

Conclusions

This research project has challenged perspectival explanations of chronic illness, of the general health instability that humans commonly experience, and of the physical reality we take for granted, both in the body and the spatial or material world *in general*. A commonality in our views of nature, human nature, and life, came to the fore through two investigations. The first mapped the many perspectives on these realities, ordinary or not, normal, super-normal and sub-normal, in modern as in ancient times, in Eastern and Western cultures. The second modelled the sensations (in body and brain) of health or illness in daily living. Underlying all our perspectives, and arising from sensation, are simple iconic symbols or images that rule our representations, cultures and civilisations, and which shape our practices regarding the body and the physical or natural world. Changes in these iconic shapes can be described using a basic form of geometric topology, and the resulting modelling method can be applied to any field of the scientific and human domains.

Nexial-topology, perspective, and 'gauging'

The particular framework proposed – ‘nexial-topology’ – describes the differentiation of the human-physical situation into various aspects. It uses 2 non-local properties that are recognised, it seems, by all cultures: a *Primus Movens*, here called ‘nexial’, and a vertical *Axis Mundi* of topographic nature. They are conventionally interpreted as generic, primary or fundamental: duality and polarisation, appearance and occurrence, direction and motion, projection and activation, etc. From these are derived our geometric icons, and all other conventions (eg space-time, self-world): two summaries follow, one formulated in scientific (Sc-) terms, the other in human (H-) terms.

Sc-deployment: a technical summary

The separation and re-combination of the 2 properties describes the deployments (unfolding-enfolding) of topologic deformations or distortions. The images produced are commonly differentiated into discrete nodal ‘stages’ of a sequential (one-directional) ‘development’ or as simultaneous-modal ‘forms’ of evolution, advancement, progress, growth, ‘rising’, etc.. These are framed in perspective, in the terms imposed by the primary senses (sight, sound, and skin-surface). From these are derived systemic conventions and our many constructed models of explanation, styles of experience, and other expressions, creative or destructive,, as well as a ‘hidden’ or ‘mysterious’ domain, and a baseline neither challenged nor experimentally studied. The 2 parameters also define a third topologic property of ‘boundary’ that is expressed in closed or open boundaries (of point-set defined systems) and ‘boundary conditions’ (operational limits). ‘Advanced’ models (some making use of *mathematical* topology, others of cryptic symbols or codes) describe ‘*reaching* boundary’ – that is, the making of structural boundaries, and breaking of functional boundaries. ‘Boundary’ thus manifests in characteristics such as nexial constraint, topographic containment, and topologic ‘quantised’ jump (shift to a new shape). This topologic ‘reaching’ is related to an inversion-return-reversal in the conventionalised models, which is usually formulated as ‘not well understood’ or mysterious. All these representations involve some form of critical change or ‘orienting-at-boundary’. The deployment also produces a subtle global drift expressed in characteristic ‘endless’-‘scattering’-‘wasting’, a warped direction which, for nexial-topology, is ‘turned around’ (in common parlance, ‘turned out’). It also manifests as an ineluctable drift into ‘cloud’ states (eg loss of integrity under operation) and models (eg internet ‘cloud’ technology, ‘vapour’ in spiritual ‘internal alchemies’, ‘rain’ in Neolithic creation myths).

H-deployment: a philosophical summary

Perspectival framing formalises the nexial-topologic ‘place’:

- to *localise* it (project geometrically) into a concrete space surrounding the head, an abstract world surrounding the self, or to reduce it to a topologic field (FlatLand), continuum,

space or world, that ‘comes to a head’ (eye of the storm, mountain top, centre, etc.) – or never does (asymptotic warped direction: ‘near’, ‘almost’, approximation, and probables);

- to *extend* it into a conventionalised systemic timed-space defined by skin surface-sound-sight, into realistic or naturalistic ‘realities’, and images of the ‘physical world viewed by the mind’, or the ‘material world of humans’, or to reduce it to a whole-with-parts that is ruled by ‘head’;
- to *deploy* a set of directed synMetrics / boundary phenomena / moving harMonics, and to develop them further into ‘valuings’ (measure, naming, evaluation, etc.) that rePresent what is improvement, as valued for purposes of critical survival, and what is ‘Human’-‘Natural’-‘Life’, according to definitions of ‘evidence’ valid to the mind and senses.

These are important specifying strategies in certain circumstances, but reducing or ‘compacting’ (topologically) the animated imaging sensed to such ‘territory maps’ and operational directing, also produces generalising perspectives that just confirm and justify the baseline criticality of the ‘local’ observing, without challenging it. They result in limited *anthropomorphic* attributions known *only* to science and limited geometric *projections* of physikemorphism known *only* to the human domain, with no linking of understanding between these two domains.

Nexial–topology can model the deployment of all these specifying localisations, extensions, projections, attributions, and distributions in anthropomorphic and physikemorphic ‘spaces’ [mathematical notion of space’], into any perspective, and what is missing in perspective itself.

The ‘native gauging’ capacity

By contrast, it can also be used *undeployed*, to ‘gauge’ the same human-physical situation as it ‘presents’, without differentiated rePresentation, without separating and recombining the 2 global parameters and properties, and therefore *without* ‘invisible’ domain inherent in model inversion. In this case, the *animated* imaging models the tendency to deployment (‘swelling’) in non-critical conditions, ‘gauges’ the ‘*approaching*’ of ‘boundary’ (ie detects

the approach of criticality, of ‘spreading’ and endless warped ‘path’). It ‘shows’ non-local properties, although these are apprehended locally, in particular through the sensing related to gravity, water, and physiologic ‘swelling in the mass’. The ‘native gauging’ capacity models conditions on a human scale in daily living, but with properties valid non-locally, and particularly images ‘going off track’ (eg from the state of ‘ease’, including in health), the *approach* of ‘cloud’ states, and ‘predicts’ *in generic terms* (sees or shows) the appearance of ‘cloud’ explanations and technology.

Implications for medical methods: health ‘sates’ of immune ‘deployment’

Part of the ‘hidden’ domain for medicine involves the un-investigated ‘small percentages’ of error, approximation, or lack of improvement, in medical trials and ‘evidence based’ practices. These are the most significant for nexial-topology. Some of these margins correlate with a nexial-topologic deployment that is not observable with conventionalised techniques (instrumental, but also sensory), and with unchallenged baselines (eg a degree of ‘malwatering’). The descriptions, provided in chapter <Health and illness>, of ‘immune deployment’ and of taste distortion are of this kind. These observational limits have wide-ranging consequences for the body, and some important implications for medicine and collective ‘health’ systems. For example, a ‘complete’ (M6-) model of immunity includes inflammatory localised swelling of tissues, irritation (eg sore throat, quasi-allergic reactions), and, infestation (including immune-driven allergy), infection, and auto-immune disease (auto-reinforcing degeneration) or genetic disease (or metabolic dysfunction). Its ‘hidden’ field includes the now popular cognitive effect-causes, but also cell walls and organs as ‘resource’ for the body’s coping mechanisms in stress and strain. Yet ‘malwatering’ is ignored: dry cells and/or swelling tissues (‘when tired’) represent an inadequate distribution of water result from directed activations of fluid motions, is not corrected by drinking more, and affects every function and structure in the body.


The most notable implication for medical research is that, findings in highly focused medical studies on drugs, herbs, nutritive substances, and lifestyles, do not take into account the ‘health states’ of the subjects (states of deployment) nor their ‘orienting’ with respect to head

driven, sensory-based critical response and 'immune defence'. This explain disagreements that shift into petty academic controversies over methods and reversed claims in the media (eg is some wine good for your or not?). What produces an improvement in one state may be useless *and even* damaging in another state (even in the same person, and this goes beyond 'side-effects' or placebo).

In research, taking into account and disclosing 'researcher H-orientation' ('local Sc-orienting' – see <Validity and valuing>) would help clarify the degree of 'deployment' that underlies both the research and findings. It constitutes a daily life *local* 'baseline' of criticality for the researcher, and colours both methods and results according to perspective. Framed perspectives are inadequate to describe the baseline of 'survival' effort and chronic 'malwatering'. Using 'native gauging' (non-deployed nexial-topology) as a benchmark, in research, in clinical practice, and in daily living, could frame our sweeping generalisations and offset our collective 'orienting' to criticality, to 'survival' unconscious behaviour.

The modelling proposed could help understand more simply, for example, the metabolic role of copper, effects of 'metabolic choices' such as histidine-histamine, the role of acetylcholine receptors (muscarinic, nicotinic) in cognition and vital functions (especially breathing, with consequences in smoking).

The deployed form of nexial-topology would provide a simple of way mapping the 'development' of disease, and in particular the falling into Alzheimer's disease degeneration and arising of cancer (and other 'ageing' conditions) from 'benign and unrelated' pre-cancerous states, inflammation, and the newly recognised role of scar tissue and stiffness (... involving ground substance and the cells that make it.) It can model simply the deployment of conventionalised frameworks such as R-GENetic and L-VIRal characterised by nexial twisting

or spin  and virulent crises, the spreading and periodic reappearance of disease(s) in population or in the body, and the eternal quest for and renewed development of R-chemo therapies based on EXtracts (drugs, herbs, and foods – pro-healing or anti-..., stimulant or calmant) and L-radio therapies based on brain firing or external 'energies'. Despite all these,

we still do not have an integrated understanding of the rise and spread of disease, or how to avoid ‘deploying’ all of these physical and behavioural problems, and concurrently having to deploy technologies and intelligence-based solutions, which do not have to be necessary or inevitable needs. Nexial-topologic modelling could benefit our understanding of one of the most puzzling, painful, and research-costly forms of disease: cancer, which results in the loss of integrity under operation, ‘falling apart’ and endless drift into the ultimate deployment – ‘cloud’ – until no ‘thing’/body is left alive to fight and think..

Implications for the body and health

I found empirically that perspectival deployment is correlated with the local deployment of immune ‘defence’ (activation, vertical projection) and with certain physiologic and metabolic mechanisms of entrainment of head-based control and feedback loops (vertical axis). These affect brain and mind, perception and psyche, behaviour and lifeworld. Some factors of this entrainment *cannot be stopped voluntarily*, by the mental self’s attention, intent, focus, power, projections, or its will, and survival drives or efforts. (Some organs seem to have no calming innervation or dedicated ‘deactivating’ hormone.) Even relaxation, which is a chosen lowering of activation or directing (top-down active control of body by brain) and of mental projection (eg goal seeking), does not stop ‘head drive’ and ‘coming to a head’ or ‘un-orient’ the vertical axis (diRection up or down is irrelevant), or stop aggressive ‘immune defence’. Only certain unwilled, involuntary, ‘spontaneous’ behaviours (non-reactive, non-corrective, non-compensatory) can do this. When the ‘person’ (behavioural body or inner self) stops ‘doing’ (or ‘trying’ to be or to do anything), then any focus, and even ‘open’ attention (integrative, including peripheral) stop, as does mind/brain-triggered targeting. The above factors of entrainment or alert are stopped, and all ‘works on its own’ again, without particular target or general directing or integrated ‘director’ self. Modelling health with nexial-topology has thus the practical advantage of making sense (without distinguishing external – person-al – or internal – physiologic, metabolic, cognitive behaviour) of the non-‘purposeful’ or non-differentiated role of these ‘spontaneous’ behaviours. It shows the non-local or global effects of the most basic means of keeping health: breathing at ease, delta

sleep (un-agitated by dream), unmodified foods, unadulterated water, which all have direct and systemic impact on bodily water distribution, and help to not maintain the universally accepted 'malwatering' baseline that sustains the degrees of survival behaviour.

Modelling 'immunity' systemically as 'defence of self' (or aggression onto 'not-self'), and framing it as a necessary or inevitable state of peril (in various grades), experienced as 'normal' (or a chronic 'survival mode' for some), entrains the related *deployment* of the vertical axis (in whatever diRection). This is characterised by a nexial-topologic sense of non-local 'swelling' (that can be interpreted in countless ways). Physically, it is expressed in a low-grade systemic swelling concurrent with a low-grade feeling of dehydration, particularly of the head, brain and spinal fluid, and as an increase in 'grav-' effects (physical heaviness against gravity, mood of 'graveness', social-gravitation behaviour, the 'gravid' female body, the large-periodic 'grav-wave' instability, etc.). 'Gauging' instead, detects these almost imperceptible effects (invisible to senses), which are less deployed than even the 'early indicators' of chronic physical damage or bodily 'wasting'. Tissue degradation (eg catabolism in fibromyalgia and related neuralgia) can be too subtle to be measurable by objective tests and instruments, or noticed by others, and even often oneself. Emaciation can be hidden by the tissues 'turning to fat' or by swelling of the face (around eyes in particular). One's physical appearance may remain a 'normal' size or weight, or be variously evaluated according to changing cultural standards of beauty, while fat gain or concretions (cysts, growths, tumours) and hidden mass-wasting are spreading, unchecked. 'Little aches and pains', struggle and fatigue, and loss of structural and functional integrity, may all be 'invisible'. Deemed normal if occasional, they are known to be source of disease 'if sustained'. Yet 'advancement' and even 'sustainable development' are the non-local goal of cultures and civilisation, and we still do not see that we periodically fall victim to their entraining and spreading the overactive and too sedentary indoor lifestyles that turn health into effort, strain, stress, crises. Yet, basic aspects of living, such as the capacity for calm sleep and physical self-care, or unconditioned/ unprogrammed taste, can be distorted without being critical enough for our localising and evaluating perspectives to detect systemic

damage, or that ‘vital functions’ and organs are affected, and to provide ‘medical’ correcting treatment. Human correction of ‘personal’ behaviour tends to be the norm in this case, with only localised and often only temporary benefit, but long-term and system-wide consequences. Such distortion could be addressed by using nexial-topology, making its physical expression detectable (by gauging), and removing devaluation of its human expression in the ‘person’ (a system). With a lack of ‘awareness’ of these changes, disappears the ‘ease’ of health that puzzled Williamson and others (discussed in Chapter <Health and illness>). That is, what is lost is a ‘proto-health’ that requires, in *most* conditions, no medical intervention, repair or healing work, no personal effort (‘working at it’, fitness workout), conscious choice, experience of ‘highs’, or cyclical resetting. Instead, for most of us these apparently necessary or inevitable requirements – imperatives – of ‘physical health’ are made the essence of most of our living and encultured civilising, whereas ‘ease’ (effortless proto-health) is an unlikely ‘Exceptional Experience’, and is unstable if it occurs. The grounding in well-being and sound daily living is lost, as we lose the serenity of the infant (Williamson in <Health and illness> p.81).

Domains of application

The undifferentiated nexial-topologic ‘situation modelling’ is compatible with conventionalised framing and representation in perspective (which the differentiated form of nexial-topology can model without complexities), but the two ways of apprehending ‘the situation’ operate *under different conditions*: ‘non-eventful’ versus degrees of ‘critical’ living conditions, respectively. They also enlist *different ‘spaces’*: undifferentiated situation and generic understanding, versus systemically/systematically defined and specified by perspective, which also generalises. Each has a sub-domain in which the other modelling method is unusable, and they have a common domain of validity at the junction of both. Nexial-topology cannot provide specific or generalised solutions, or targets to pursue in catastrophic or chaotic conditions, and it does not extend into the multi-dimensional realms of the mind and perceptions, or does it justify the generalised solution, used in many fields, of ‘pushing’ the extremes up to ‘cloud’ dissipation in order to ‘undo’.

Conventionalised views, topologies, and perspective, on the other hand, *do not have the ability* to rePresent non-deployment, non-valuing, an ‘undifferentiated’ topologic ‘space’ (a ‘place’ neither definite nor indefinite), or proto-health and the ease of daily living (ie without criticality or boundaries, not ruled by the head and sensory-derived information, including that from skin/mucosa-surface sensations). They cannot deal with non-local properties, such as swelling, drying or warming (eg body temperature but also ‘global warming’ or heated human behaviour) that deploy. These properties are not reduced but *increased* by all our solutions, improvements, and advancements; as much as by our representations of phenomena as problematic – circular and symmetric properties both invisibly *bring on and express* critical conditions.

In challenging the universal applicability or validity of perspectival, systemic and systematic representation, the present work does not invalidate their high and repeatedly proven value. Such rePresentations are relevant for dealing with injury, with emergency that requires immediate and alert attention, or with critically difficult conditions that require logical questioning, focused problem solving, goal seeking, targeting, expert skill, collective changes in lifestyle, etc. Their effectiveness is sometimes indispensable, but if sustained chronically *or* at high-energy (pointedly but acute), they create vicious circles, instability, and problems. They reduce human intelligence to details describing our ‘Great’ productions but also monitoring our demise and to justifying lifestyles, cultures and technology directly related to our ‘Fall’. They are physically damaging to varying degrees – and this manifests non-locally in both the body and the physical world. Nexial-topologic gauging, on the other hand, is apt to ‘announce’ *and* dissolve ‘non-local’ difficulty (conventionally phrased: ‘reduce’ global or fundamental problems and ‘local’ struggle that is not necessarily visible in physical or mental-human terms).

The mind-body problem

Conventional discussions of this problem of separation lead to paradoxes that are usually resolved by choosing either the mental or the physical as ‘primary’. This issue, however, can be addressed differently. The vertical axis is directly implicated in the ‘mind-body split’: and

the word ‘mind’ is often used indiscriminately to also mean ‘brain’. The brain and mind can make the body feel better – or worse –, and vice-versa (there is a topologic symmetry between the 2 directions). ‘Reversing’ one into the other (eg diet change for a hyperactive mind, or lifestyle change for a stressed body), however, only inverts the *direction* of the vertical axis, but does not ‘undo’ the very use and trigger of the *axis*. Compensating the ‘up’ activation by a ‘down’ projection of brain-central-control or mental self-control (or vice-versa) creates the circularity mentioned in the <Introduction>, and thus *maintains* the split (eg loss of internal sensation leading a self to feel good, even though the ‘physical body’ is sustaining low-grade damage). Using this axis both ways creates a topologic ‘tear’ of ‘surface’ – the mind-body disconnection – and is related to a ‘critical response’ that is ruled by sensory ‘information’ (an ‘orienting-at-boundary’). ‘Symmetrising’ or synthesising mind (or brain) and body (the rest of it) into a ‘whole’ (which is a onescape, still a system) only maintains this, and adds a bend to the axis. This ‘both ways’ strategy manifests as a mutual, circular entrainment of the head (brain-mind, and physical-mental), and of a defensive-aggressive ‘survival mode’ of centrally controlled effort. This mode tends to get out of hand and drifts into using the physical ‘reserves’ of both body and brain (hence degeneration – which may be fast, slow, or advanced – as in ageing or pre-cancer). Reducing, not the direction by inversion, but the ‘orienting’ (the entrained use) of the vertical axis (in whichever direction), ‘undoes’ the mind-body separation (as opposed to a reintegration, which implies a division & synthesis). This entails stopping the way of using the body-brain in critical ‘response to’, and not limiting apprehension to sensory information.

Implications for theory:

Built-in 'SynMetrics' and 'HarMonics'

Many of the findings in reality, from science, humanities, and from ‘core-culture’ techniques (eg art, healing, spirituality, mystic practices, etc.), are not so much inherent in what is observed, as they are rather ‘built-in’ characteristics of our perspectival system of representation and sensory based construction of observation. The systematic separation,

division or distinction of the 2 covariant non-local properties (or 3) into separate parameters for perspectival representation, hides built-in directions and activations such as:

general symmetries in the ‘FlatLand’ order of deployment:

- with the ‘good’ and ‘improvement’ comes the ‘bad’ and deterioration;
- with a solution comes a problem;
- with generation comes degeneration;
- with (re)integration come fragmentation and ‘tearing’ split;
- with endless growth come progressive ‘in-dying’, scattering and wasting¹
- with ‘spiral’ or nexial deployments come harMonics: the knot-based constraining notions of ‘one’, ‘system’, or things, and the damaging clouds, rains, wasting, or ‘fall’.
- with deployment(s), comes periodic instability.

Entraining improvement, solutions, generative evolution, growth, etc., cannot but come with their symmetric-opposite or harmonic damage, and they all express the same ‘oriented’ critical change.

Approximation and uncertainty

The reification of nexial-topology into a Sc-spatial topology, a H-symbolic cosmogony, or an ‘advanced’ or coded timed-space, results in very real phenomena such as approximation, uncertainty, chance (random occurrence or appearance, fate, coincidence, etc.), error, ‘hidden’ damage, and ‘drift’. These may seem small (or a large immanent globality), but they correlate, in *most* real or natural conditions, with distortions, deformations, disturbances, perturbations, – in short, with various degrees of criticality. These leave, in the end, the *almost* only solution of the quantic jump, whether self-organising or auto-destructive, and the ‘built-in’ phenomena of established stability and of instability. Gauging presents a different view.

¹ The intermediary stage of One-1 brings physical concretions (eg scar, cysts, cancer growth).

Imaging nexial-topologic deployment instead of foreseeing and proving

As a method for modelling the deployment of a situation, nexial-topology does not produce time-prediction, proof of spatial existence or demonstration of validity (for instance, that definitions of naturalness, of the ‘human’ quality, or of life are met). It does not ‘foresee’ details in conventionalised spaces, but rather procures an animated imaging that has a ‘likeness’ to the situation ‘in shaping’, as it ‘presents’ – that is, it is a basic ‘gauging’ of change. It is a means of seeing globally both ‘whence from’ certain conditions originate and ‘where to’ they are headed but without discerning one from the other: it is a *covariant* deployment that is modelled in an animated way, not a composite of one-directional developments, separate or opposed, sequential or modal. This method might shed new light on consequences of combined scientific discoveries and human developments, particularly for physical-human bodies, environments, and resources (eg food and water). If we reduce gauging to rePresentations of a ‘reality’, localising them into empirical expressions in a physical or material ‘space’ or ‘field’, or extending them in human spaces and places, we lose the ability I called ‘native gauging’, Our ‘living’ is thus reduced to being projected into the head, to a constant sense of pressure, emergency, or looming catastrophe (‘coming to a head’), and we become imprisoned in the poor sensory-based landscapes of ‘world’ and ‘body’.

Physical wasting, material waste, ‘WasteLand’ physical-human world

‘Wasting’ is a physical expression of ‘scattering’ and ‘endless’ deployment (explained in <Nexial-topologic deployment>), related to ‘consumption’ (in health, or consumerism). The following is a global portrait of the ‘physical world of humans’ as this researcher apprehends it locally while in the ‘endless state’ required for fine-tuning the redaction of this thesis. This landscape is global, but is also correlated with the local physical health baseline (autophagic ‘consumption’ of ‘bodily resources’ to fuel this state connected to anaerobic effort). This portrait is envisioned and written in a topographic mode, like a grave poem in images, to be apprehended globally:

Human lands have little food, but in man-made fields and man-collected seeds:

Few species of wild berries and nuts, leaves and edible flowers, are left..

There is little potable water but in man-made pipes and containers:

Its flow is changed by our building, and is transformed into convergent floods;

Scattered in evaporating droughts, turned into a source of disease in catastrophic conditions.

Human bodies (body-brain) are, for most of them, bent physically (by gravity) or mentally (by graveness), affected repeatedly by the floods of immune defence secretions, and they struggle with hot and cold. They are born or have grown to be unfinished and blemished, ruled by 'normal' standards of child sickness, and plagued with chronic, low-grade (hidden) dehydration, periodic instability, and progressive dysregulation². The loss of internal sensation, external sensitivity, and of access to 'native gauging' has global repercussions, not just on health. 'The world' drifts into a self-fulfilling 'auto-pushing' to 'boundary'; behaviour drifts into auto-destructive damage of 'wasting' and consuming, individual and collective, or even 'auto-kill' behaviour (eg from low-grade chronic 'autophagy' that fuels the critical states, to medical 'attacks', to auto-immune disease, hurting and killing self, others and other species).

Non-'human', 'wild'-life, plant and animal, is dwindling into extinction, forced into our enclosures for survival (zoos and scattered national parks), except for those highly adaptive, fast growing, 'survivor' species that thrive on our wastes (eg in sewers and damaged lands). We commonly name-call them 'pests' – paradoxically, since we consider that improvement and thriving rely on such qualities. The bodies of our pets and pests appear affected by the same limited and worsening 'health' as ours, and such degeneration is spreading to the wild.

Our behaviour turns to the same uncontrollable material-physical wasting away and consumption as our body does. We let fresh vegetables rot in the refrigerator. We use up ground resources to manufacture all sorts of implements that fall apart and end up in waste

² Sc-dysregulation: an impaired regulatory or compensatory capacity is more than a H-deregulation; it has actively deleterious effects such as auto-triggered bodily damage.

dumps. Most of them are made necessary only because we are ill at ease physically, mentally, and with one another. Yet they do not halt or even alleviate our physical wasting, or the correlated state of ‘need’. We cut down forests so easily, and flatten soils to build (figure 44), in the same way that we ‘draw on the body’s resources’ to build our ‘human’ selves and worlds, eroding our physical survival capacity. We find the body victim, from birth, to the long invisible wasting-away of ageing, and to the faster degeneration of illnesses that ‘eat up’ the body’s ‘substance’, inexorably, inevitably. In the same way, we find ‘the land’, ‘our planet’’, going to waste, ‘consumed’ with progressive damage in plague proportion.

All this *has already been described* in archaic literature, albeit in a less differentiated way, as ‘wasteland’. The property of ‘wasting’ is non-local and recursively reappears at the end of the topologic deployment: waste is a ‘scattering’ and falling apart, and is a correlate of endless effort. These are built into the unfolding-enfolding frameworks.

The images in figure 44 express this basic notion of ‘wasting’ in a particular event. The situation depicted is intrinsically marked by the ‘endless-scattering-wasting’ stage, in which



Figure 44. Trading undifferentiated ‘ease’ for generalised ‘wasting’

(Reproduced from <PPT7- 3 geometric rules\ slide 7>)

the state of 'being unaffected' has no 'existence': one cannot be 'immune' without needing defence, constructed barriers, the compensatory comforts of civilisation or one's own work. These images show how such deployment translates into degrees of freedom that may make many things 'easy', but this is achieved at the high cost of loosing undifferentiated 'ease'. The aim is to make apparent the symmetries that are 'built-into' this view: the spreading destruction and reConstruction (an extrinsic symmetry) of the 'physical world of humans'.

This description, however, must be clearly understood to be a *physical* projection, a view symmetric to the extraordinary and useful achievements, inventions, and intellectual advancements of the human mind, some of which this research project has used. For example, published ideas developed by the explanatory perspectives have supported my theoretical study. The nutritional substances extracted from nature by medical science have supported the investigation of specific functions, structures, connections and operations of human physicality. The healing techniques have supported the exploration of internal sensations of health and illness. The scholastic practices of academia have promoted the exploration of the 'endless' state. Topology enabled me to model human living in a way that was not possible before our greatest 'minds' developed this discipline.

The *method* of nexial-topology makes use of the most specialised knowledge about animals, plants, ecosystems, things, and human beings, albeit in a different way than by creating more perspectival generalities, specifications, and constructed exPERIences, at the cost of physical soundness. It allows to describe the less fragmented understanding that is 'lost' to the 'Human' intelligence of detail and perspective, using also the most 'primitive' of our capacities, the 'presenting' animated imaging – the 'native capacity' for 'gauging' without differentiation. Symmetrically, it allows gaining, regaining, or not loosing access, to the 'ease' of health and of existence, in *most* daily living conditions. This non-specific 'ease' is 'buried below' by the many targeted efforts of the modern, complex 'civilised Man'.

Water

The human practices of wastage in household, agriculture, industry, and the associated fear of physical lack of 'resources', affect water in particular. Trying to solve the global problems

associated with water is currently running into difficulties with biased perspectives and clashes of 'valuings' that are incompatible. This approach keeps increasing constraining rules or self-rule, and leads to even more 'environmentally unfriendly' choices that do nothing to reduce the collective 'baseline' of imperious need, which deploys into the problems as well as the solutions. This is partly because both 'physical' and 'human' worlds ignore that the 'dwindling resources' of water also affect the body (water is just a 'carrier' in this object-body, a 'substrate', or an external resource). Ignoring its roles in the 'integrity under operations' leads to a loss that 'deploys' into the multiplying and urging needs we seek to meet through water-hungry technology.

This situation could be 'turned around', modelled and viewed instead as a *deployed order* of nexial-topologic 'scattering' that manifests as a *non-local* Sc-'wasting' (including in bodily physiology), but also (symmetrically) as a *local* H-state of 'endless need' (despite appearances of no-need and satisfaction that hide internal damage). *Both* of these *spread* this state of critical need *as a baseline state* in the entire population (as the 'stress of life'). It drives and directs human-physical compensatory need and endless material-mental greed for many things, including water, eating more, addiction to food-extracted substances that sustain brain-mind entrainment, and seeking comfort props.

In the local case studied experimentally, this state (not as a baseline) also manifested in ineffective physiological use of water and permanent systemic dehydration, to changing degrees. This is detectable in many common signs that we normally ignore, especially in children (eg swollen eyelids or 'eye sand' in the morning). Among them is the unexplained and un-investigated 'typical morning peak urination' (collective statistics). Dehydration keeps worsening until it becomes a medical emergency or an inevitable and normal 'symptom of ageing' (eg swollen sinuses). My experiments showed that the morning urination is related much less to ingestion of water or digestion than it is to a dry state and a lack of oxygen for adequate kidney function (they require more of it than the brain). The literature presents this peak as normal after the night, which is supposed to regenerate us. Yet some of the accompanying 'signs of dehydration' (eg coloured urine or even 'froth' loss of

protein, too small for medical diagnosis) are recognised in sports medicine as ‘after training’ effects. Is the night primarily a time of ‘work’ (of restoration) or of ‘rest’? I could find no study or description of a body without automatic morning urination, with *no degree* of dehydration.

Not ignoring such signs and signals could prevent low-grade damage to physical integrity, and ‘undo’ the baseline of susceptibility to stress, disease, and ‘need’, without requiring yet more water individually, or global aid strategies provided by institutions with water wasting, resource-hungry ‘body politiks’. Many other issues related to resources, wasting, and warming (see <EEs> and Mithen 2003, for example) could be addressed this way, through simple options aiming at local ‘un-deployment’.

The teaching mathematics, and its effects

The use of diverse forms of geometry in this research brought out that the teaching of mathematics, as other fields, is ‘turned upside-down’. School begins with the most abstracted concepts (e.g. point and line, zero and one, plus and minus), and proceeds to construct a system of calculation and measure. Only the most advanced students ever heard of topology (in my time), applied to objects, concrete or abstract, that are remote from daily living. Yet, the most ‘advanced’ imaging (from General Relativity) is the most relevant to appearance-occurrence in the most common conditions at human scale. It seems to me that we could also use this daily living basis, and nexial-topologic drawing (‘scribbling’ or gesture), to help the mind ‘deploy’ representation concepts the other way around. Starting from the undifferentiated ‘swelling’ and mass-volume (the global idea of ‘big’ in a child, like a mathematical ‘ball’ rather than a ‘sphere’ surface), we could move on to spreading and surface (and lattice style of scribble), flows (linear and circular), line and circle, and later, containment and constraint (eg ‘objects’ and rules, envelopes and thresholds, boundaries of structure and functional ‘degrees of freedom’ that limit global effects, etc.), *finally*, considering boundaries that reduce to L-point and R-parts in M-systems of point-set representations. Only *then* would systematic methods be learned, with more ease, and used to develop the normal specialised ways, *if* relevant to one’s life activities. Building diverse

shapes is then a basis to invent, design or construct objects (concretions: technological things, and things of the mind and self), and for creating generalised abstractions such as space-time, self-world. These are involved in the connective or operational sense of the 'place' of beings in 'the world' (eg 'what is the role of mosquitoes in the world?', ...of 'me' in society? – common questions in children), and in placing or posing a problem to solve. Only advanced requirements would deal with infinities, quantised zeroes, asymptotes and other hyperbolic productions, real or natural. This way of 'deploying intelligence' might offset our tendency to force unnecessary learning when there is no interest or need, to introduce everywhere boundaries, pointless technologies and practices 'just because we can', harmful social labelling, or technical 'valuings', and deploy emergency effort, when a gauging shows there is little global benefit in doing so. Following, rather than 'turning on its head', the ordering of deployment in teaching would, it seems, correlate with the chronological development in the child, of brain-mind capacities, skills and control, rather than 'push' children, ever earlier, turning them into our worst local enemy and a H-global (Sc-non-local) threat. Using again more organic-active forms of learning, grounded in daily living, and the idea of deployment, might reduce the stress of schooling, the disheartening confusion of infinities and of trying to identify the ultimate designer or direction of one's life, or the difficulty, in many cases, of finding a particular cause to a situation. 'Nexial'-topology makes sense to a child, because of its 'global notions'. It is a practical help to lead one's own life. It could help make sense of health and daily life *during* childhood, while it happens, rather than wait for adulthood to work it out, or for doctors and others to edict rules for living that are not always adequate for all. The inversion of deployment in later childhood is neither necessary nor inevitable, and it introduces a damaging drift that does not have to be.

Mathematics, particularly geometry, could *contribute* to keeping the 'native gauging' accessible in individuals and cultures, and support health and sanity, rather than root them out systematically, and contribute to distortions that result in long-term and displaced problems (from one sphere to another). This could also probably be applied to learning language and logic as well. We could *deploy* rather than *start with* linguistic distinctions such as no-yes,

black-white, mine-yours, good-bad, pain-pleasure, top-bottom of the pack, ‘personal’-biases (what is your favourite colour?), survival, and the double-binding values encultured by education. This suggestion of not ‘turning out’ the deployment of mathematics comes from my experience as a tutoring mother, as well as from my own schooling. I was praised for my ‘spatial intelligence’ and interest in physics, and yet struggled terribly at school with Euclidean geometry and later with infinites. My apprehension of shapes in motion was topologic, rather than ‘spatial’ visualisation, it seems. It was a great struggle for me to *reduce* the ‘thinking in imaging’, which is so effective, in order to ‘learn’ a geometry that held little meaning for daily living, and to imagine ‘on the screen of the mind’ psychological stories of self, boundaries, and naming, just to place the blame or defend. The great usefulness of topology in my making sense of the animated-imaging tends to support the method proposed here. The less differentiated ‘deployment’ approach to mathematics, logic, language, and education, rather than the usual ‘developmental’ approach, might create less global cause for grief.

Further research

- The findings of this study are relative to one local-case study. As much as this case is bound to not be unique, in one or many aspects, it may be an unusual or be a widespread case. The body-and-brain, or physical-mental perspectives, might be inverted in other cases, but these are projections of, or derived from, something that is not case-dependent and has been an object of interest throughout history.
- The symbolic icons that are here found at the ‘core of culture’ and civilisation (mental creativity and invention), and of the physical findings of our sciences of nature and body, affect ‘non-locally’ *all* aspects of our daily living, including the way we breed ourselves to be ‘Human’ (*Sapiens sapiens*) and ‘intelligent’ by modulating environmental, internal, and food stimulation. Non-remarkable aspects of daily living, therefore, would deserve more interest from researchers and institutions, at least as much as extreme ones (eg ‘medical emergency’ diseases and powers of the mind, leadership and genius). The proposal that the arising of

icons can be described by the ‘nexial’ (little differentiated) form of topology³ could lead to many applications. One of them could concern unexplained symbolisms, such as those found on artefacts from the Stone Age period (Rudgley 1999) and later prehistory. Another could tackle the ‘undeclared means’ that somehow ‘caused the development of farming’ (agriculture and animal breeding; Mithen 2003 p.64) and its spreading, which is correlated with global loss of biodiversity in plant and animal populations, mega-fauna extinction, cultural and population ‘explosion’, damage to health and behaviour (‘fallen man’), etc. This could help reduce controversies about human motivations and natural causes (eg post Ice Age global warming), and contradictory explanations about the roles of environmentally driven survival necessity, socially driven financial ‘survival’ (poverty), ‘easy living’, and creative or curiosity drives in these explosions and extinctions.

- Nexial-topology could help investigate the ‘hydraulic architecture’, and the water-based connective jelly of the body, called ‘ground substance’, which may ensure its physical ‘integrity under operations’ (think of denatured, watery eggs). The roles of water and gravity-aided movement could be compared with notions of ‘exercise’ for ‘fitness’ or for ‘working at’ a ‘balanced’ health, and the ‘fight against’ gravity in posture and degenerative conditions with water-swelling. Investigating the non-local meaning of a mood of ‘graveness’, rather than evaluating it as ‘negative’, could help replace the habit of trying to get rid of it (and of pain) through compensations, by the ‘spontaneous’ behaviours that undo this mood, and its less deployed form – ‘boredom’ (common in children, the elderly, and the depressed), and more deployed form – ‘need’ despair. How would this alter our views of survival, Neanderthal man (with a moist nose and round head), the human body, and children?
- Certain specialised fields could bring clues useful to illuminate ill-conditions that are difficult to diagnose or name, provided that issues of health baseline, ‘states’, ‘orienting’, transfer of knowledge between scientific and human domains, and of conventionalisation be taken into account. Examples include:

³ ‘Nexus’ is my ‘global’ or primitive word for a notion of ‘topologic space’, neither realistic nor naturalistic. The word ‘nexial’ is here opposed to the word ‘nexialist’, which is associated with frameworks based on N2d- and N3p rather than non-local topologic properties.

(a) Gelatine, amorphous materials, phenomena ‘in the mass’, and glue (concrete thing and abstract concept in physics), could illuminate the role of the ‘ground substance’, in the body and health.

(b) Surface behaviour of fluids, including water and thinning or spreading, could shed new light on the role of water and gravity in the body.

(c) Twisting (eg chirality) and topographic projections, as detectable in all aspects of the systemic body (eg protein folding), could provide a simpler way to model the developments and degenerations of health (including in genetic diseases).

- Another interesting avenue (my preference) would be to observe great apes (especially orang-utans) to see if they display the ‘spontaneous behaviours’ that can ‘undo’ the common state of ‘defence’, effort and stress, or make it unnecessary. Or one might find that their current ‘natural environment’ maintains the same baseline strain as our agriculture and civilised living do in us. This could help derive a new way of looking at ‘wildness’ (not wild behaviour), its loss, potential recovery, and possible benefits, and a different way of modelling it.

Using nexial-topology

The main innovation of nexial-topology lies in the use of topology without sensory-derived framing for perspective, and without differentiating ‘global’ notions. Modelling the situation as it ‘presents’, independently of the systematic deployments, conventions, and geoMetric-geoGraphic projections, permits to include the ‘observing process’ in the modelling. Or, as I see it, it does *not* discern separately observer-observing-observed. For example, in the animated imaging, the *local* apprehension of deployment (conventionally, by an ‘observer’) is not separated from the *non-local* properties (conventionally, topologic distortions of the global or immanent shapes of the ‘observed’). Seeing the significance of the animated imaging that is also lived and acted – the ‘native gauging’ – simply requires to not ascribe the undifferentiated imaging to things or realms, real or natural, or to objects and relations, unless pressing need to create critical containment, or compensate for constraint forces it. Ignoring this and always using ‘valuings’ (as we normally do) misses something crucial.

However H-‘complete’ are our understandings, our representations are also Sc-approximate, and they are *not* (in most cases) equivalent to the *un-deployed* imaging. They leave anomalies. Computerised, sensory, or mental animation is *only* re-constructed (eg as geometric motion, vitality, or time), and has different topologic properties than those of the lived animated imaging apprehended directly. The topographic and nexial techniques of observation, perspectival analysis, and nexial-topology formalism, were necessary *only* for the purpose of research and communication, and to deconstruct the reconstructed animations (invert the modelling), to find a ‘source’ (in icons) and an ‘end’ (in critical baseline health of ‘survival’), to map out our formal methods and practices to entrain immune ‘defence’, to project differently our habitual notions of intuition, instinct or physical gut feeling. The view of health expressed here indirectly (through words and flat images) may be more inclusive or ‘complete’, but is still approximate: no such representation can be equivalent to the reader’s own ‘gauging’ (or anyone’s). ‘Gauging’ locally requires no such formalised process or skill and ignoring it, is what keeps us in our poor landscapes of ‘dwindling resources’ in both body and planet. RePresentations miss more immediate options, based on ‘undoing’ *locally* (not a location) the ‘diffuse’ or undifferentiated ‘state of need’ (critical or strain-stress mode), rather than ‘working toward meeting needs’, making efforts to meet ‘external’ or ‘internal’ requirements, or dealing step by step with looming crises. O’Connor (2003) wrote of mathematician Henri Poincaré:

‘Although his contemporaries used his results, they seldom used his techniques.’

This suggested to me to add one point. Although ‘native gauging’ is extremely difficult to explain adequately in scientific and human terms, it is simple to apprehend and be guided by. This only requires being in a state that is not exclusively ruled by sensory perception and dual polarisation, these being rooted in the brain-head-mind and the aggressive ‘defence’ mode. This dissertation in words and images can only point to what is missing in our exact or approximate knowledges, our uncertain experience or perceptual imprecision. Reading it as a mere ‘new’ *re*-presentation would only add to the store of complication, difficulty, and the unease that we collectively build-up, inflict all around, and suffer from. Limited to this, the

reader would miss something that is not included in the dissertation.

It is in this 'something missing' that lies, not fearsome 'darks' and wishful 'yet unknowns', but the access to 'proto-health' (soundness: *sant * – sanity – safety), to staying grounded and 'on track' (rather than on a 'path'), and to the far less demanding options which we ignore, dismiss, and systematically make impracticable: the 'basic' means of non-critical living.