thrown into this condition ‘does not like vegies’, and the adult ingests little fresh fruit or uncooked vegetables, and hardly any nuts, seeds, or berries. The taste becomes distorted into ‘likes and dislikes’, usually attributed to ‘body type’ and ‘personality’.

Order 3: (common illnesses and diseases that people ‘live with’ or experience recurrently, up to ‘endless state’ – described in <7- Deployment> and conclusions).

The progressive loss of effectiveness for even strong foods to be useful as self-medication (a ‘shot’ of sugar, a binge on chocolate have less effect), lead to introducing de-conditioning intervals and periodic reset or reconditioning of the system. Increasingly powerful food-derived or synthetic substances (eg drugs and medicines) at high-dose, with repeating protocols, are required to see effects (eg repetition of 20mcg doses of T3 in one day, regular daily vegetable juices or amino-acids). They have side effects and leave progressive systemic damage (eg high blood pressure medication on the elderly). Their use may now be a calculated risk in some individuals⁸. Fast, powerful, or generalised (spreading) effects are sought (eg feeling better almost instantly, seeing symptoms disappear quickly).

The investigation left now doubt about a general trend:

How much we need to eat, how processed the food has to be (hence industrial and house work), what our ‘tastes’⁹ are (what we ‘like’ is a bias), and how we feel despite the food

⁸ This is the case as I stimulate ‘specific-general thinking’ in my brain-mind to write the complex word explanations of this thesis, to the detriment of my health and comfort– see Appendix E.

⁹ Taste distortion seems related to loss of smell (an inverse progression).

stuffs (eg junk food) and/or thanks to them (eg comfort foods), are directly influenced by our personal and collective behaviours, including those, cultured and civilised, that are globally damaging to the planet (agriculture, industry of our comforts, and their large requirements for water).

This is rarely visible in a study of the person or of the current society, but a more scientific view may show this, although, inversely the human (personal and collective) aspects might then tend to be neglected. The post-glacial archaeological record (Mithen 2003) gives indication that such changes in feeding behaviour, and the drift in taste distortion, may have a correlation to the progressive limitation in our diet range, as well as the loss of biodiversity and impoverishment of resources useable by humans. Such changes are also related to the deployment of cultural icons (geometric shapes) that are expressed in all aspects of civilised living (including rituals about Death and Life and the development of medicine), and in our species' increasing dependence on them, something reflected in certain very old myths. These changes may have had positive survival value during post-glacial climate change, and are still valued for modern adaptation to man-made stress, but they have reduced our capacity to live 'in the wild', without having to manufacture and work to buy all our comfort and survival props. Worse, they make genuine 'ease' unavailable.

It appears that we have used, and still use, taste and food to modulate orders of deployment. I found experimentally that certain foods (together with some vital behaviours) can help to reduce swelling and sense of gravity, stress and strain, and reduce somewhat (but not completely) the sense of 'ill ease'. This food range is mostly avoided because it belongs to what is construed as a 'famine diet'.

When the craving or need for certain foods stops, the taste also tends to stop being distorted, directed to these foods. Altering feeding and taste, or stopping the alteration 'locally', can have non-local effects. If *any* sense of 'need' stops (no more global 'state of need'), taste distortion also disappears, and with them many difficulties and problems (not only physical or mental) simply dissolve. Many practices, much problem-solving or compensating work

become unnecessary, and the requirements for food, water, and other resources, diminish. A common saying for this is, 'If your resources diminish, reduce your needs'.

Another application: unfolding-enfolding of 'immune defence'

The methods developed for this project (topographic, nexial, nexial-topology) brought out two other properties that I have not found described, and which are indirectly echoed in archaic frameworks (see <Ancient perspectivalism>).

Property 2: The undifferentiated 'activation' of 'defence' involves water and swelling, which is different from 'water retention' and immune aggressive defence.

Swelling 'in the mass' of the body is a phenomenon related to activation of 'water metabolism' and its projections (eg transports, gradients, etc.), and has topologic properties. If it shifts into 'aggressive defence' (conventional 'self' defence), localisation occurs (eg congestion). That is, undifferentiated swelling (that would be conventionally labelled 'systemic') is a less 'deployed'¹⁰ state (for example less activated) than any 'reaction' such as serous secretions, congestion, irritation-based mucus production, and the extremes of inflammation (conventionally 'non-specific' immune defence – localised). This is in turn less 'deployed' (or 'all out') than specific immune defences (defensive targeted aggression), or generalised defence (system-wide) responding to invasion, infestation, infection. The words are complicated, but the sensations observed are not. The key is that the notion of the 'body' as a 'system' is limiting and constraining, and the objective observation of swelling in medicine relates to high emergency (eg swollen face in an anaphylactic reaction). The idea of 'degrees' of gravity underlies diagnosis. For example, in the context of sustainable agroecosystems (Hill 1985), critical monitoring can be done using the normal 'indicators of malfunction' ('problems that arise in the system' – equivalent to 'symptom'), those of 'distress' ('common indicators that can be used in widely different ecosystems subject to different stressors' – equivalent to the 'signs' of strain-stress related syndromes, or of 'just being sick'). Hill also proposed that:

¹⁰ The term is explained at length in <Nexial-topologic deployment>.

‘In addition to these indicators, we urgently need others that are able to provide us with an early warning of deteriorating conditions. For this, Rapport (1983) has proposed that we identify “indicator-integrator” organisms, species that are representative of their communities, are able to survive only in relatively unstressed ecosystems, and that are sensitive to a broad range of stressors.’ (Hill 1985)

For human physical systems, children in particular fit this description, but also some of the elderly, and a few other individuals. They widely suffer from the early indicators:

‘...during the early stages of development the “up” conditions (active responsive, enthusiastic, ambitious, witty) may easily be regarded as desirable, its connection with the “down” conditions (stuffy nose, occasional coughing and sneezing, skin disorders, gas, diarrhoea, constipation, frequent urination and various eye and ear symptoms) not being recognized. [...] The negative effects... are either hidden or not taken seriously until they reach crisis proportions.’ (Hill 1985; citing Randolph 1970)

For some people, these indicators of deterioration are permanent, a way of life 'hidden' in the physiology and mind, and never addressed clinically. These ‘early indicators’ are known in allergy medicine, and are attributed to many causes. The present study describes them as topographic ‘signs’ of the ‘swelling in the mass’ that is not just ‘physical’ (eg swollen nasal mucosa, but also swelling sense of urgency and other aspects), ‘signals’ of ‘activation’ (eg cough, sneeze), conditions of entrainment of the head (eg eyes, ears and behaviours), and expressions of a critical state at whatever degree (eg constipation, diarrhoea, urination) that topology can model. Using this method, the problems of up and down confusion, of devaluation, of ‘turned around’ meaning (etc.) disappear and health as a whole presents a different profile. Particularly, the role of water in keeping physical integrity of the body is different to that conventionally ascribed to secretions, lymph, and other bodily ‘fluids’, which are considered as lines of ‘immune defence’ (some aspects are suggested in image in <PPT1 Body>).

Property 3: Immune ‘defence’ is activated through vertical projection along the spine and entrains either nervous or hormonal system first, then the other, into ‘brain central control’, which directs ‘aggressive defence’.

The direction 'up' entrains 'brain central control', tending to first enlist either nervous or hormonal system, then the other in a Left-Right twist. Which comes first depends on the perspectival tendency or bias to L- or R-. The brain, in turn, entrains specific defensive attack and generalised immune defences. The projection 'down' involves various substances and elements (eg pro-inflammatory substances and migration of defence cells from the head to thymus and other parts of the body). In the end, the immune system is activated and reactivated through vertical projection up and then down the spine. (Whichever direction is operating, they do not *compensate* but *compound* each other, turning the body into an aggressively defensive system-bubble). The directional effects would require research to generalise to other cases than the present experimental case.

In this case, swelling leads to nervous system activation (eg muscular tension, high cognitive and mental activity that is distorted). It then progresses down in the body, entraining sexual hormones, the HPA axis, and stress hormones. This triggers inflammatory effects projected onto surfaces (eg lower back, pelvic bones, ribs on the right side, boils on skin...), and finally spreads effects to the limbs and to the 'core' objects of the body, the organs. It appears that, at least for some others, sexual hormones are activated before the nervous system, and that this is related to psycho-mental tendencies of personality.

The flat map of figure 43 (p.95) presents a comparison of conventional 'immune system defence' and a view of 'immunity' derived from nexial-topology. Something is missing in the conventional image: it does not include 'swelling' as a global 'state'. Swelling is only considered as a purely physical symptom, more or less localised, as for example in inflammatory red swelling, or oedema, or generalised as in 'water retention'. This is a very common and recurrent female condition, particularly related to menstrual activation of uterine surface degeneration. This image can be compared to the more intuitive approach to the body presented in <PPT1 Body>, in which 'swelling' (as opposed to a localised swelling) is a first-order deployment that accompanies various forms of spreading pain.

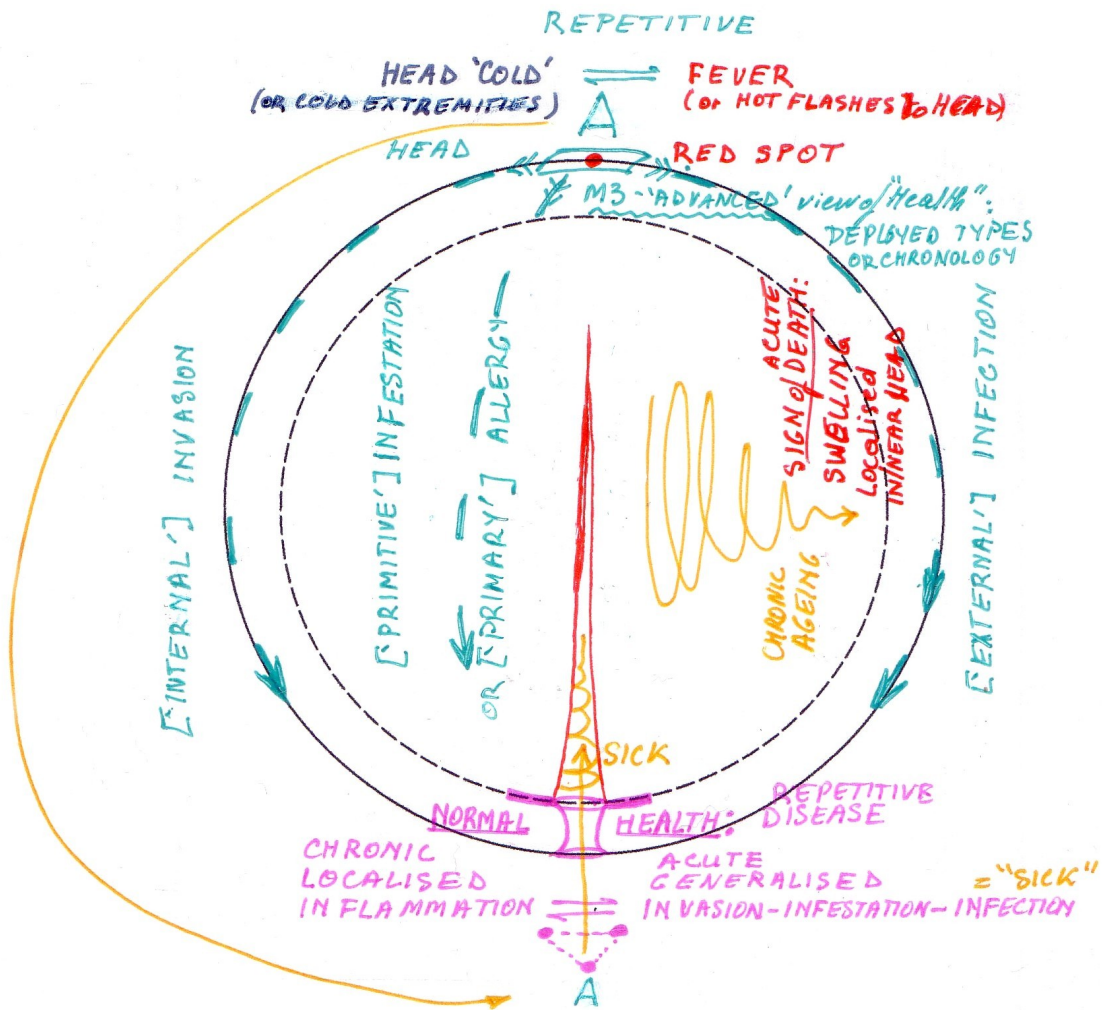


Figure 43. Flat map of immunity: something missing