

Text extracts F4 – Syndromes of instability

The FM-ME-CFIDS syndrome appears, at face value, as a curiosity of medicine, not worth much attention, compared to ‘killer diseases’. Yet digging into the issue reveals that these three names are barely even the tip of an iceberg. There are countless low-grade conditions, chronic and acute, that have similar characteristics, but whose existence is always challenged. Their wide spreading in the population are hidden by the diversity of their names and synonyms (under physical *and* human headings), by the overlapping of symptoms in countless differently named medical conditions, and by the acceptance of many of their symptoms as part of normality. Internet message boards are witness to the despair of those affected by such symptoms (unspoken of when low-grade) who complain about the lack of explanation or help, and welcome finding out that others also experience them, and not ‘just in their head’. The general, cultural focus on dire emergency (linked to the idea of survival) hides their role as pre-‘disease’ developments. Some of the names of such conditions are listed in the section <Names and synonyms> below, and the many perspectives on them are detailed in the rest of Part 3 (<The H-clinical viewpoint>). Part 2 (<The Sc-medical viewpoint>) reviews various technical explanations to highlight certain patterns.

The low-grade chronic syndromes studied in this work have general similarities: they are systemic but manifest preferentially as clusters of symptoms that affect various bodily systems (thus appearing as different illnesses) or locate in various places of the body (eg ‘burning feet’, ‘hot ears’, ‘hot flashes’, acne). They also display some contrary characteristics of ‘hyper-‘ and ‘hypo-‘ function in different aspects, simultaneously or in turn, which denotes their bimodal and unstable nature.

Among all the names and description, I find that the most adequate one for the ‘hyper-‘ part of the generic case I studied through my own (local case), is ‘white fever’. It is, according to Furth (1999), women themselves who used the name ‘white fever’. As I see it, it

represents at once the damage (it is a named ‘condition’), the agitated reactions or behaviour, and the ‘bloodless’ facial appearance, in a descriptive manner (colour), without naming any causal origin or triggering process. For the ‘hypo-‘ part of the syndrome, the exhaustion and weakness, the terms ‘depletion’, ‘wasting’, or ‘consumption’ would describe the diminishing of the ‘bodily reserves’ and of the person’s ‘resources’ to cope or survive, and the loss of integrity under physical strain or mental stress that are attached to this condition. The words wasting, white, fever (which means both agitated and hot) are also typical of the archaic literature. They provide an understanding of the syndromes that is completely lost in contemporary causal medicines (dominant or alternative), and with it, the easiest way to undo and prevent these states.

The following extracts will help the reader ‘see patterns’, understand the ‘workings’ of such syndromes, and gain an overall view of the medical-clinical landscape concerning them.

Part 1: The Sc-H- viewpoint: theory/practice & instability

Reactivity and extremes of sensitivity: disrupted stability

- ‘The "Specific Adaptation Syndrome" has been described in humans to differ from the "Generalized Adaptation Syndrome" in that maladaptation can occur to one specific stress, in particular a single chemical (Randolph, 1962). The extent to which these stress syndromes are equivalent can be debated, but in any event they are very similar. The concept that multiple chemical sensitivity is a distinct entity that is mused by responses to chemicals originated in the work of Randolph in the 1950s (American College of Physicians 1989, Ashford and Miller 1991). In the disease model proposed by Randolph, multiple chemical sensitivity consists of an inability to adapt to chemicals and the development of responsiveness to extremely low concentrations after sensitization (Randolph 1956); the model postulates multiple symptoms that reflect involvement of multiple organ systems. Randolph's pathogenic schema includes "adaptation." Symptoms can occur on exposure to chemicals or on withdrawal from exposure after an adaptive response has taken place. Randolph and others who apply this model of pathogenesis have used controlled exposures to establish the presence of multiple chemical sensitivity: patients are placed in environments judged to eliminate deleterious agents and then exposed to suspect chemicals. Many of the physicians who apply that model are now referred to as clinical ecologists.’ (Randolph 1956)
- ‘...describe how the insulin glucagon flip- flop controller can be complemented by growth hormone despite both being integral controllers. [,,]Here we describe how the insulin:glucagon flip-flop controller can be complemented by growth hormone, despite both being integral controllers. Homeostatic conflict is prevented by somatostatin-28 secretion from both the hypothalamus and the pancreatic islets. [...] Our synthesis of the information that has accumulated in the literature pertaining to the glucose homeostat predicts that disruption of the flip- flop mechanism... will lead to ... insulin

resistance, glucose intolerance, and impaired insulin responsiveness... it explains Syndrome X (or Metabolic Syndrome).' (Koeslag 2003)

- 'Recently proposed methods of assessment of the cardiovascular reactivity, the "thermodynamic instability score" (HIS) and the "Fractal and Recurrence Analysis-based Score" (FRAS) [...] may be used to support the diagnosis of CFA, [...] A pilot study suggested that midodrine treatment directed at the autonomic nervous system in CFS, results first in correction of dysautonomia followed by improvement of fatigue [and] that manipulating the may be effective.' (Jochanan et al. 2004 p.,203)

- 'When the ergotropic system is activated, the entire body/mind becomes aroused. By comparison, the trophotropic system is "wired" for the fine tuning of organs in relation to each other as the demands of internal maintenance shift and change...The point to emphasize is that whereas the trophotropic system is designed for continuous activity. We are "wired" for short, infrequent bursts of adaptive activity interspersed with relatively long durations of rest, recuperation and growth...Prolonged ergotropic reactivity may cause depletion of vital resources stored by the trophotropic system in various organs, and may cause fatigue, shock, body damage, and in extreme cases, death (Selye 1956; Antonovsky 1979)... The particular balance of ergotropic and trophotropic activities under particular environmental circumstances is susceptible to conditioning... and there is evidence that their characteristic balance under stress is established as early as pre-and perinatal life (Grof 1976; [etc.])' (Laughlin et al 1990 p. 316)

- 'Two somewhat different but related sets of ideas have been presented: nonlinear dynamics and information exchange within the organism and between it and the environment by signals. Both of these concepts speak a language that expresses the basic characteristics of the dynamics of whole living organisms and other complex systems: function in its various forms; qualitative (parametric) changes in function; rhythmic and usually stable modes of functioning; and individual variations in function. [...] Integrative concepts have been needed in the field of stress research. [...] An integrated portrayal of the organism in its world was sought. Until recently no common language seemed to exist... A long sought-for language seems now to be evolving that may accomplish this unifying purpose. Function is such a unifying and dynamic concept.' (Weiner 1992 pp.283)

'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)

'Patterns are rhythmic. Rhythms have qualitative properties by which they can be described and distinguished. The genesis of rhythmic patterns of biological and behavioral systems – i.e. the function and behaviors of cells, organs, or whole populations or organisms – can be described by the mathematical concept of self-organization in nonlinear systems. Nonlinear characterization of a system also defines the conditions for stability, fluctuation, and phase transitions of functions into other stable conditions or those that favor the evolution and emergence of new properties of a system over time.' (Weiner 1992 p.283– see <Extracts F8\ Establish: forms of stability>)

'Selye believed that many diseases – hypertension, peptic ulcer, and allergic, rheumatic, and collagen diseases-were the product of excessive or "adaptive" reactions, in which the corticosteroids played a pathogenic role.[...] We know today that these varied diseases are not only multifactorial and heterogenous in their etiology and pathogenesis, but are also characterized by disturbances ...' (Weiner 1992 p.15)

Rhythmic functions manifest stability but, being dynamic are perturbable.' (Weiner 1992 pp.284)

'Empirical advances: Until fifteen years ago stress research consisted of correlations between the stressor and the physiological and/or anatomical changes in the body. 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)

'...the organism responds in a patterned and integrated, ... to ... perturbations, ... or complex changes in the environment. One seeks to understand by what means the organism recognizes them, what is

the meaningful signal that is perceived... behavioral and physiological responses designed to ensure survival..' (Weiner 1992 p.2)

'the person for diverse reasons has failed to cope...' (Weiner 1992 p.15)

- 'There is another category of pain, however, called chronic pain. As far as we know, this type of pain does not serve any known purpose; it has outlived its usefulness. Think of it as the signaling system stuck in the "on" position. This type of pain can be caused by an obvious source of ongoing damage to the body, such as in rheumatoid arthritis. The nerves themselves can be damaged, such as with shingles or carpal tunnel syndrome. However, the most frustrating problems for both patient and physician are those involving a more mysterious dysfunction in the pain sensing or interpretation centers of the spinal cord and brain. Fibromyalgia and chronic migraine fall into this category. [...] 'Doctors are now practicing in an era of "evidence-based" medicine. If one can't prove something, based on randomised double-blind placebo-controlled trial, then it must not be true. Taken to excess this view discounts individual clinical experiences.' [...] Jackson attempts to pull together information from history, science, philosophy, culture, religion, and from the patients and pain specialists she interviews, in a search for the meaning of pain. [...] The author writes about the "Myth of Two Pains" -- physical vs mental -- [that has plagued us for centuries and continues to adversely affect our treatment of patients suffering from chronic pain. She notes the 19th-century view that: "pain wasn't legitimate unless it could be pointed to, probed and measured; otherwise it was 'hysteria,' 'neurasthenia,' or simply madness. [...] On the other hand, Jackson also discusses why pain is not simply about altered neurochemistry. She writes about the need to acknowledge psychosociospiritual contributors in a patient with pain, without "blaming the victim" or dismissing the problem as "all in the head." She touches on the intriguing idea that our early life experiences of suffering, such as childhood traumas, can hardwire our "pain thermostats" to be more sensitive to pain later in life.' (Jovey 2002)

Part 2: The Sc-medical viewpoint

Inflamed: developments of a syndrome of reactivity

- 'The most obvious pathology in IBD is inflammation, probably with an autoimmune element, and there are certainly numerous inflammatory mediators and metabolites present (e.g. cytokines). Of the other typical pathologies, those with a nutritional element include [...] increased gut permeability, increased oxidative stress...abnormalities of nitrous oxide...changes in the local bowel environment...abnormal metabolism of short chain fatty-acids and food allergy...Of course many of these are interrelated ... making it all very hard to unravel 'the cause' in a strict sense. [...] With such uncertainty about cause it is hardly surprising that nutritional therapy has tended to be more pragmatic than derived from some fundamental understanding of the aetiology of IBD. [...] There are many reasons why IBD patients might be malnourished.' (Helman 2005)
- 'Knowledge of the world outside... Our senses relay this information to the brain...information, chemical, electrical...five primary senses- sight, sound, taste, smell and touch... directed outward...immune system surveys the world within... translates into a language the brain itself uses to regulate body processes... No one would now question that the mind can accelerate, or possibly even initiate, morbid conditions in the body through the immune system. But could it just be that the mind, in addition to causing disease, can also help us actively to ward it off... Which system dominates in a crisis?' (Clark, pp.240-241).
- 'For many disorders inflammation is so obvious it does not have to be measured. For example, the pain of arthritis is a clear enough sign of inflammation. Swelling redness, and tenderness to the touch also are obvious signs of inflammation [...] These are typically localized forms of inflammation. [...] More general systemic, or bodywide, inflammation is not always apparent. Inflammation of blood vessel walls increases the risk of a heart attack...' (Challem 2003 p.15)

- 'Background: Sepsis is a vast clinical entity that takes a variety of forms. The spectrum of disorders spans from relatively mild physiologic abnormalities to septic shock. The focus of this chapter is on systemic inflammatory response syndrome (SIRS), a syndrome that encompasses the features of systemic inflammation without end-organ damage, identifiable bacteremia, and the need for pharmacologic support. [...] Stages: A continuum exists from an immune trigger to SIRS to sepsis to severe sepsis to septic shock that leads to MODS and death. The "window of opportunity" for targeted intervention is immediately after SIRS develops. The patient's course along this continuum may be charted as a prognostic indicator. Clearly, progression towards the latter elements in the continuum is a poor prognostic event.... The key transition from SIRS to sepsis according to definition is the presence of an identified pathogen.' (Kaplan, et al. 2004)
- 'Inflammation by remote control: ...adaptive immune system orchestrate the innate inflammation that promotes tumour progression. The link between inflammation and the promotion of cancer was first observed in the nineteenth century, but only in recent years has it become generally accepted. Overall de Visser and colleagues draw attention to the poorly explored issue of the interplay between the innate and adaptive arms of immunity – on the one hand in surveillance against cancer T cells, and on the other in inflammation–driven cancer promotion. Therapeutic targeting of cancer-promoting inflammatory reactions is in the early stages of development, and its progress will depend on defining the underlying cellular and molecular mechanisms in the relevant systems. [...] Surface cytokines-remodelled triggers mast cells.' (Mantovani 2005)
- '...Doctors are loathe to believe that the patient's list of symptoms has any validity without some blood test, x-ray or palpable lump. When I found food sensitivities in myself and my family that explained... it was easy to find similar reactions in my patients... Most readers will discover that they are not hypochondriacs or emotional cripples.' (pp v and vi) [...] . 'Many scientists now believe that disease, including allergy, can first be detected as a disturbance of the normal flow and balance of the energy in the body... Since every cell in the body produces energy and has polar energy, energy is the fundamental principle that underlies everything that happens in the body including biochemical changes.' (Bateson-Koch 1994p.163)
- 'Autoimmune disease is now the third major category of illness in the U.S.: Seventy-five percent of those affected are women.' (Vennum, 2001)

'White fever', 'Green sickness' and exhaustion:

Female instability in medieval frameworks

- Furth (1999) describes the medieval Chinese 'the earned doctors' efforts... to find the roots of women's illnesses in holistic clinical patterns beneath the surface of ordinary symptoms. [...] They medicalised menstruation as a bodily signifier of ideal female normality identified with fertility'(p.60) This shifted how 'the female body was read. Abnormal vaginal discharges took a back seat to irregular menses, shifting the pathological sign from the foul to the unpredictable'. (Furth 1999 p76) 'No special prescriptions for women were indicated for any febrile disorders from Cold Damage (*shanghan*) or Warm epidemic (*wenyi*) – the largest, most important syndrome clusters thought to arise from pathogenic *qi* in the environment. This was in keeping with Sun Simaiao's classic statement that disorders due to external agency were no different in males and females.' [...] (Furth 1999 p.79) 'However, three broad internal syndromes clusters were given a place in the *fuke* chapters, indicating that in females doctors should look for signs of gender difference. First, Wind stroke was grouped under a master pattern functional disorders [sic] from Wind (*feng*). Wind was found both in the external world and within the body... manifest in pathological internal changes – rapidly moving symptoms and sudden loss of function. [...] The paradigmatic Wind attack was a stroke, apoplexy, paralysis coma, or perhaps a fit marked by ravings and convulsions. Working more slowly, pathodegic wind might lodge in the limb that withered, the extremity that was numb, the rheumatic joint, the palsied tongue. (Furth 1999 p.79) 'The second broad cluster, depletion fatigue, assembled afflictions marked by slow, chronic wasting, where the sufferer grew emaciated and debilitated, accumulating a host of secondary symptoms from

pallor, indigestion and shortness of breath to hair loss, hot sensations on palms of hands and soles of feet, and palpitations, while also experiencing destabilized psyche marked by disturbed dreams or insomnia, fits of melancholy or anger.' (Furth 1999 p.79)

'The third cluster, "swellings and accumulation" (*jiju*), produced as "swellings", masses, tumors, lumps or circulation blockages where the movement of *qi* up and down was impeded.' [...] As illness labels, this kind of symptomatic nosology represented only the beginning of diagnosis, which ideally proceeded to distinguish patterns... *Fuke* emphasized disorders from Wind presumed to agitate and destabilize Blood and *qi*. [...] Wind-generated itching and irritation of skin, or hives, also were included...' (Furth 1999 p.80)

[...] 'Finally, the most dangerous, life-threatening forms of depletion fatigue – "bone steaming" – required "separate prescriptions". To today's readers, such advanced fatigue, eventually penetrating to bones, sounds like the tubercular "consumption" of early modern European medicine in its patterning of physical decline, respiratory distress, emotional volatility and sexual excitability. The sufferer experiences shortness of breath, loss of appetite, fierce sweats, cold extremities, dreams of intercourse with ghosts, ...coughing and pain in the side...' (Furth 1999 p.79-81)

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Green sickness, white fever, chlorosis, disease of virgins, anorexia nervosa, irritable bowel syndrome, or M.E. (myalgic encephalitis), hypochondriasis:

- 'Both chlorosis and pregnancy were thought to cause paleness, but the areas of potential overlap between them were reinforced by a further, and striking, symptom they had in common: pica, the consumption of non-food substances such as earth, coal, chalk, and ashes.' (King 2004 p.10)

'... dyspnoea, a trembling palpitation of the heart, swelling of the liver, aversion of the stomach towards food, cardialgia, and not uncommonly epilepsy with madness and delirium. Hippocrates vouches for this in his book *On the diseases of virgins*, in these words: afflicted with fancied terrors of spectres, [...] menstrual blood descends... into the small spaces of the womb, as if it were going to flow out. But the mouths of exit of blocked [...] It is not at all surprising... that the tissues of the hypochondria swell, and this compresses the diaphragm, as in dropsy, and causes difficulty in breathing.' (King 2004 p.47)

'This could suggest that green sickness operated as a form of internal poisoning. This would be compatible with the Galenic view that the retention in the womb of menstrual blood... can lead to substance rotting, giving off noxious vapours which affect the rest of the body.' (King 2004 p.26)

'Liébault went on to claim that few of Hippocrates' successors, ancient or modern, had been able to match this knowledge of gynaecology, because the subject is inherently shifting and unstable; the diseases of men are easier to treat because they remain constant over an individual's life, whereas women move between the categories of virgin, wife, pregnant woman and mother.' (King 2004 p.44)

'She regarded menstruation and male nocturnal emissions as equivalent, representing "the natural healthy actions of self-balance"; both occur spontaneously in healthy people, and can frighten young people.' (King 2004 p.136)

'Hirsch's survey of medical journals also suggested that chlorosis was widespread in Mexico, the West Indies, Brazil, Algiers, India, China and Japan.' (King 2004 p.136)

'Many educated women [1880's] continued to present female adolescence as a time of dramatic change and instability.' (King 2004 p.137)

'By the nineteenth century, the first [menstrual "retention"] was "primary amenorrhoea", and the second [menstrual "suppression"] was secondary amenorrhoea.' (King 2004 p.10)

'... similar symptoms would receive very different diagnoses depending on the age and gender of the patient.' (King 2004 p.16)

'What was the disease of virgins?... The broad symptom picture meant that it could include what we would currently want to label as anorexia nervosa, irritable bowel syndrome, or M.E. (myalgic encephalitis), but the idea of such a disease could also account for vague feelings of tiredness or malaise, provided they occurred in a young girl.' (King 2004 p.139)

'... his own recommendation of marriage as a cure, because this will remove any obstacle preventing the blood from flowing out, and "if they become pregnant, they will be cured". However, the last lines of the text warn, even married women may suffer this way if they do not have children.' (King 2004 p.50)

'Jacobi... mentioned what he called "chloro anemic girls" who could often be cured by pregnancy..' (King 2004 p. 138)

'Both chlorosis and pregnancy were thought to cause paleness, but the areas of potential overlap between them were reinforced by a further, and striking, symptom they had in common: pica, the consumption of non-food substances such as earth, coal, chalk, and ashes.' (King 2004 p.10)

'But different labels have always been available to apply to a young girl, "pale as if bloodless", with disturbed eating patterns who failed to menstruate, and different stories can be told depending on whether food consumption is thought to affect menstrual cycles...' (King 2004 p.2)

(See also the 'green substance' that Budwig is purported to have found in the blood of cancerous patients.)

Water: fluids, cerebrospinal fluid, allergy and immune defence

- 'Malnutrition could contribute to neurotransmitter disturbances.' . (Anderson & Kenedy, 1992 p.120)

'Neurotransmitter disturbances could be related to... fluid or electrolyte abnormalities. (op. cit. p.120)

- 'In general, prostaglandin E₁ (PGE₁) is thought to relax smooth muscles in the airway and to inhibit muscle constriction. We hypothesized that, under the specific conditions, PGE₁ induces bronchoconstriction, resulting in the promotion of inflammation. Examples of the specific conditions where this mechanism may occur include cases where patient [sic] who are susceptible to inflammation receive a continuous infusion of PGE₁ during induced hypotension or during treatment for intraoperatively abnormal hypertension. [...] Induced hypotension is often used during surgery to decrease the intraoperative bleeding volume... The maintenance of induced hypotension requires a continuous infusion of PGE₁, since approximately 90% of the dose is inactivated after a single pass through the pulmonary vascular bed.' (Uchida et al. 2003)

- 'Cerebrospinal fluid (CSF) volume depletion [...] is typically indicated when patients present with orthostatic headaches, with or without several other symptoms: neck or interscapular pain, nausea, emesis, diplopia, changes in hearing, visual blurring, facial numbness or weakness, and radicular upper-limb symptoms. [...]with or without evidence of sagging of the brain... Magnetic resonance imaging has revolutionized detection of spontaneous CSF leaks, leading to identification of far more cases and recognition of several clinical/imaging forms of presentation of the disorder. These forms, which are different from the "typical" presentation, include a group with consistently normal CSF pressures (normal pressure), another group without abnormal meningeal enhancement (normal meninges), and a group without headache (acephalic). Each of these forms can be seen in a setting of documented and ongoing CSF volume depletion. Awareness of CSF volume depletion is increasing, and its clinical and imaging spectrum is broadening.' (Mokri 2000)

- 'Most knowledge of human synovial fluid comes from patients with joint disease. Because of the clinical frequency, volume, and accessibility of knee effusions, our knowledge is largely limited to findings in that joint.' (UW Medicine, orthopedics 2005)

'A number of factors interact to confer stability, while permitting motion in active human joints... the shape of the component parts... Ligaments provide a second major stabilizing influence... Muscular stabilization is perhaps most obvious in the shoulder, which is the quintessential polyaxial joint. The rotator cuff muscles approximate and stabilize the articular surfaces. [...] Synovial fluid contributes

significant stabilizing effects as an adhesive seal that freely permits sliding motion between cartilaginous surfaces while effectively resisting distracting forces. This property is most easily demonstrated in small articulations such as the metacarpophalangeal joints. The common phenomenon of "knuckle cracking" reflects the fracture of this adhesive bond. Secondary cavitation within the joint space causes a radiologically obvious bubble of gas that requires up to 30 minutes to dissolve before the bond can be reestablished and the joint can be "cracked" again. This adhesive property depends on the normally thin film of synovial fluid between all intraarticular structures. When this film enlarges as a pathologic effusion, the stabilizing properties are lost. In normal human joints, a thin film of synovial fluid covers the surfaces of synovium and cartilage within the joint space. The volume of this fluid increases when disease is present to provide an effusion that is clinically apparent and may be easily aspirated for study. For this reason, most knowledge of human synovial fluid comes from patients with joint disease. Because of the clinical frequency, volume, and accessibility of knee effusions, our knowledge is largely limited to findings in that joint.' (UW Medicine 2005)

Aquagenic urticaria

- 'No abnormal findings at the physical examination and the laboratory evaluation did not reveal any disturbances.' [...] Aquagenic urticaria is diagnosed by exclusion (1, 6, 8); thus the investigator has to complete all the proceedings that are common for the physical urticarias and other systemic causes of this complex disease. In this case there was a curious parallel observation related to the side effects of the anti-H₁ drug cetirizine. Contrary to what was expected, the patient told of drowsiness with cetirizine, but on the contrary had no side effects and good therapeutic results with another type of anti-H₁ drug, hydroxyzine, which is known to produce drowsiness and other side effects. We do not have any explanation for this except individual response.' (Medeiros 1996)
 - 'Exposure to water can cause urticaria in susceptible patients and antihistamine and anticholinergic medication may not prevent the reaction. The mechanism of this phenomenon remains poorly understood.' [...] 'Approximately 25 cases have been reported... Females were affected more often than males. Of interest, dermatographism may be present, especially in male patients with a history of asthma.' [...] 'These findings suggested an association between cutaneous and bronchial hyperreactivity.' (Luong & Nguyen 1998)
 - 'The relationship of acetylcholine and histamine [releases] to each other and to contact of water with the skin remains uncertain.' (Sibbald et. al. 1981)
 - 'Urticaria is the most benign form of anaphylaxis.' [...] 'By definition, the acute form of urticaria lasts less than 6 weeks, and the chronic form lasts more than 6 weeks.' [...] 'Although the determination of the underlying etiology of urticaria represents a diagnostic challenge, the management of acute urticaria is more straightforward.' [...] 'The etiology of chronic urticaria is undetermined in at least 80-90% of patients.' [...] Recurrent urticaria can be: solar, cholinergic (sweating), aquagenic, related to cold, heat, or to physical or emotional stress.
- Synonyms and related keywords: hives, allergy, allergic reaction, anaphylaxis, anaphylactoid reaction, angioedema, circumscribed areas of erythema, hereditary angioedema, acute immunoglobulin E-mediated hypersensitivity, pruritus, itching, rash, rhinorrhea, sore throat, dermatographism, SLE, pharyngitis, GI infections, genitourinary infections, respiratory infections, fungal infections, dermatophytosis, malaria, amebiasis, hepatitis, mononucleosis, coxsackievirus, mycoplasmal infections, scabies, parasitic infections, ascariasis, schistosomiasis, strongyloidiasis, trichinosis, food allergies, penicillins, sulfonamides, salicylates, NSAIDS, codeine, pollens, chemicals, danders, dust, mold, latex, pruritic urticarial papules and plaques of pregnancy, PUPPP, cholinergic urticaria, hyperthyroidism, rheumatoid arthritis, polymyositis, amyloidosis, polycythemia vera, carcinoma, lymphoma, cold urticaria, cryoglobulinemia, cryofibrinogenemia, syphilis, connective tissue disorder, urticaria pigmentosa, Darier sign, solar urticaria, aquagenic urticaria' (Scott & Crawford, 2006)

Anaphylaxis

- 'Synonyms and related keywords: allergy, allergic reaction, anaphylactoid reaction, urticaria, angioedema hypersensitivity, hypotension, bronchospasm, pruritus, dizziness, myocardial ischemia, wheezing, [...] Background: Anaphylaxis refers to a severe allergic reaction in which prominent dermal and systemic signs and symptoms manifest. The full-blown syndrome includes urticaria (hives) and/or

angioedema with hypotension and bronchospasm. The classic form, described in 1902, involves prior sensitization to an allergen with later re-exposure, producing symptoms via an immunologic mechanism. An anaphylactoid reaction produces a very similar clinical syndrome but is not immune-mediated. Treatment for both conditions is similar, and this article uses the term anaphylaxis to refer to both conditions unless otherwise specified. Pathophysiology: Rapid onset of increased secretion from mucous membranes, increased bronchial smooth muscle tone, decreased vascular smooth muscle tone, and increased capillary permeability occur after exposure to an inciting substance. These effects are produced by the release of mediators, which include histamine, leukotriene C4, prostaglandin D2, and tryptase.' (Krause 2005)

A candidate for nexial-topologic topographic modelling: bronchial asthma

- 'The ancients considered asthma a guarantee of long life, certainly! But in France nearly 2 000 asthmatic die each year because of their disease.' (Godard et al. 1998) [Les anciens qualifiaient l'asthme de brevet de longue vie, certes! Mais en France près de 2 000 asthmatiques meurent chaque année du fait de leur maladie.]
- 'The geometry and dimensions of branched structures such as blood vessels or airways are important factors in determining the efficiency of physiological processes. We present a study of the compatibility between physical optimisation and physiological robustness in the design of the human bronchial tree... Our results suggest that bronchial malfunction related to asthma is a necessary consequence of the optimised efficiency of the tree structure.' (Mauroy et al. 2004)
- 'Asthma, a chronic inflammatory disease of the airways involves activation of various cell types and development of various degrees of post inflammatory healing and repair processes which remodel the airways. The short duration of the severe episodes is clearly related to the degree of inflammation but the natural history of the disease itself remains unclear. Treatment must take into account the fact that clinical expression varies.' (Bousquet, et. al. 1996)
- 'Curiously enough, a kind of curse combined with therapeutic fatalism still hovers over bronchial asthma[...] In the past, this condition may not have been recognised for what it is, that is to say a multi factorial syndrome resulting from the innate and the acquired, from specific (allergic) and/or non-specific factors. [...] asthma is an inflammatory illness of the bronchi provoked by the liberation of mediators. [...] If bronchial asthma remains under-diagnosed and under-treated in France and in Europe it is due to the fact that the artificial distinction between paroxysmal (bronchitis called "asthmatic"), and persistent (that is to say a so-called asthmatic illness), is often maintained.' (Michel et al. 1986)

Chronic Obstruction Lung Disease

'COPD is the new name for emphysema and chronic bronchitis. Chronic Obstructive Pulmonary Disease is a long-term lung disease' that makes it hard to breathe because:

- the tubes (airways) and air sacs in your lungs lose their shape and stretchiness = turn to fiber
- the walls of the alveoli become thick and swollen, = swell
- cells in the airways are irritated and red make too much sticky mucous. = Red
- the walls between many of the air sacs are destroyed

(Summarised 9-August-2006 from Canadian Lung association 2006)

These topographic elements (tubes, sacs boundaries and walls, thickness), nexial elements (red, sell, sticky), and topologic elements (shape and stretch), make this disease a good candidate for nexial-topologic modeling of ‘deployment’, with asthma and repeated dry cough as its early stages.

Similarities

- ‘Many of the symptoms of CFS are consistent with a host response to pathogenic challenge. We are focussing on proteolytic response, or catabolism, which involves muscles, acting as a protein reservoir, which release amino acids to fight infections and to build new materials when needed. This well documented response is seen in trauma, infection, stress, certain genetic anomalies, acquired disease states and cancers. There are two types of storage reservoirs, the fibrillar reservoir... and the the non-fibrillar reservoir... When the non-fibrillar response is insufficient to meet demands, the fibrillar response is switched on like a backup system... (p.22) [...] In many patients we see the amono-acid 3-methyl-histidine, which is the marker of this fibrillar response... So, using well documented markers of metabolism, we have found that the body is responding to some prolonged, traumatic, perhaps infectious challenge We find in most patients that the leucine level is very low, sometimes undetectable, meaning that catabolism will be sustained. [...] So we can begin to explain some of the digestive problems and some aspects of nutrient deficit in long term patients... Some clinicians use betaine HCl as that might be appropriate to assist in the improved efficiency of absorption of nutrients.’ (Dunstan 2001 p.22-23)

- ‘It is becoming more and more evident that Dr Levine is right when he says that stress, whether chemical, physical, infectious, viral or emotional in origin can deplete our defences to the point that we suffer an increase in inflammatory, infectious and degenerative diseases. There is not one cause for an illness like Chronic Fatigue Syndrome. There are many causes and each individual may have a different range of causes that produce a different range of symptoms... Patients have to learn to ask the right questions.’ (p.15) [...] ‘Anything that affects our nervous system is likely to affect our immune system as well. And it often works the other way around. [...] The brain is, of course part of what we call the “central nervous system” and disturbances of that system can give rise to physical neurological and mental symptoms and illnesses ranging from peripheral body neuropathy...’ (Vayda 199 p.112)

- ‘Euthyroid Sick Syndrome is... not considered to need treatment because there are no symptoms and the tests go back to normal when the stressful illness has passed. Wilson’s Temperature Syndrome causes severe low thyroid symptoms and is undiagnosable with thyroid blood tests. The symptoms can persist for years after a stressful illness and can worsen with subsequent stresses.’ (Willson 2005)

[Note: Wilson’s Syndrome: invisible symptoms, but feel sick; Euthyroid: visible symptoms, but do not feel sick]

	Euthyroid Syndrome:	Wilson’s thyroid Syndrome:
Thyroid blood tests	always abnormal	typically normal
Low thyroid symptoms	no symptoms	severe symptoms

‘Wilson’s Thyroid Syndrome is often reversible... Low body temperatures as well as other signs and symptoms of low thyroid function, which are unexplained by thyroid blood tests, characterize Wilson’s Thyroid Syndrome... Stresscan especially bring on the symptoms....The Treatment ... involves the use of pure T3 powder mixed with a sustained release agent... patients take increasing doses according to the schedule and their signs and symptoms. ... Sometimes more than one cycle of treatment is needed. Comment: re-establishing operational set point for body temperature.A person can be given enough T3 to capture her temperature and reset her system... The principle T3

replacement therapy in order to reset the system well enough for it to begin functioning properly on its own again.' (Dunstan 2001 p.22-23)

- 'In recent years terms such as 'syndrome X', 'cluster diseases', '5H syndrome', 'metabolic syndrome', 'multiple risk factors' and 'diseases of civilization' have made their way into the scientific literature. Many health risk factors and disease states are beginning to be recognized as connected by common characteristics... chronic elevated circulating insulin is common in arteriosclerosis, essential hypertension, non-insulin dependant diabetes mellitus, some forms of obesity, some forms of cancer, cardiovascular disease and some forms of stroke.' (Heller et al. 1996)
- 'So many patients are not diagnosed for years, due to overlooking a few of the simple tell-tale symptoms of a Pituitary Disorder [and tumors]: Headaches, Depression, Mood/Emotion Swings, Anger, Loss of Memory, Loss of Sleep,...' (Pituitary Network Association 2006)

Akathisia and restless leg

- 'Akathisia manifesting as violence [...] and suicide' (Sachdev 1995 p128-129) and with 'subjective manifestations [...] and] objective feature.' (op. cit. p130) 'Neuroleptic-induced dysphoria [...] is marked by] slowing of thinking and movement... paralysis of volition... [without] sleepiness or sedation, severe anxiety' (op. cit. p47) 'In postencephalic parkinsonism... symptoms [are categorized into] paraesthesiae (burning, coldness, tingling and numbness)... and pain (poorly localized painful sensations without thermal or anaesthetic characteristics and not associated with increased muscle contraction or affected by movements or pressure). The pathogenesis of these symptoms is not understood. (op. cit. p51). 'The effect of activating maneuvers [...] The performance of voluntary movements, especially those involving concentrated effort, affects the manifestations of involuntary movements. Movements like tongue protrusion, finger tapping, or walking (1) may bring out movements not otherwise apparent. [...] It is our observation that the movements of AA [acute akathisia] are usually diminished, and may disappear completely, during such activities. [...] The adjective *activating* has been retained to describe these manoeuvres, in the case of akathisia they tend to produce the opposite effect, ie, diminishing or suppressing the movements... during the motor task.' (Sachdev 1995 p 133).

Systemic aspects of chronic ill health: many causes

- '*Brain and Central Nervous System symptoms* include cognitive dysfunction, clumsiness, disequilibrium likened to 'walking on rubber', and word finding abilities. Problems with control of the autonomic nervous system results in palpitations, sweating episodes and symptoms associated with low blood pressure/postural hypotension.' (Myalgic Encephalomyelitis Society of America 2004) [Expressive aphasia is the diagnosis for those having difficulty remembering words, naming objects or expressing ideas.]
- "The cleavage of poly (ADP-ribose) polymerase (PARP) is an essential link in the apoptotic pathway in animal cells, plant cells however, results suggest that apoptosis in plants and animals may share common mechanisms.' (Tian, et al. 2000)
- '[...] oxidation of glucose requires less oxygen per mol of ATP generated, and thus is preferable to fat oxidation when oxygen availability is limiting... chronic use of these drugs [new anti-anginal drugs] can be expected to increase body fat stores until the original rate of fat oxidation is restored by mass action,... exacerbating the manifold adverse effects of insulin resistance syndrome...[With] a very low fat quasi vegan diet (i.e., 10% fat calories)... a reduction in diurnal insulin secretion might also be achieved, which would be expected to decrease sympathetic activity.' (McCarty 2004 p.62)
- 'For more than 2000 years philosophers, scholars and physicians attempted to discover the bodily cause of hypochondria... Modern investigators have attempted to understand the older theories but have been confused because there have been changes in language and word usage, and when current translations are made, the ideas do not seem to make sense, consequently most of human history's knowledge, experience, evidence and ideas on this subject have been lost.' (Bansfield 1996)

- 'In civilized communities, better sheltered, less exposed, and with the aid of the ablest professional skill, the sanitary conditions of mankind, with its variety, its complications, and fatality of diseases – its aches and pains, and mental and physical deformities presents lamentable and mournful list, which plainly indicates the existence of some extraordinary latent cause, not yet as sufficiently appreciated, and which it is the sole object of this little work to expose.' (Catlin 1870 p.1)

[...] 'I have also extended my visits and my inquiries into the tribes in the same latitudes, living in their primitive State, and practising their native modes, I offer myself as a living witness, that whilst in that condition, the Native Races in North and South America are a healthier people, and less subject to premature mortality (save from the accidents of War and the Chase, and also from Small-pox and other pestilential diseases introduced amongst them, than any Civilized Race in existence [in 1870]. (op. cit. p.2)

'But when we turn to civilized life with all its comforts, its luxuries, its science, and its medical Skill, our pity is enlisted for the tender germs of humanity, brought forth and caressed in smothered atmospheres which they can only breathe with their mouths wide open, and nurtured with too much thoughtlessness to prevent their contracting a habit which is to shorten their days with a croup in infancy or to turn their brains into Idiocy or Lunacy and their spines to curvature—or in manhood their sleep to fatigue and the nightmare, and their lungs to premature decay.' (op. cit. p.5)

[...] 'This cause I believe to be the simple neglect to secure the vital and intended advantages to be derived from quiet and natural sleep.' (op. cit. p.4)

'Besides the list of fatal diseases already given, and which I attribute chiefly to the pernicious habit which I have explained, sleeping with the mouth open, there are other results affecting the senses, personal appearance, and the enjoyments of life, which though not fatal, are themselves of sufficient importance to demand its correction; such as Curvature of the Spine, Idiocy, Deafness, Nightmare, Polypus in the nose, Malformation and premature decay of the teeth, Toothache, Tic-douloureux, Rheumatism, Gout and many others.' (op. cit. p.9)

- 'The "dry mouth" is the very last sign of dehydration. The body can suffer from dehydration even when the mouth may be fairly moist. Still worse, in the elderly, the mouth can be seen to be obviously dry and yet thirst may not be acknowledged and satisfied.' (Batmanghelidj 1997 p. 18)

'Products manufactured in the brain cells are transported on "waterways" to their destination in the nerve endings.' (op. cit. p.19)

'The histamine directed and operated neurotransmitter system becomes active and initiates the subordinate systems that promote water intake. These subordinate systems also redistribute the amount of water in circulation or that can be drawn away from other areas. Subordinate systems employ vasopressin, renin-angiotensin, prostaglandins and kinins and the intermediary agents.' (op. cit. p.19) (see also histamine as an integrator of the perceptual body schema)

- 'It has long been recognized that the performance of voluntary movements especially those involving concentrated effort, affects the manifestation of involuntary movements. An examination of dyskinetic movements in TD is instructive. Movements like tongue protrusion, finger tapping or walking may bring out movements not otherwise apparent. The movements of AA are usually diminished, and may disappear completely during such activities. While the adjective *activating* has been retained to describe these manoeuvres, in the case of akathisia they tend to produce the opposite effect ie diminishing or suppressing the movements a reduction of akathistic movements during a motor task.' (Sachdev 1995 p.133).

- 'Thus, the human body cannot intelligently be regarded as embodying an homunculus residing in the tower of the cranium, impervious to the physiological matriculations of the "baser" body.' (Shane & Cooper 2005)

- 'food affects mental well being and behaviour' (Van de Courtney 2005)

Physical names: key words for a 'meta-condition', 'super-syndrome' of instability

Here is a list of names gathered from the literature, for syndromes that have many similarities and overlaps.

Metabolic syndrome, syndrome X, cluster diseases, fibromyalgia, myalgia encephalitis, chronic fatigue immuno-dysfunction syndrome, allergies, hypersensitivity syndrome, irritable bowel syndrome, multiple chemical sensitivity, idopathic environmental intolerance, candida syndrome, burnout syndrome, sick building syndrome, repetitive injury syndrome, carpal tunnel, functional syndromes, subclinical nutritional deficiency syndromes, 'hidden hunger', silent illness, stress syndromes, inflammatory syndromes, adaptation diseases [General Adaptation Syndrome (Selye 1956) , Specific Adaptation Syndrome (Randolph 1956)], diseases of civilisation, diabetes type 1, hypoglycemia, pain syndromes, side effects of implants (or of drugs or surgery), behavioural syndromes, Wilson cold syndrome, chronic multisymptom illness, 20th century syndrome, autonomic dystonia.

These names are reformulations of other names that have appeared since the medieval period: female depletion, exhaustion, consumption, or wasting, or green disease, chlorosis, diseases of virgins, etc. (see Furth 1999 and King 2004 in particular), and conditions related to coughing (see Despeux & Obringer 1997). More recently, in the modern period, these conditions took on more specific names, related to the namer's perspective (eg interest in nerves, behaviour, immune system, pain, female physical nature, etc.): asthenia, myasthenia, neurasthenia, melancholia, bipolar disorder, cylothymia, hypothymic, hypochondriasis, hysteria, menstruation disorders, menopause, andropause, ageing, Kundalini syndrome.

- ' OBJECTIVES: The aim of this study was to evaluate the effects of exercise training and body-awareness training in female patients with Syndrome X. BACKGROUND: Patients with Syndrome X, defined as effort-induced angina pectoris, a positive exercise test and a normal coronary angiogram, suffer from a chronic pain disorder. We hypothesized that this disorder results in physical deconditioning with decreased exertional pain threshold. [...] RESULTS: Body-awareness training did not change the pain response. [...] Thus the pain-response-to-exercise curve was shifted to the right. [...] CONCLUSIONS: Physical deconditioning with lower exertional threshold for pain is a prominent feature in Syndrome X. [...] We suggest physical training as an effective treatment in Syndrome X.' (Eriksson et al. 2000)

- 'The disease of adaptation deals with maladies [...] which we consider to result largely from *failures in the stress-fighting mechanism.*'; (Selye 1976 p. xviii – my italics)

Confusing syndromes – clinical and sub-clinical –, 'silent'

Definitions of 'subclinical' (summary from various sources):

'without clinical manifestations; said of the early stage(s) of an infection or other disease or abnormality before symptoms and signs become apparent or detectable by clinical

examination or laboratory tests, or of a very mild form of an infection or other disease or abnormality'; 'relating to the stage in the development of a disease before the symptoms are observed'; 'of an infection: one that produces no material pathological changes or that produces minor pathological changes'; 'pertaining to a disease, in which manifestations are so slight as to be unnoticeable'.

- 'Scurvy is a disease caused by vitamin C deficiency. It is characterized by poor wound healing, soft and spongy bleeding gums, edema, extreme weakness, and "pinpoint" haemorrhages under the skin.... More common are signs of lesser degrees of deficiency, including gums that bleed when brushed; increased susceptibility to infection especially colds and bronchial infections; joint pains, lack of energy; poor digestion; prolonged healing time; a tendency to bruise easily; and tooth loss.' (Balch p.18)
- 'Vitamin D: The Photolytic Reaction – Vitamin D should be reclassified as a hormone since it is only under conditions of inadequate exposure to sunlight that dietary intake is required. Vitamin D is in fact a group of closely related sterols produced by the action of ultraviolet light on certain provitamins, ergosterol in plants and 7-dehydrocholesterol in animals. The latter is synthesized in the liver and is found in the skin. The products of the photolytic reaction are ergocalciferol (vitamin D₂) and cholecalciferol (vitamin D₃) respectively...both being further metabolized, converted to a series of hydroxylated derivatives ...in the liver and in the kidney, producing the active compound...Vitamin D [...] it is transported to the liver in chylomicrons. [...] The main site for further hydroxylation at the 1-position is the renal tubules, and although bone and the placenta can also carry out this reaction ...the most potent of the vitamin D metabolites and the only naturally occurring form of vitamin D that is active at physiologic concentrations..can maintain normal serum Ca in animals that do not have kidneys or parathyroid glands.' (Baynes & Dominiczak 1999 p.112)
- 'Subclinical pellagra, the hidden disease caused by a deficiency of niacin (vitamin B-3), produces symptoms similar to those of hypoglycaemia (low blood sugar).' (Pfeiffer 1975 p.411)
- "Wastebasket diagnoses" abound in medicine and psychology. [...] Biological science is at best only a progress report, so the "wastebasket" of today may be the goldmine of tomorrow. [...] The pediatrician has a simple label for some cases, namely "failure to thrive". This "without prejudice" labelling highlights the fact that it is the doctors job to find out why the patient doesn't thrive.' (Pfeiffer 1975 pp. xvii-xviii)

'The etiology of malnutrition may be divided into two categories, primary and secondary. [...] Secondary malnutrition is due to factors interfering with the ingestion, absorption, or utilization of essential nutrients, or to stress factors that increase their requirement, destruction, or secretion.' (op.cit. p.4)

'The schizophrénia have retained the unfortunate status of "wastebasket" or hopeless cases. [...] many syndromes which "mimic" schizophrénia exactly.. (op.cit. p.396).

[...] 'Eight syndromes are chemically-induced metabolic disorders, which suggested the strong possibility that the "true" schizophrénias left in the "wastebasket" might also be due to biochemical abnormalities. ...in 1996 Pfeiffer and Liev ...showed the possible role of histamine, an amine found in all organic matter and, most notably in the brain. [...] they established two major categories of schizophrénia, low histamine and high histamine' (op.cit. p.397)

'[...] Lysosomes, small organelles inside the cells, are concerned with cellular digestion, protein turnover, tissue remodelling, and autolysis of dead cells. They may take part in the cellular aging process by causing damage to the cell, by damaging extracellular structures through enzyme activity, or by an inability to perform their digestive function. ' (op.cit. p.446)
- 'Health is not the absence of illness in Jean Lebel's perspective.' (Lebel 2003, foreword, p.viii).
'Instead of targeting the small fraction of the population that is severely affected by a given illness – and achieving a very relative success rate – the aim is to attack the root cause of health problems and

thereby protect a larger number of people from illness – Figure 5: The health pyramid: [increasing number of cases – illness: the tip of the iceberg; Subclinical cases: long-term effects; State of well-being.] (Lebel 2003 p.42)

- 'There is increasing evidence that the development of atherosclerosis is associated with inflammation, and increased levels of inflammatory markers have been documented in various settings of coronary artery disease. Patients with chronic and stable artery disease have clear evidence of a low-grade inflammation, which is independent of traditional cardiovascular risk factors. More recently, intriguing observations have shown that there is a particular bio-chemical pattern of inflammatory system activation (an increased production of inflammatory cytokines) that explains the lack of anginal symptoms in patients with myocardial ischemia.' (Li Jian-Jun, 2003 p.252-256)
- 'One Differential diagnosis for Hypochondriasis is undifferentiated somatoform disorder. This is characterized by the presence of one or more clinically significant, medically unexplained somatic symptom or symptoms lasting for 6 months or longer. Proposed alternative terms for this disorder include subsyndromal, forme fruste, or abridged somatization disorder. Some patients meet the criteria for somatization disorder upon follow-up evaluation.' (Hilty & Marks 2005)

Hidden Hunger (learning from plants)

Auto-Cannibalisation:

Nutrient deficiency relates to advanced nutrient lack or deficiency of macro-nutrients.

Nutrient stress relates to early nutrient lack, before visible symptoms appear.

- 'Hidden hunger' in plants relates to micro-nutrients whose absorption is connected to water. In humans, the term 'hidden hunger' has undergone a semantic drift and is used to describe nutrient deficiency of macro-nutrients (zinc, iron, iodine, vitamin A...), that results in malnourishment symptoms (anemia, retarded growth and cognitive difficulties), a less obvious condition than the outright malnutrition described in the seventies that killed people more quickly. Nutrient deficiency is considered a root of 'cluster illnesses' (syndrome X, metabolic syndrome, inflammation syndrome, insulin resistance). (summary from various internet sources)
- 'In extreme cases the imbalance can set off a chain of events resulting in the plant feeding off the nutrient reserves in its own cell walls to ensure kernel development... The cannibalization weakens the plant, inviting disease.' (Huber 2004)
- 'In plants, there exists a period of nutrient stress before visible symptoms appear that is commonly referred to as "hidden hunger". 'Nutrient stress' in plants, leads to alteration of gene expression and, if allowed to progress to 'nutrient deficiency', to fungal diseases.. Visually obvious symptoms of nutrient deficiency occur after it is too late to remedy the situation.. Nutrient stress can be 'immunodetected' .' (Gray 2004) [relates to cytokins]
- 'A rising tide of carbon dioxide could spark an epidemic of malnutrition in a world overflowing with food. [...] We've known for some time that the amount of available CO₂ is what puts the brakes on photosynthesis. Raise CO₂ levels, and you increase photosynthesis, and hence plant growth can run riot.' (Lawton 2002 p..26)
- 'Nutrient balance is a very important aspect of nutrient availability as combinations of nutrients can synergize and/or antagonize uptake of another nutrients both minor and major (Diagram 1). The addition of a particular nutrient may have a positive or negative effect on the availability of another nutrient.' (TJ Technologies 2004)
- '[...] the clinical findings of progressive dehydration and emaciation. The gastrointestinal tract was empty and gastric ulcers and melaena were frequently present. Other common findings included small livers, enlarged adrenals and pitted kidneys.' (Clausen et al. 1992)

... 'nature and origin of vacuoles in kidneys and liver unknown' ... possibly 'autophagy, amino-acid catabolism and gluconeogenesis'... development of a state of chronic nutritional exhaustion... age and *initial* weight loss significant factors

'strongly support the hypothesis of a close relationship between the increased nutritional demand for continued milk production at a high level and the development of clinical signs of the disease.' ... '... related to an unknown complex of nutritional, metabolic and environmental factors, which in turn, may influence the ability and capacity to meet the extreme demands for energy turnover...' (op.cit. p.94)

- 'Cachexia...involves catabolic substances generated by the tumor or by the body's reaction to it. For example, inflammatory mediators such as cytokines. (eg interleukins and tumor necrosis factor) and a recently identified substance produced by cancer tissue known as proteolysis-inducing factor. [...] clinicians treating cachexia must measure not just weight, but also muscle mass. They [trials] also remind us how difficult it can be to get patients to consume enough supplement. [...] cancer cachexia is characterised by higher rate of protein turnover and breakdown, in part due to failure of fat utilisation to adequately 'spare protein' in energy metabolism.' (Helman 2003 no171 p.3)

Names for signs of 'in-dying' (distress)

A number of signs appear when reaching the extremes necessary to entrain the survival mode and correspond to 'signs of death' (announcing death in a grave disease) or 'signs of dying' (seen during the process of dying). In low-grade conditions, signs appear when establishing the alert-adapted mode, which are similar in nature although not in order of intensity (lesser and undiagnosable degree). They are signs of stress-hard work (chronic), or of strain-distress (acute), of 'in-dying', such as difficulty swallowing, kidney and water metabolism problems, loss of appetite, dry mouth, swollen sphenoid sinuses (in older people, children, women), swollen throat, visual blurring, need for supplementary oxygen, etc.. In my case, they signal the sense of 'extremity' (approaching boundary – see <Nexial topologic deployment> chapter), and the sensation of psycho-physical 'in-dying' that I associate with the activation necessary to reach and establish the chronic alert-adapted state, as well as with the exhausted state ('hyper-' and 'hypo-' both feel like 'in-dying': survival activation, or loss of integrity, physical and otherwise, under [dis-]stress. Some signs are found described in traditional literatures of the yogic type, and as part of the 'normal' state in Western medicine (eg alternate nostril breathing, studied by scientists in the latter 20th century, but less now, it seems), or only found in archaic literature relating to women – if it is interpreted physically – (eg rib pain on right side – see <Extracts F17\ Anatomy notes>, red spot on forehead – see <Extracts F11\ Red>). The established state only lasts for a time: it is never quite permanent, but may last for weeks or months, and can even be *apparently*

maintained for years if there is chronic drug or food-based activation, which is the case of most people (eg coffee, contraceptive pill). [The word ‘apparently’ means that stability is apparent, but there is an increase in invisible damage that is usually attributed to ageing.]

Internal signs of ‘in-dying’, of tissue instability, are variously attributed depending on the object or subject: (metabolic, physiologic, molecular, cellular, etc., or personal):

Names for tissue instability, for ‘in-dying’

Depending on the body parts affected, the damage and wasting inflicted by instability takes many names (gathered from literature and daily colloquial expression):

- proteinuria (protein breakdown), proteolysis, autolysis of dead cells, proteolytic response, negative nitrogen balance, catabolism, catabolism of non-fibrillar and fibrillar reservoirs, cachexia, apoptosis, auto-cannibalisation, autophagy; ‘hidden hunger’, nutrient deficiency or lack, nutrient stress, nutrient imbalance, cortisol damage and their related causal or resulting lack of oxygen: hypoxia, ischemia; fibrotic changes, tissue remodelling, scarring, fibrillar response; ‘damage’, wasting, ‘consumption’, emaciation, ‘cold disorder’, ‘bone steaming’, ‘signs of dying’ or ‘early signs of death’, auto-immune disease, failure to thrive, disease of maladaptation, sickness behaviour; “surviving on my reserves”, “exhausted body resources”, “eating myself up from inside” [usually labelled ‘anxiety’], “eating my body substance to fuel (activity, brain), to cope”, “melting away”, “I am preparing a real [or big] disease”.
- ‘Chronic fatigue syndrome is controversial not only with respect to its possible causes but even concerning whether it is a disease. Even the name is controversial. In the past, the disorder has been given such names as *chronic Epstein-Barr virus syndrome* and *post-viral fatigue syndrome*; in Great Britain and elsewhere, it is called *myalgic encephalomyelitis*; and some researchers and patients prefer the name *chronic fatigue/immune dysfunction syndrome (CFIDS)*. Even more than the other cases I have discussed, chronic fatigue syndrome illustrates the vicissitudes of causal reasoning in medicine. [...] this multiplicity of symptoms causes great problems in diagnosing the disorder. Bell (1995, pp. 17f) draws an analogy with AIDS. The parallels in history of the recognition of AIDS as a specific disease and the recognition of CFIDS are remarkable. For years physician and health care administrators said that no illness could explain fatigue, weight loss, lymph node cancer, unusual parasitic pneumonia, and the purple spots of Kaposi’s sarcoma. Because patients with AIDS were dying, it was finally and somewhat reluctantly agreed that this constellation of unusual symptoms and events was not psychosomatic. And with the discovery of the HIV virus, a theory could be put forward that explained these findings. No similar theory has emerged to provide a unified account of why people get chronic fatigue syndrome.’ (Thagard 1999 p.127)

Salmon (learning from animals)

- ‘Total cortisol, free cortisol and percent free cortisol were all significantly higher in semelparous male Chinook salmon *Oncorhynchus tshawytscha* than in iteroparous and immature fish. The findings suggest that the regulation of both total and free cortisol concentrations may play key roles in mediating the post-spawning death of semelparous salmon. It is generally accepted that highly elevated cortisol levels mediate the post-spawning death of semelparous *Oncorhynchus tshawytscha* salmon by causing tissue degeneration suppressing the immune system, and impairing various homeostatic mechanisms (Dickhoff, 1989; Stein-Behrens & Sapolsky, 1992). However, hypercortisolism alone may not fully explain the mechanism of programmed death because total serum cortisol levels can be elevated in semelparous fishes at other life cycle stages without causing

significant mortality...that there is not necessarily a large evolutionary jump between semelparity and iteroparity. Indeed, the present results suggest that modifications in only a few key physiological thresholds, such as the regulation of cortisol negative feedback or cortisol binding protein levels, may be all that is necessary for iteroparity to appear in an otherwise semelparous population, and vice versa. The cause of such a shift, and its evolutionary significance are unknown, but somehow may be linked to the anadromous life cycle.' (Barry, Unwin & Quinn 2001)

'Anadromy is generally associated with high growth rate, early age maturation and lower probability of repeat spawning. These life history traits vary within the family, ranging from fully freshwater, iteroparous, long-lived species such as lake trout (*Salvelinus namaycush*) to invariably semelparous, short-lived anadromous species such as pink salmon.' (Unwin, Kinnison & Quinn 1999)

- *An email exchange:*

Bouchon: 'Do you know if anyone if anybody has tried modelling the salmon physio-biochemistry or ecological trends by using topology? '

Unwin: 'I don't know but I suspect the answer is almost certainly no. Anything topological in the salmon ecology literature would have caught my eye.' (Martin Unwin 31 January 2004, personal communication).

Part 3: The H-clinical viewpoint

'Not well understood', unclear, unexplained

- 'Optimal nutrition increases the ability to combat other influences. Our exploration of "hidden" stresses that have attracted very little attention points up how much is yet unknown about the many sources of emotional distress.' (Cheraskin & Ringsdorf p.132)

'Just as nutrition has generally been overlooked for many years as a factor in mental stability, so has exercise.' (Cheraskin & Ringsdorf p.140)

- 'Chronic fatigue syndromes (CFS) present a very difficult dilemma for both sufferers and health professionals. Particularly important is the notion of not blaming the victim....Pyrogens are substances from outside the body (exogenous) or from inside the body (endogenous) which generate fever. These are largely gram negative bacteria (endotoxins) and can result in mediator cytokine release ... monocytes and macrophages, fibroblasts and glial cells....Fever can make it easier for the body to deal with microorganisms by impairing microorganism growth. There is, however, an energy loss to the host as a 1°C temperature increase, increases oxygen requirement by 13%, as well as increasing catabolism and caloric and fluid requirements.' (Graham 2001)

- 'Chronic fatigue syndrome (CFS) is an illness...often accompanied by numerous symptoms involving various body systems. The etiology of CFS remains unclear, however, a number of recent studies have shown oxidative stress may be involved in its pathogenesis [...] Food intolerance may be involved in CFS symptom presentation and ...[oxidation via cytokine induction].' (Logan & Wong 2001)

Syndrome Names

- 'The condition I have is called RNase Enzyme Deficiency Disease (I love the acronym: REDD). It is thought to be either fully or partially responsible for a host of illnesses, including multiple sclerosis, myalgic encephalomyelitis, ALS, inflammatory rheumatoid arthritis, Gulf War Syndrome, fibromyalgia, to name a few. [...] Although the condition is often still called CFIDS... [...] RNase is an enzyme produced by the human body when it is attacked by viruses or bacteria. As the name implies, RNase denatures messenger RNA wherever it find its. as it comes in contact with the invading virus or bacteria, it destroys its RNA and thus kills the invader. This is a very quick-acting defense mechanism,

unlike the slower production of T cells, B cells, etc. [...] In REDD, the mechanism that produces RNase is damaged, [...] the body begins producing a shortened but highly active form of RNase [that] has no turn-off mechanism... which then proceeds to attack the RNA in literally every cell in the body. [...] It is considered a definitive test and a definite clinical entity. [...] If brain tissue, the result is myalgic encephalomyelitis, functionally indistinguishable from MS.... [...] The third phase begins when the cumulative damage to various tissue systems starts to take a toll.[...] The basic symptom is "hypoxia," or lack of oxygen in the cells (due to damaged mitochondria), so you feel like you are suffocating most of the time, and you're often bedridden around the clock (literally). Also fortunately for me, this means mega meditation. it also means depression, sadness, and pain, not so much for the pain in this body, but the pain of what this body can't do. [...] (Interestingly, REDD damages the aerobic system, and not so much the anaerobic system—which is why, although I didn't know it at the time, I stopped jogging and starting weight lifting.) [...] Fortunately, I had cultivated a lifestyle that never required a body. [...] Much of the time I am fortunate, and there is radiant sahad, with a painful body spontaneously arising in an ocean of blissful emptiness. At other times, there is just the painful body. In all cases, my I is free and radiant, but my me is fucked, [...] Much of this information... has only been discovered in the last 5 years or so, which is why I previously didn't talk about it per se— I didn't know "it" was an it. [...] As for what specifically triggers the damaged RNase, nobody knows, although environmental toxins are a leading factor.' (Wilber 2002)

- 'I have included all the many names that I have found for the syndrome first named neurasthenia in April 1869, up to the most recent proposal of Chronic Neuroendocrineimmune Dysfunction Syndrome. The dates refer to the year of the earliest (and often only one) published paper I could find that defines the disease.' Among these over one hundred names are: Fibrositis, Heat, Cold and Effort Sensitiveness, Specific Adaptation Syndrome, 20th century syndrome, many names for neurasthenias, myalgias, fatigues, dysautonomias, syndromes related to encephalomyelitis, allergy, battle, related to hypochondriasis, neuroses and mental illness, Idiopathic Hypoguesia., and Chronic Habitual Hyperventilation Syndrome.' (Donnay 2002)

- 'When one hears about another person's physical pain, the events happening within the interior of that person's body may seem to have the remote character of some deep subterranean fact, belonging to an invisible geography... Laden with consequence yet evaporating before the mind because not available to sensory confirmation, unseeable classes of objects such as... the pains occurring in other people's bodies flicker before the mind, then disappear.' (Scarry 1985 p.2-3)

'This book is about the way other persons become visible to us, or cease to be visible to us. It is about the way we make ourselves... available to one another through verbal and material artifacts,...' (op. cit. p.22-23)

Names that denote many perspectives of understanding

Following, is a list of words collected from the literature, that are qualificatives given to various clusters of symptoms of the syndromes of instability:

- *unexplained*: 'unexplained by physical causes', 'causes not well understood', 'etiology unclear', 'cause unknown', 'unexplained physical symptoms', somatoform disorder not otherwise specified (NOS)

- *non-localised or generalised*: 'causing vague and diffuse symptoms', 'non-specific symptoms', 'undifferentiated somatoform disorder', 'syndrome X', 'systemic symptoms', 'clustered symptoms' (classified, for example as neurological, endocrine, immune symptoms, or anatomically – eg fibromyagia),

- *N2d-N3p names*: Specific Adaptation Syndrome (Randolph 1956) (disorder in specific adaptive reactions), side-effects of drugs, surgery, and breast implants, General Adaptation

Syndrome (Selye ©1956, revised ed. 1976) (a general 'damage syndrome' or 'strain'), often interpreted internally as 'caused by' stress and externally, behaviourally as 'maladaptation to' stress.

- *unfounded 'sickness behaviour'*: 'illness without signs', 'hypochondriac', 'hysteric', 'it's all in your mind', 'it's all in your head', 'paying too much attention to symptoms'
 - *'normal' damage*: 'It's' ageing, menopause, female weakness, side effects of menstruation, 'children grow out of it'
 - *instability*: [in-out] sensitivity, allergy and other immune reactions, maladaptation
 - *cyclic, repetitive or bimodal*: cyclothymia, repetitive injury syndrome, depression and anxiety, fatigue and stress, melancholia and hysteria, bipolar disorder (mania and depression),
 - *Hidden*: subclinical nutritional deficiency, silent illness, silent hypoxia or ischemia, 'hidden hunger,
 - *failure of vertical control*: attributed to inflamed brain or disturbed mind, psycho-social maladaptation or stress, hypothyroidism, dysthymia, neurally mediated hypotension, personality disorders
 - *names inspired by 'cryptic core culture'*: *Heat, Cold and Effort Sensitiveness*, hypochondriasis, Wilson cold syndrome,
 - *operational names*: metabolic syndrome, functional somatic syndromes (Barsky & Borus 1999), functional syndromes, stress syndromes, burnout syndrome, hypoglycemia, diabetes type 1, insulin resistance, conversion reaction, pain disorder, cluster diseases (occurring in location clusters, population clusters, or in a family 'by mimicry'), irritable bowel syndrome, Kundalini syndrome (Sanella 1979 and 1987, Grof & Grof - obtained 1997)
 - *connective names*: conversion disorder, somatoform disorders (Wiesmüller et al. 2003), somatisation, psycho-somatic, body dysmorphic disorder, personality disorder
- spreading names: candidiasis (candida syndrome)

Names and synonyms

- 'As with all psychiatric disorders, the somatoform disorders demand creative, intricate biopsychosocial treatment [...] Hypochondriasis and the other somatoform disorders are among the most difficult and most complex psychiatric disorders to treat in the medical setting. Because of many new developments in this field, diagnostic criteria have been revised to facilitate clinical care and research, and more empirical research is being performed. [...] Some degree of preoccupation with disease apparently is common; 10-20% of people who are healthy and 45% of people without a major psychiatric disorder have intermittent, unfounded worries about illness (Kellner, JAMA, 1987). [...] Hypochondriasis is usually episodic [...] Hypochondriasis is classified as one of the somatoform disorders, a class that was formulated to accommodate the differential diagnosis of disorders characterized primarily by physical symptoms for which no demonstrable organic cause can be found. [...]

Synonyms and related keywords:

somatoform disorders, neurasthenia, chronic fatigue syndrome, CFS, hypochondriacs, hypochondriacal behavior, hypochondriacal episodes, hypochondriacal disorder, neurochemical deficits, depressive disorders, anxiety disorders, obsessive-compulsive disorder, OCD, obsessive compulsive disorder, anorexia nervosa, body dysmorphic disorder, BDD, Tourette disorder, Tourette syndrome, Tourette's syndrome, impulsivity disorders, trichotillomania, selective serotonin reuptake inhibitors, SSRIs, malingering.' (Hilty & Marks 2005)

- 'This paper will discuss the concepts of neurasthenia and somatisation and how these other psychiatric terms have infiltrated the psychiatric literature on CFS....."a disease of the nervous system, without organic lesion, which may attack any or all parts of the system, and characterised by enfeeblement of the nervous force, which may have all degrees of severity, from slight loosening of these forces down to profound and general prostration.' (Phillips 2003)

- 'Conversion disorder is included as a somatoform disorder under the general classification of hysterias in the (*DSM-IV*). Although defined as a condition that presents as an alteration or loss of a physical function suggestive of a physical disorder, conversion disorder is more precisely understood as the expression of an underlying psychological conflict or need. The presence of the psychological factor usually is not apparent at onset but becomes evident in the history when a cause-effect relationship between an environmental event or stressor and the onset of the symptom is discovered. [...] The symptoms are... the result of unintentional motives . [not driven by brain-mind-self] This condition is not considered under voluntary control and, after appropriate medical evaluation, cannot be explained by any physical disorder or known pathological mechanism. Clinical descriptions of conversion disorder date to almost 4000 years ago; the Egyptians attributed symptoms to a "wandering uterus." In the 19th century, Paul Briquet described the disorder as a dysfunction of the CNS. Freud first used the term conversion to refer to the substitution of a somatic symptom for a repressed idea. [...] *Pathophysiology*: Reactions usually are characterized by symptoms that suggest lesions in the motor or sensory pathways of the voluntary nervous system. [...] Symptoms more often affect the left side of the body. [...] With newer diagnostic testing, instances of false-positive diagnoses of conversion disorder in which a neurological disease is later identified are now rare.' (Powsner & Dufel 2005)

'Synonyms and related keywords:

somatization, body dysmorphic disorder, conversion disorder, hypochondriasis, somatization disorder, somatoform disorder NOS, somatoform disorder not otherwise specified, unexplained physical symptoms. [...] 'Other Problems to be Considered: Somatoform disorders must be differentiated from medical illnesses as well as from other psychiatric conditions; consider medical conditions that cause vague and diffuse symptoms. Also, consider somatization as part of a mood or anxiety disorder. [...] Somatoform disorders represent a psychiatric condition because the physical symptoms present in the disorder cannot be fully explained by a medical disorder, substance use, or another mental disorder. ... Often, the medical symptoms patients experience may be from both medical and a psychiatric illnesses. Anxiety disorders and mood disorders commonly produce physical symptoms. [...] Specific somatoform disorders include (1) somatization disorder, (2) conversion disorder, (3) pain disorder, (4) hypochondriasis, and (5) body dysmorphic disorder. Somatization disorder is a relatively rare disorder that is associated with high medical resource utilization. More common somatization syndromes may not reach the diagnostic threshold for somatization disorder but may be clinically and functionally significant. [...] Autonomic arousal may be high in some patients with somatization.' (Yates 2005)

- 'The Kundalini process can also simulate a variety of medical disorders. It can be diagnosed as Jacksonian epilepsy, a lower back problem, incipient multiple sclerosis, a heart attack, or a pelvic inflammatory syndrome.' (Grof & Grof, obtained 1997 – see also Sanella 1979 & 1987)

Explanations: old and new (many modern theories)

A number of syndromes are ‘not explained physically’, and are associated with women and children more than men. Their old names (eg hypochondriasis, hysteria, neurasthenia), have become more sophisticated names such as somatoform disorder, somatization, conversion reaction, body dysmorphic disorder, (adding, for children:) undifferentiated somatoform disorder, pain disorder, and other conditions that ‘cause vague and diffuse symptoms’, ‘somatoform disorder not otherwise specified NOS’. The lack of visible ‘physical cause’ has given rise to various perspective-based explanations.

- ‘A cognitive model of hypochondriasis suggests that patients misinterpret bodily symptoms by augmenting and amplifying their somatic sensations. Patients also appear to have lower-than-usual thresholds for, and tolerance of, physical discomfort. For example, what most people normally perceive as abdominal pressure, patients with hypochondriasis experience as abdominal pain. When they do sustain an injury (eg, ankle sprain), it is experienced with significant anxiety and is taken as confirmation of their worry about being ill. This may be due to a tendency among patients with hypochondriasis to exaggerate their assessment of vulnerability to disease and their appraisal of the risk of serious illness. [...] The social learning theory frames hypochondriasis as a request for admission to the sick role made by a person facing seemingly insurmountable and insolvable problems. This role may allow them to avoid noxious obligations, postpone unwelcome challenges, and be relieved from duties and obligations.[...] The psychodynamic theory implies that aggressive and hostile wishes toward others are transferred via repression and displacement into physical complaints. The hypochondriacal symptoms serve to "undo" guilt felt about the anger and serve as a punishment for being "bad." [...] Neurochemical deficits with hypochondriasis and some other somatoform disorders (eg, BDD) appear similar to those of depressive and anxiety disorders. For example, the aforementioned obsessive-compulsive spectrum described by Hollander et al in 1992 includes OCD, BDD, anorexia nervosa, Tourette syndrome, and impulse control disorders (eg, trichotillomania, pathological gambling). Although only preliminary data have been reported on these neurochemical deficits, such deficits may explain why symptoms overlap, why the disorders are commonly comorbid, and why treatments may parallel one another (eg, SSRIs).’ (Hilty & Marks 2005)
- ‘Conversion disorder: With primary gain, the symptoms allow the patient to express the conflict that has been suppressed unconsciously. [...] With secondary gain, symptoms allow the patient to avoid unpleasant situations or garner support from friends, family, and the medical system that would otherwise be unobtainable. [...] According to sociocultural theories, the direct expression of emotions is impermissible and somatization takes its place. [...] In behavioral models, conversion symptoms are viewed as a learned maladaptive behavior that is reinforced by the environment. The idea that conversion disorder does not have an organic basis has become entrenched. However, some evidence supports the opposite notion.’ (Landau & Carroll 2005)
- ‘Environment-related syndromes like multiple chemical sensitivity, idiopathic environmental intolerance, sick building syndrome, chronic fatigue syndrome, candida syndrome and burnout syndrome, [...] show clinical similarities to classified somatoform disorders. [...] Non-specific subjective symptoms spanning various organ systems are often attributed to “environmental illness”. [...] These syndromes] are typically described as distinct from each other because of an emphasis on one symptom more than others. [...] The many different terms – atypical poliomyelitis, neurasthenia, myalgic neuromyasthenia, epidemic myalgic encephalomyelitis, postviral fatigue syndrome, chronic brucellosis, Icelandic disease, royal free disease, Lake Tahoe disease, yuppie flu, etc. – are evidence of... the hypotheses regarding its etiology... The syndrome is not an illness in the classical sense with a single cause.’ (Wiesmüller et al. 2003)
- ‘It's also very clear that there doesn't exist any clear border's between various diagnosis, nor to normality.’ (The Neanderthal theory of Autism, Asperger & ADHD, 2005)

- 'Recent studies are showing that meditation can result in stable brain patterns and changes over both short and long-term intervals that have not been seen before in human beings and that suggest the potential for the systematic driving of positive neuroplastic changes via such intentional practices cultivated over time. These investigations may offer opportunities for understanding the basic unifying mechanisms of the brain, mind and body that underlie awareness and our capacity for effective adaptation to stressful and uncertain conditions.' (Mind and Life conference 2005)

Destabilisation & restabilisation

- 'All of this led me to question and ponder as to why some people failed to respond to treatment or were returning intermittently with recurrent, or seemingly unrelated, problems.' (Jefferis 2001 p.11)
- 'As professionals in the field of chemical dependency, we realize addiction has little to do with willpower or moral character...research which is now clarifying susceptibility factors leading to dependencies. We have known that abnormal neurochemistries occur as a result of genetic factors [and] also realize that environmental stressors ...result in neurochemical depletions. These altered chemical states actually become the antecedents or factors necessary for a person to receive positive reinforcement through the use of chemicals. For every thought, feeling, and behaviour there exists a neurochemical equivalent in the brain. In other words, for people to become dependant on an externally sourced chemical to produce desired there must first exist, or be developed, a deficiency of a chemical component in the brain. (...) The only factor that was present in all reported relapses was that the client was NOT using amino acid supplements as suggested (...) supplementation with neuronutrients for precursor loading (...) encouraging brain function. (...) Stress is often predecessor to chemical abuse (...) As a sense of survival, or threat thereto, is stabilized it allows the patient to relax somewhat and begin to feel safe. When neurotransmitter availability is increased, the person can begin to 'feel' as the limbic system is spared the sedation or toxic effect of drugs including alcohol. (...) When sufficient dopamine and enkephalin are available the patient begins to sense the feelings we call love. [...] the patient is ...able to balance feelings with thinking and produce assertive behaviour. Building towards effective self-actualization cannot use a short-cut approach. If we demand behavioural change...without allowing rebalancing the brain chemistry we simply set them up for failure. In persons with strong family histories of dependencies...significantly altered their brain chemistry via unmanaged stress it appears necessary to immediately impact the (...) The use of appropriate amino acid/vitamin/mineral combinations which have been carefully developed and tested is the most effective and least threatening method to enhance brain function (...) quotation by Herbert Spencer: [...] There is a principle,...which is proof against all arguments (...) that principle is contempt prior to investigation.' (Neher, Terry, 1993)
- 'The second broad cluster, depletion fatigue, assembled afflictions marked by slow, chronic wasting, where the sufferer grew emaciated and debilitated, accumulating a host of secondary symptoms from pallor, indigestion and shortness of breath to hair loss, hot sensations on palms of hands and soles of feet, and palpitations, while also experiencing destabilized psyche marked by disturbed dreams or insomnia, fits of melancholy or anger.' (Furth 1999 p.79)
- 'The whole game [of nosological classification] consists in defining the rules of constancy and variability.' (Despeux & Obringer 1997 p.77) ['Tout le jeu consiste a definir des regles de constance et de variabilite.']
- 'Stability...means difficulty to initiate movement as well as difficulty to be moved.[...] Stability (when one is protected) increases the feeling of safety. Instability means risk but easy mobility. Both are biologically important. Becoming addicted to one of them makes one unsafe for lack of choice. (Feldenkrais 1981 p.39)
- 'Akathisia manifesting as violence [...] and suicide' (Sachdev 1995 p.128-129) and with 'subjective manifestations [...] and] objective feature.' (op. cit. p.130) 'Neuroleptic-induced dysphoria [...] is marked by] slowing of thinking and movement... paralysis of volition... [without] sleepiness or sedation, severe anxiety' (op. cit. p.47) 'In postencephalic parkinsonism... symptoms [are categorized into] paraesthesiae (burning, coldness, tingling and numbness)... and pain (poorly localized painful

sensations without thermal or anaesthetic characteristics and not associated with increased muscle contraction or affected by movements (air pressure). The pathogenesis of these symptoms is not understood. (op. cit. p.51). 'The effect of activating manoeuvres [...] The performance of voluntary movements, especially those involving concentrated effort, affects the manifestations of involuntary movements. Movements like tongue protrusion, finger tapping, or walking (1) may bring out movements not otherwise apparent. [...] It is our observation that the movements of AA [acute akathisia] are usually diminished, and may disappear completely, during such activities. [...] The adjective *activating* has been retained to describe these manoeuvres, in the case of akathisia they tend to produce the opposite effect, ie, diminishing or suppressing the movements... during the motor task.' (op. cit. p.133) [(1) compare to some spiritual practices in the Pacific region and India]

- 'The notion of Brain-derived neurotrophic factor (BDNF) overactivity in mania suggests that factors associated with increased BDNF activity may proffer the etiological fundamentals for bipolar affective disorder.[...] (3) Increase in mossy fibers were noted for bipolar affective disorder brain and BDNF is related to the induction of aberrant mossy fiber sprouting.' (Shih-Jen, 2004 p.19)
- 'The clonal selection paradigm describes an immune system whose homeostatic functions are at variance with integrated holistic homeostasis. Given the shortcomings inherent in this paradigm, the immune system is understood differently when the organism (the person) is described as autopoietic. In this view, homeostasis is the capacity to maintain organisational stability. The immune system then becomes a self-referential network of recognition interactions (the central immune system) and a peripheral immune system that is concerned with non-homeostatic, clonally driven defence. The characteristics of the immune network include connectivity, specificity, self-recognition, autoimmunity and tolerance; immunological identity and memory become the emergent characteristics of the network. The immune target of osteopathy is the central immune system, an organisationally closed network, so that resultant changes in immune status are more properly described as compensation by the immune network to perturbation by osteopathic treatment.' (Degabriele 2002)
- 'HeartTracker (also called an RSA Trainer) is a powerful performance enhancement tool. At reasonable price it helps you achieve optimal performance, relaxation, and autonomic stability (homeostasis)... HeartTracker includes a respiration pacer as a therapeutic aide to assist an individual in developing and maintaining breathing patterns leading to autonomic stability or homeostasis.' (Biocom Heart Tracker 2006)
- 'Unfortunately as you age, your brain cell membranes wear out, not unlike the tires of your car.... Phosphatidylserine (PS): The outside coverings of your brain cells are called brain-cell membranes. An important nutrient called phosphatidyl serine has been scientifically shown to preserve the stability and function of these membranes.'
- 'Recent studies are showing that meditation can result in stable brain patterns and changes over both short and long term intervals that... suggest the potential for the systematic driving of positive neuroplastic changes via such intentional practices cultivated over time. These investigations may offer opportunities for understanding the basic unifying mechanisms of the brain, mind and body that underlie awareness and our capacity for effective adaptation to stressful and uncertain conditions.' (Mind and Life conference 2005)
- 'Strong Prana is an asset for attaining success in spontaneous practice. Hence willful practice is very important for beginners. Pranopasana and Pranavidya are Sanskrit terms used for the spontaneous practice of Yoga, in which the vital force of Prana plays the key role. Before beginning such spontaneous practice, one should cultivate the intensifying of the vital force... The next step is the release of the vital force.... The third step is the raising of the vital force... along the path of the central subtle channel (Sushumna). The fourth step is the stabilization or conquering of the vital force in the frontal region. The fifth and final step is that of annihilation or dissolution of the Prana. Strong vital force is a must for an aspirant who intends to take up the spontaneous practice of yoga. Weak vital force cannot take one very far on the path. (Muni 1993 p.170-171)
- 'When a sadhaka sits in the lotus posture and masters the prana through this position, he acquires the capacity to stabilize himself in the thought-free state.' (Muktananda 2000 p.118-9)

- 'When the *nadis* are purified, the gastric fire begins to blaze, and when the *prana* is purified, the mind stops wandering and becomes stable.' (Muktananda 2000 p.119)
- 'I was empowered in various tantric practices and it was good to have my imaginative life enriched with such a wealth of symbolism. I studied the graduated path to enlightenment and I had some realisations. But experiencing the emptiness of phenomena did not stabilise my life and I still succumbed to simple temptations.' (Brazier, 2006)