

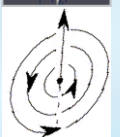
‘Nexial-topology’ Situation modelling: Health ecology and other General perspectives

Marika Bouchon

Healing
disturbed
medical
body



Critical
fluid
motion



General
Relativity:
asymmetric
spin
distorsion



‘Wind’:
Air or
Water



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‘Nexial-topology’ situation modelling:
Health ecology and other
General perspectives

by Marika Bouchon

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UNIVERSITY OF WESTERN SYDNEY

CENTRE FOR SOCIAL ECOLOGY RESEARCH

To the 'little people'

Statement of Authentication

The work presented in this thesis is, to the best of my knowledge and belief, original, and every effort has been made to ensure that ideas, images and other sources are acknowledged and referenced. This material has not been submitted, either in full or in part, for a degree at this or any other institution

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(Signature)

‘Nexial-topology’ situation modelling: Health ecology and other general perspectives

Abstract

This research generated a formal method for global ‘situation modelling’ of near-critical and critical phenomena. The new paradigms and the construction of mental reality or social spaces do not explain the damaged world we leave to our children and the degeneration of health. The ‘physical’ was explored experimentally through the reputed imperfection of the body in daily living and the ecology of its health. An ‘integral’ methodology allowed combining this with a study of general perspectives in many fields. This theoretical and empirical study was framed according to a third-order logic: (1) The variety and inconsistency of perspectives on the unclear notion of ‘health’ required a generalist (meta-)classification or organising principle applicable in particular to health. The method of ‘perspectival analysis’ is based on the field- and domain-specific vocabularies, number of categories, and image types used in formulating explanation/experience in each framework, in both scientific and human domains. This theoretical study was (2) grounded in a ‘radical empirical’ study of the effects of nutrition and healing techniques on a low-grade chronic syndrome (not life threatening but connected to stress, inflammation, swelling, tissues wasting). A ‘local-case’ experimental research design (representative of an aspect of health), and new topographic ‘gauging’ techniques were devised to observe small spatial changes (positioning, distortion, distribution). The results and concrete/ practice models led to the same conclusion as the abstract study: all our perspectives on health, body and space, have some underlying systemic form, and have in common two unifying frames – duality and polarisation –, characteristic also of point-set theory derived frameworks. Using them allows ‘circumnavigating’ the essential of all possible perspectives, without becoming lost in their details. However, they leave non-local effects, anomalies (or ‘bad behaviour’) and periodical instability unexplained. (3) These were investigated by studying behaviour (irrespective of whether internal or external), and ‘not well understood’ induced health manifestations, and by mapping their topologic properties of small deformation through (a) a ‘local’ cognitive consideration of experience construction, the research process itself, and the intellectual skill of model-making, (b) etymologic studies to track forward semantic developments and perspectival shifts and inversions, (c) a graphic study of the universal symbolic forms in models, traditions, and dreams, tracing them back to ‘world-origin’ models (appearance/occurrence), and shape-icons (mental, cultural), such as tree, ladder, mountain or vortex-vertex spiral.

This thesis examines health disturbance, physical distortions and cultural deformations, their usual descriptions as timed changes, and shows how two fundamental parameters of direction and motion (or movement, energy, 'Wind') define geometries of binding, or directional activation (or

active projection). These culturo-mental geometries produce generic images of locally induced phenomena, and represent boundary phenomena globally as 'natural' in the spatial-physical world, and as 'hidden' or latent in the human world. Their downside is to introduce systematic instability in our expressions, models of culture/civilisation, as well as in health manifestations. All these are found to be rooted in modelling styles derived from the 'local' geometry of observing – framing – a field in 'perspective', mostly based on vision, audition, and skin surface (touch). These geometries are used to explain *and justify* in particular the instability and recurrent crises of health in chronic syndromes and ageing, and the 'badly behaved' health of childhood and adult females (eg consequences of pregnancy). The conclusion imposed itself that the 'physical world of humans' is shaped through critical response and boundaries, and it appears that physical integrity, including sound health, sanity and even safety, cannot be preserved *but* by conscious alert attention or voluntary practice or effort (eg 'workout'). Some experiences recounted in this work (some from the literature) led to an opposite presupposition. Three possible logics rule deployments of perspective into flat, spherical, and hyperbolic geometries (a known basis of mathematics). Which is used depends on the 'local' state of criticality (sense of urgency, emergency, pressure) of the observing body-brain-'system'. It correlates with this universally *assumed* vertical axis, with the exclusive use [instruments too] of the senses of the head and of 'skin-encapsulated' derived systemic definitions of 'the world' and 'the observer' (self or body). These allow localising and attributing properties to one or the other or their combination.

However, they can also be considered as undifferentiated properties, 'non-local' but governing, of the 'physical world of humans' as it is apprehended in daily living, manifesting in a surface-related sense of swelling and gravity. A simple form of geometric topology 'without hole' (without discontinuity), here introduced through two cognitive experiments, animations, and images, can describe this. The method of 'nexial-topology' produces an 'animated imaging' that can be used to model (but not 'represent' in word, number, or realistic/ naturalistic images) the situation reaching 'critical boundary'. It then shows *auto-reinforcing* self-organisation and auto-destruction in 'passing' it. Yet, it can also be used as a 'native gauging' expressed in gesture or body posture, related to intuition, instinct, and the rare 'thinking in image'. As such, it describes *approaching* 'critical boundary' (versus '*reaching*') as *auto-limiting*. A crucial finding is that 'spontaneous' behaviours (non-induced, non-intended) can ensure the integrity of health under operation in most conditions, and stop extremes. Yet, they are usually deemed meaningless, random or useless, and are systematically suppressed by enculturation and prevented by civilised lifestyles. 'Nexial-topology' gives a clear meaning to them, and can model the 'ease' of health and of daily living. It gives access to more basic options, with wider effects, more immediate than all our solutions, often ignored because too obvious. For example, 'global warming' could be addressed as a *non-local* property and a deployment into crises to 'stop', rather than separate problems of water, resources, heated behaviour, inflammatory and 'water diseases'.

Organisation of this multi-media thesis:

The thesis concerns cross-field research and focuses on 3 main subject areas:

-Forms of representation and modes of observation in general. These are the basis used to build our 'perspectives' of explanation and experience, our research methods, scientific models, theoretical-philosophical systems of thought, and metaphors;

-Underlying geometry of these representations, modelled globally with topology, thus showing the deployment of symbolic and ancient forms of language, cognitive development, and meaning of some gestures;

-low-grade chronic syndromes: applied representations of 'the body' and experimental basis of this study (various forms of medicine to treat them)

This complex work of integration of ways to represent, understand and practice, is of a generalist nature: it is applicable to any field. The thesis uses many cross-references to chapters, appendices, animations, and slides, in order to present several integrated aspects of a generic phenomenon.

The findings produced two methods of representation applicable to gain a global view of any situation, and to understand 'fundamental problems' in many fields, both scientific and human.

Short Table of Contents: *This thesis comprises two books and other media:*

-*Main Book: Chapters of the dissertation*

1-Introduction

2-Methods

3-Health and illness

4-Perspectival observation

5-Many perspectives

6-Validity and valuing

7-Nexial-topologic deployment of perspectives

8-Ancient perspectivalism, The Earth, and 'The East'

9-Conclusions

- *'Book of Readings':*

24 Appendices (A to F: text extracts for quick reference)

References

- *Other media:*

9 Animations

7 Power Point presentations (slides)

[Presentations PPT1, 2 and 4 can be viewed independently from the thesis.]

See also Image Summaries.

In order to follow the text and cross-references easily, please refer to the chapters and appendices *by name* (see below, and see why in introduction) rather than by the file numbers on the UWS website, which are multiple and do not (for technical reasons) reflect this organisation of the materials. This can be made easier by requesting from the author the **zipped directories** containing the files in proper order.

Contact the author at: mbouchon@dodo.com.au

Following the full Table of Contents in these pages, are summaries *in image* of the overall findings, Power Point presentations, and animations. The introduction details the organisation of ideas in the thesis, the contents of the various sections and the cross-referencing between sections. It also provides a crucial context to highlight why conventional forms of representation were challenged.

- The reader interested in the fundamentals of health or the role geometry in cognition would benefit from viewing the Power Point slides PPT1, PPT2 and PPT4, *before* reading the text.
- The reader interested in uses of topology and the 'fundamental problems' of science and philosophy could focus on reading the fourth to seventh chapters while viewing the animations.
- The reader interested in linguistic, cognitive or human aspects will be better guided by the text.
- The complex chapter on methods is a complex piece destined to academia.

Organisation of the thesis materials: 'site map'

This is a multi-media thesis in 52 files. Here is a 'site map' of their display online at the UWS library.

The materials of this thesis are displayed online as 52 source files, on the website of the University of Western Sydney (UWS) library, at the web address (URL):

<http://arrow.uws.edu.au:8080/vital/access/manager/Repository/uws:3698>

This is the internet URL identifier to use for citation.

The 52 source files online at UWS library are named and numbered, for technical reasons, according to a system different from that of the thesis. Below is a table of correspondence, to help the reader restore the order in which the sections are meant to be cross-referenced in a hard-copy of the thesis. The following '[Table of Files Online](#)' constitutes a 'site map' of the 52 source files displayed online, with correspondence between the online file names and the sections named in the thesis.

Please keep a printed copy of the following table at hand and, while reading, refer to the names of sections in the last column (right) of this table:

Table of files displayed online

at <http://arrow.uws.edu.au:8080/vital/access/manager/Repository/uws:3698>

<i>File #</i>	<i>Description</i>	<i>Size</i>	<i>Format</i>	<i>Contents as named in the thesis</i>
Power Point presentations(slides)				
SOURCE46	PPT_01	12.3 MB	Ms Powerpoint Presentation	PPT1 Body
SOURCE47	PPT_02	4.9 MB	Ms Powerpoint Presentation	PPT2 Models collected from theoretical and philosophical literature
SOURCE48	PPT_03	1.6 MB	Ms Powerpoint Presentation	PPT3 Geometry of Perspectives
SOURCE49	PPT_04	2.3 MB	Ms Powerpoint Presentation	PPT4 Generic imaging by Einstein and others
SOURCE50	PPT_05	11.8 MB	Ms Powerpoint Presentation	PPT5 Nexial-topologic imaging examples
SOURCE51	PPT_06	7.5 MB	Ms Powerpoint Presentation	PPT6 Research notes
SOURCE52	PPT_07	14 MB	Ms Powerpoint Presentation	PPT7 Three geometric rules nexial-topologic deployment
Animations				
SOURCE37	Animation_01	287.4 kB	MPEG Video	1-Trefoil
SOURCE38	Animation_02	17.1 kB	GIF Image	2-Cube & sphere
SOURCE39	Animation_03	49.4 kB	GIF Image	3-Bubbling up-and-down pulsating
SOURCE40	Animation_04	556 kB	GIF Image	4-Linear development
SOURCE41	Animation_05	399.1 kB	GIF Image	5-Rainbow fountain deployment
SOURCE42	Animation_06	32.1 kB	GIF Image	6-External homothetic centre of projection
SOURCE43	Animation_07	29.6 kB	GIF Image	7-Internal homothetic centre of projection
SOURCE44	Animation_08	76.3 kB	GIF Image	8- turn-around or turn-inside-out (fircure 8)
SOURCE45	Animation_09	249.3 kB	MPEG Video	9-Grav-waves: gravity, graveness, gravitation, gravid

File #	Description	Size	Format	Contents as named in the thesis
The dissertation's chapters				
SOURCE 1	XML Document	8 kB	XML Document	Abstract
SOURCE 2	Front	3.4 MB	Adobe Acrobat PDF	Front pages: cover, preliminary pages, Tables of Contents
SOURCE 3	Chapter_01	85.1 kB	Adobe Acrobat PDF	1 – Introduction
SOURCE 4	Chapter_02	338.5 kB	Adobe Acrobat PDF	2 – Methodology and research process
SOURCE 5	Chapter_03	157.2 kB	Adobe Acrobat PDF	3 – Health and illness
SOURCE 6	Chapter_04	87.4 kB	Adobe Acrobat PDF	4 – Perspectival observation
SOURCE 7	Chapter_05	158.8 kB	Adobe Acrobat PDF	5 – Many Perspectives
SOURCE 8	Chapter_06	171.4 kB	Adobe Acrobat PDF	6 – Validity and Valuing
SOURCE 9	Chapter_07	665.2 kB	Adobe Acrobat PDF	7 – Deployment of perspectives
SOURCE10	Chapter_08	184.4 kB	Adobe Acrobat PDF	8 – Ancient Perspectivalism
SOURCE11	Chapter_09	142.6 kB	Adobe Acrobat PDF	9 – Conclusions

Annex Book of Readings

SOURCE12	Appendix_01	246.7 kB	Adobe Acrobat PDF	Appendix A – Nexial-topologic vocabulary
SOURCE13	Appendix_02	23.8 kB	Adobe Acrobat PDF	Appendix B1 – The lever experiment
SOURCE14	Appendix_03	71.3 kB	Adobe Acrobat PDF	Appendix B2 – The 3-stars experiment
SOURCE15	Appendix_04	187.3 kB	Adobe Acrobat PDF	Appendix C – Endnotes
SOURCE16	Appendix_05	69.4 kB	Adobe Acrobat PDF	Appendix D – Research materials and techniques
SOURCE17	Appendix_06	83.8 kB	Adobe Acrobat PDF	Appendix E – ‘EEs’: collected special experiences
SOURCE18	Appendix_07	477.7 kB	Adobe Acrobat PDF	Appendix F – F1-F2-F3 MythsText extracts
SOURCE19	Appendix_08	150.4 kB	Adobe Acrobat PDF	Extracts F4 – Syndromes of instability
SOURCE20	Appendix_09	55.1 kB	Adobe Acrobat PDF	Extracts F5 – Gauging thinkers
SOURCE21	Appendix_10	53.4 kB	Adobe Acrobat PDF	Extracts F6 – Brain Central Control
SOURCE22	Appendix_11	106.5 kB	Adobe Acrobat PDF	Extracts F7 – Landscapes and forms of stability
SOURCE23	Appendix_12	33.4 kB	Adobe Acrobat PDF	Extracts F8 – ‘Establish’: forms of stability
SOURCE24	Appendix_13	41.6 kB	Adobe Acrobat PDF	Extracts F9 – Deep Confusing Questions
SOURCE25	Appendix_14	46 kB	Adobe Acrobat PDF	Extracts F10 – Left and right: two ‘hands’ of quickening
SOURCE26	Appendix_15	49.7 kB	Adobe Acrobat PDF	Extracts F11 – Red spot on the face (mark on forehead) – a topographic surface phenomenon
SOURCE27	Appendix_16	47.7 kB	Adobe Acrobat PDF	Extracts F12 – Mysterious pass, Mysterious place, ball, primary & secondary
SOURCE28	Appendix_17	35.9 kB	Adobe Acrobat PDF	Extracts F13 – San Jiao meridian and Principle of inversion
SOURCE29	Appendix_18	24.3 kB	Adobe Acrobat PDF	Extracts F14 – ‘Mysterious Female’
SOURCE30	Appendix_19	33.6 kB	Adobe Acrobat PDF	Extracts F15 – Virtual reality and space
SOURCE31	Appendix_20	43.6 kB	Adobe Acrobat PDF	Extracts F16 – Variable body: twist, degeneration, ‘incomplete’
SOURCE32	Appendix_21	69.5 kB	Adobe Acrobat PDF	Extracts F17 – Anatomy notes
SOURCE33	Appendix_22	32.8 kB	Adobe Acrobat PDF	Extracts F18 – Rules of localisation-extension in the literature
SOURCE34	Appendix_23	22.3 kB	Adobe Acrobat PDF	Extract F19 – Integral Inquiry (Braud)
SOURCE35	Appendix_24	20.7 kB	Adobe Acrobat PDF	Extracts F20 – Published ‘Exceptional Experiences’
SOURCE36	References	151.3 kB	Adobe Acrobat PDF	References

A note on the use of Topology in this work

- A difficulty has appeared in understanding this thesis, and any possible misunderstanding needs to be cleared from the start.

Topology is unknown to human scientists, and physical scientists use mostly only its mathematical formalisms.

The physical scientist should note a fundamental difference between *mathematical* topology and the form used here. The **'Nexial-Topology'** described here **is, in its 'native' form an application of topology 'without holes', 'without discontinuities'**. Discontinuities are characteristic of deployed perspectives, systems of analysis, and topologies. The difference may appear obscure, so an appendix has been added. Please take the time to read it.

The human scientist should become familiar with the nature of this geometric discipline, to gain a rough idea of what is involved in this work. The geometric aspect, when 'deployed' into flat images, is related to symbolism, but if undeployed, it is a 'native ability' that is related to gesture. Please take the time to read the appendix mentioned: it gives some simple explanations of what is meant by 'topology'.

Please take the time, *before* reading this thesis,
to read the appendix that details the forms of topology:

Appendix C4\ Topology

The major findings derived from using this form of topology 'without holes' are given in the *image summary 1: Overall findings* (see above). This is meant to offer a practical context by referring to some common questions of daily life, and the remarkable answers that Nexial-Topology can produce to answer them.

Before reading this thesis,
Please take the time to peruse:

Image Summary 1: Overall Findings

Image summary 1: Overall findings

—————3 geometric rules of 'deployment'—————

(from <PPT 7 >)

'turn-around' - 'turn upside-down' - 'turn inside-out'

Rule of 90°: spreading-at-surface 'deploys' and localises in extended naturalistic and realistic spaces

Rule of 180°: built-in symmetry & circularity create general-specific perspectives

Rule of 360°: to complete-perfect deployment into 'systems', 'worlds' (some 'hidden', 'dark', or 'lost') is a boundary making-breaking, H-inversion, Sc- reversal, Sc-H-'return', and yields repetition, periodic instability, and endless fine-tuning or fall-apart ('cloud')

All 3 operations hide a 'drift'

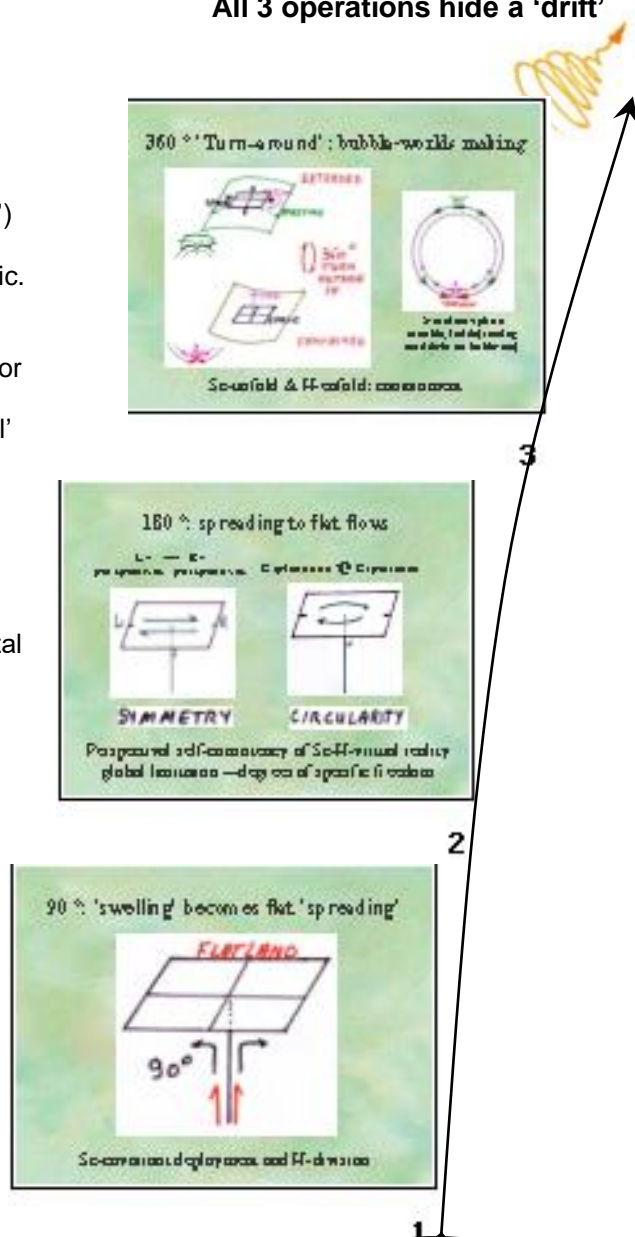
'Advanced' RePresentations
(with nexial discontinuities)
are *not quite* equivalent to the undeployed view of the 'Presenting' situation (topology with no 'hole') and, in practice, do *not* quite 'return' to it. They exPress a drift, semantic, genetic, and generic.

3 orders of expressions exist, with similar nexial characteristics but different patterns. This is of major significance for theories, including in symptomatic description of diseases, syndromes, and generic 'ill' states, as well as for concepts of resilience and immune 'defence'.

The Anthropoc Principle is known to science (also anthropomorphism);
Physicalism is known to humanities (here extended to 'physikemorphism' in fundamental sciences);
'Spiromorphism' characterises the integration of both science and human domains. These conventions of representation are only means of 'localisation' and 'extension'.

So, do we 'create reality'? No and yes.
We 'deploy the situation' into detail, specific or generalised, civilisation, culture, Ignoring non-local 'gauging'.
Our alertness produces perspectival 'valuings', and beginnings and ends (including discontinuity – periodic or not –, or SurVival), Leaving global 'ease'.

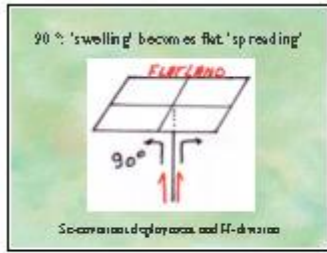
This is viewing critical boundary as ubiquitous. Is it, really? Not according to nexial-topology.



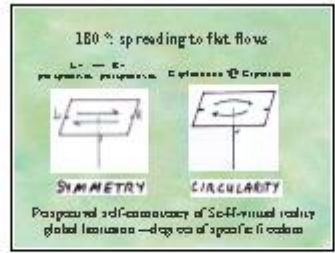
Gauging
(non-localised)

only 'approach' Boundary
(no critical 'reach' Boundary – no 'hole' – no extensions)

————— Result of 'deployment' into perspective(s) —————



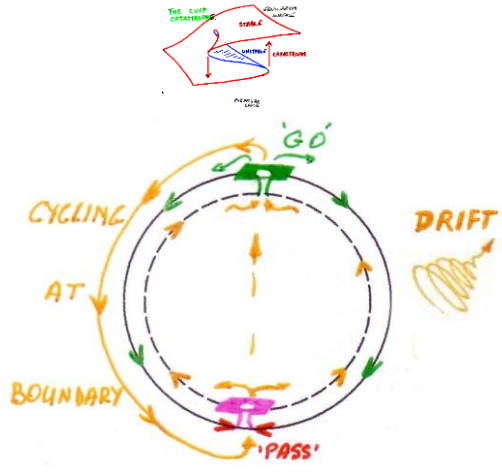
1



2



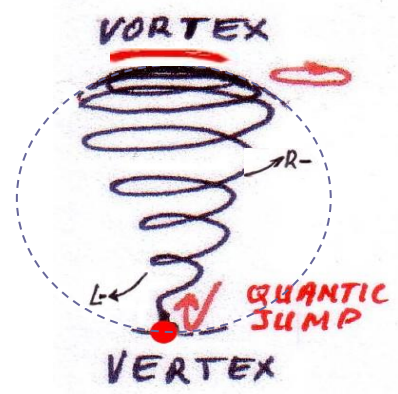
3



4

Push to Boundary:

Endless 'bubble'-spaces making-breaking (worlds, objects, subjects, 'systems'... things)
 'Rise' and 'raise' again and again, into critical states (Directed pressures & keep up)
 Genetic drift, semantic drift ...
 Drift into generic scatter ('cloud', fragment, dissipate, deGenerate) & virulent 'grav'-waves:



Periodic instability
 (chiral Left-Right)

Ignore and invalidate

the obvious, in any field, in both human and scientific domains:

the most basic means:

Gauging (unfragmented: no 'valuings')	(φs) Soundness – Safety – Sanity (mostly no orienting-pressure daily living)	'Ease' (no unbound-rebinding)
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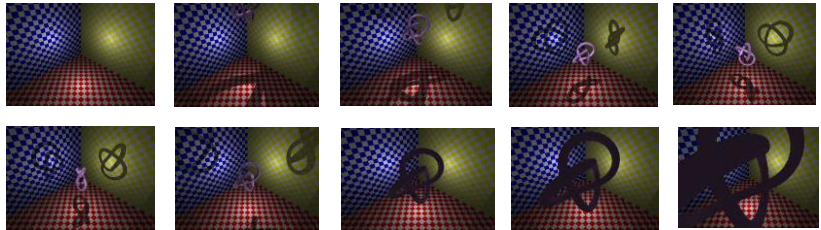
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Animations

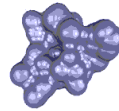
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<3 Bubbling up-down>



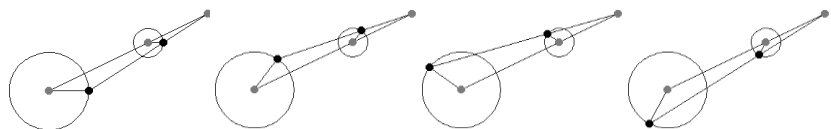
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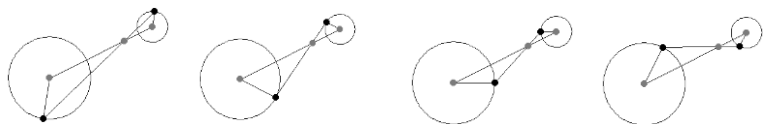
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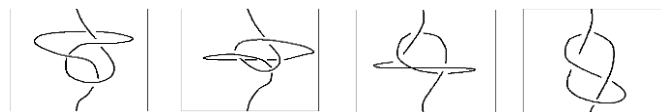
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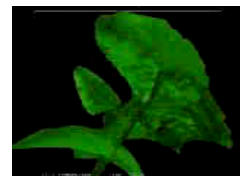
<7 Homothetic centre Internal>



<8 Figure 8 transform>



<9 Grav-Wave> (gravitational wave)



<PPT3 Geometry of perspectives>

Geometric properties of perspectives:

3D geometry of explanation and/or geography of explanation.

Geometric properties of perspective

1

Perspectives: 3 axes of complexity in both explanation and experience

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

2

Shapes in transformations & human frames of reference

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

3

Scientific systems of coordinates and their dual transforms

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

4

The 3 'fundamental' perspectives: horizontal, axial or radial, line axial, representations do not match totally

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

5

3 geometries and 2 geographies: experience and explanation

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

6

Transformations of shape in 3D: 'shaping' of explanation/experience

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

7

Shapes of late stone age 'tokens'

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

8

Gesture: wriggle, path, circle to represent modal transformations

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

9

'Shape' in the construction of fields' of articulation

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

10

The 2 hands of ...: an example of psychomorphism - anthropomorphism

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

11

Physiomorphic - Anthropomorphic

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

12

One-wayed or axially developed forms have a 'drift'

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

13

'Nexial-topology' (deployed) modelling shows that the same generic parameters frame perspectives in any field.

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

14

<PPT4 Einstein>

Nexial-topology: Narrative capacity from which the iconic symbols of culture appear non-locally.

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

1

The emergence of axes, axes are, in themselves 3 people's 3 ways - A 'non-local' cultural analogy?

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

2

'Turning' around the animals' geometry into concepts embodied in Einstein's

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

3

Compare to 'Making one' in Dialectic, mysticism, and cosmology.

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

4

Bubble-worldmaking: the result of concepts embodied to be able

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

5

Is it 'real, ideal, imaginary'... or 'imaginary' and real numbers of time /space projections?

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

6

Comparing general relativity, quantum, and the electromagnetic

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

7

'Nexial-topology: A 'native', non-teleological, non-linguistic way to 'use' the 'shaping' of a situation with or without naming according to concepts embodied framing.

1st axis: dimension of time
2nd axis: dimension of space
3rd axis: dimension of complexity

8

<PPT5 Nexial-topologic imaging> (examples)

A collection of flat nexial-topologic imaging to understand the literature.

1

Problems solving

2

Words in the world of science and the world of the mind

3

Words in the world of science and the world of the mind

4

A study of the Einstein 'Wave'

5

Words in the world of science and the world of the mind

6

'Complex' map of psychology

7

Examples of polar (N-S) axial imaging

8

Examples of axial fibro derivations

9

Words in the world of science and the world of the mind

10

Examples of dual (N-S) topographic imaging

11

Examples of topographic fibro derivations

12

Words in the world of science and the world of the mind

13

Creating and cycling in boundary axial

14

Creating and bubble-world making

15

Bubble-world making

16

Next deployment: axial-topologic boundary and bubble-world making

17

A social-topologic view of full proposed deployment

18

All is about bubble-worlds making

19

A full picture of axial-topologic deployment of proposed

20

Canonical icon: the tree

21

A full picture in complete non-deployed and deployed axial-topologic

22

3 geometric rules of nexial-topologic deployment

23

90° 'swelling' becomes flat 'spreading'

24

180° limitation to flat-flows

25

300° 'in-around': bubble-worlds making & breaking

26

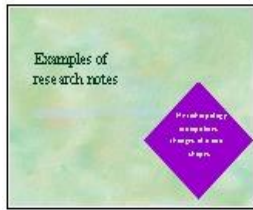
A full picture of non-deployed nexial-topology

27

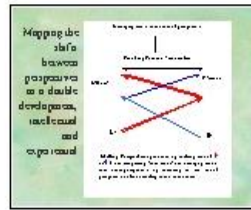
'Nexial'-topology: innate gauging

28

<PPT6 Research Notes>



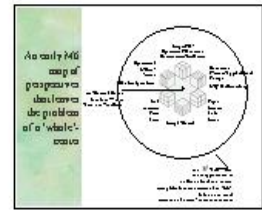
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2



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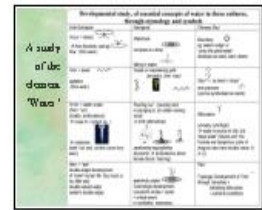
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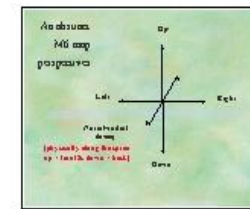
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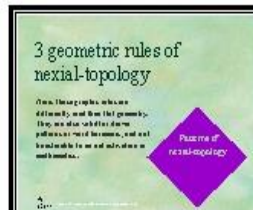


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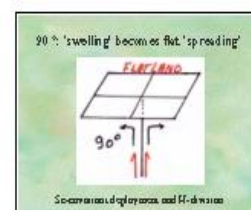


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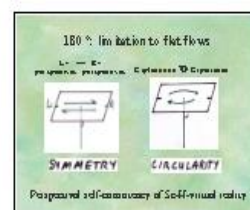
<PPT7 The 3 geometric rules of nexial-topologic deployment>



1



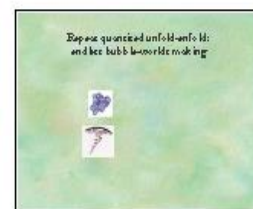
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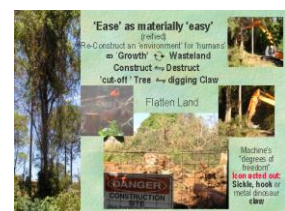


5



6

in <Conclusions>: 'wasting'



'Nexial-topology' situation modelling: Health ecology and other general perspectives

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The 'not well understood' in detail*

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Experiments for the reader to perform
Experimentation
Experiences
Explanations in the literature

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Healing
disturbed
medical
body



Critical
fluid
motion



General
Relativity:
asymmetric
spin
distorsion



'Wind':
Air or
Water



Marika Bouchon
Ph.D. thesis, 2008, Centre for Social Ecology Research
UNIVERSITY OF WESTERN SYDNEY, AUSTRALIA

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List of Abbreviations

□	symmetry
↻	circularity or circulation
L-, R-, M-	Left- and Right- (perspectival biases), and Middle (or centre)
Sc-, H-, Sc-H-	scientific, human, or (combined) scientific-human domains
M2, M3, M4...	a model 'by the Number', containing 2,3,4... general categories or types, or symbolised by a geometric figure characterised by the number (eg 'M3' for a triangular model)

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8	<8 Figure 8 transform>	.gif
9	<9 Grav-Wave> (gravitational wave)	.mpeg

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This is a multi-media thesis with many files. For a 'site map' of their display online at UWS, please consult the section: '[Organisation of the multi-media materials in this thesis](#)', in the "Front" pages file, after the Abstract. Please, also refer to Appendix C ([Endnotes](#)) for comments on a number of generalist concepts used in this work, such as: topology in its various forms, the terms 'nexial', 'core culture' ('secret' culture), integral.

Introduction

'Why do scientists grasp the importance of visual imagery, while most humanists accept the hegemony of the word? Scholarly publication in the humanities generally degrades imagery, and in many ways. Many thick tomes have no pictures at all... Images when present, are often only "illustrative", are often collected in separate sections, divorced from textual reference and therefore subsidiary.' (Gould 1995 p.40)

'If icons are central to our thought, not peripheral frills, then the issue of alternative representation becomes fundamental to the history of changing ideas in science (and even to the quite legitimate notion of scientific progress!) How shall we draw the geometry of contingency?' (Gould 1995 p.67)

The 'geometry of contingency', together with that of necessity, were at the core of the findings in this research, and geometric images are the core of this work, rather than subsidiary or illustrative. They allow to model health phenomena and developments of theory and practice, of explanation and experience, of technological progress and the concurrent rise of periodic instabilities all at once, bypassing the contemporary tendency toward complex representations. Reporting these is best done with geometric animations, applied to a particular situation. Yet, for the general and practical implications in specialised areas to be apparent, complex textual explanations have been necessary. This dissertation is, therefore, a composite of animations, geometric images and text, involving excursions into

vastly divergent fields. It invites the reader to take a fresh look at the notion of physical health, first by gaining a general view of our explanations of it, and of the many ways of experiencing ‘feeling ill’ or ‘healthy’. Then, modelling this together with the global ecology of human soundness, sanity and safety through an imaging based on the mathematical discipline called topology, brings to view a ‘big picture’ (this expression is not quite adequate) that gives access to unusual options. (What topology means is summarised page 9 below; see also Appendix C, in the <Endnote C4\ Topology>¹.)

This research studies the *general* ‘perspectives’ and biases that characterise our explaining and experiencing, which affect perception and what we consider ‘healthy’. The study brings out implications, by focusing first on a reduced scope of ‘physical health’ in a particular situation: low-grade chronic illness. How ‘we’ construct this and ‘create’ this experience, is only a starting point for the exploration of general ideas such as ‘high/low degree’, found in all fields reviewed in this work, in various forms of theory and practice. The ‘field’ studied in this research is discussed in <Methodology\ A global field accessed locally> (p. 55).

The explanations and experiences involved in the exploratory and mapping phase of this research may be of the accepted and recognised kind, or controversial, current or ancient. Those reviewed in this research concern many fields and are approached as expressions, in these fields of general ‘perspectives’. Imaging can help to visualise how, in general, we derive these perspectives, and model their final developments and origins, as well as some consequences for the body’s health. The theoretical part of this work is supported by an experimental investigation of bodily ‘signs’ and ‘signals’ too small to be called ‘symptoms’ and of internal sensations, related to the effects of various methods for ‘getting better’. These are also linked to the progression, recurring crises, and roots of low-grade chronic illness, and phenomena deemed ‘induced’ or ‘spontaneous’ are not excluded from observation in this study. The words used to describe the usually unexpressed symptoms, sensations, or little defined ‘global notions’ may appear ‘obscure’ to the reader, because modern language

¹ In this referring notation, the broader chapter or appendix is followed by “\” and a sub-section, sometimes two. This aims to provide context while following different dimensions of thought.

either no longer formulates them or has no collectively accepted way of doing so.² Imaging brings to light areas that are commonly ignored, and which have implications for old issues in medicine, such as physical self-care, patient compliance to treatment, communication in the clinical encounter, what is ‘normal’, and what constitutes ‘improvement’. The findings involve the cultural attitudes and practices that surround the body and behaviour, in daily life and particularly in childhood.

Previous investigations into external aspects of human living, and a two-year Masters inquiry (Bouchon 1998) into mind, consciousness, spirituality, and the ‘New Paradigm’, had made it clear that postmodernist relativism and ‘New Age’ explanations of the creation of reality by human consciousness or mind projection have their limits. They may explain the diversity of our mentally and socially constructed ‘realities’, perceptions, and notions of ‘embodiment’, but clash with some philosophies of nature, of primitive simplicity and spontaneity, and with basic empirical ‘self-evidence’ of physical reality. They are inconsistent with the immediate sense that something does ‘exist’, which my mind cannot invent without logical circularity – for example my pre-existing body and its senses. A question was left open:

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

This interest in material reality was partly motivated by the current ecological and societal crises, and partly by a mother’s concern about her son’s health, sanity, and future in this fast changing and stressful world.

The particular angle of approach – the physical body and its health – arose from a practical situation, my stress-related health breakdown and falling into chronic illness. This was diagnosed as Fibromyalgia (FM), which is also named Myalgia Encephalitis (ME, related to

² This is discussed in several sections: Confusion about concepts: <Methodology\ Problems of definition> p.32.>; ‘cryptic clues’: < Methods> p.47; ‘secret’ and arcane knowledges: <Endnote C6\ Core culture>; ‘global notions’: are introduced in <Ancient Perspectivalism>; ‘the obscure’, and meaning difficult to understand for usual frameworks: <Ancient perspectivalism\ ‘Obscure’ vocabularies>, <Appendix A – Nexial-topologic vocabulary\ Obscure words and ‘dark sayings’>, <Extracts F18 – Rules of localisation-extension in the literature> and <Extracts F5 – Gauging thinkers\ ‘Obscure’ wording of the ‘space’>.

brain swelling) and Chronic Fatigue Immuno-Dysfunction Syndrome (CFIDS or CFS). The brain and cognitive effects, and endemic brain infestation would make the word 'encephalitis' relevant, although my brain shrinks rather than swells, but in any case, the name 'ME' has been abandoned in official definitions. The multiplicity of symptoms, physiological systems affected, 'accessory' conditions and commonly connected diseases, and their variability, is shared by a number of other chronic syndromes such as Irritable Bowel Syndrome, Post Traumatic Stress Disorder, Metabolic Syndrome, etc. This makes the syndromes difficult to differentiate and diagnose. Yet, one distinction is clear and is related to the degree of gravity. 'Chronic illness' can cause medical high emergencies, organic injury, and threaten life (eg losing feet and kidney failure in diabetes, organ failure in auto-immune diseases). This expression, however, also covers 'low-grade' conditions classified as 'syndrome' rather than 'disease'. The present work focuses on the impairments and progression of low-grade chronic syndromes – that is, those that do not threaten to soon result in final physical death. In this case, the names attributed differ according to the most visible manifestations and apparent triggering factor(s), but also with the doctor's perspective on 'the fundamental cause', and best treatments: No single cause has been found and widely accepted for FM-CFIDS-ME, so it is sometimes considered multi-factorial, and many illness names correspond to related conditions (a list is collected in Appendix F4). As for most of these syndromes, the specialised literature often mentions that they are 'not well understood', before taking a particular causal approach (eg stress, food allergy, lifestyle, "it's in the genes", etc.). The most formal biomedicine even denies the existence of CFIDS altogether, partly due to the limited dominant view of it as 'mere fatigue', and to the lack of information on the wide range of symptoms and systemic manifestations, which are also found in diabetes and auto-immune diseases, with more gravity. Controversies involve standards of normality, both physical and behavioural, and unclear risk factors related to family (apparent 'contagion'), location (geographical clusters), and events (previous viral infection, stress, trauma, overwork, etc.).

Strategies for medical cure, for practical improvement of the patient's many limitations, for holistic healing ('alternative medicine', inspired by traditions or Eastern practices, and 'complementary' medicine), or for general well-being, are in no better agreement. The bewildering contradictions range from controversies, in both theory and practices, to the vagueness of lifestyle and dietary advice (is bread 'good for you', does it 'make you fat' or even allergic?), the impossibility to obtain a straight answer about a question as simple as 'what is a healthy diet?', the plethora of alternative treatments and herbal or nutritional supplements on offer, etc. All these make it impossible to make any sort of reasonably 'informed' decisions without serious medical education, and without using medical helpers as an information network. Furthermore, specific treatments rarely take into account previous states of health: the personal standards of 'feeling healthy' are different in various individuals, and sometimes do not correspond with statistically normal standards (indexed by age). The assessment of 'successful' treatment results also does not take into account the frequent (but generally undocumented) progression to a later, worse, yet more clearly diagnosable disease. In such cases, the progressed disease is generally considered as unrelated to the earlier syndrome, or as righting a previously wrong diagnosis. Yet, it offers an easier way to make sense of the developing condition, and gives easier access to known treatments. All this is complicated by the great diversity of existential meaning attached to illness by patients, who sometimes even consider it spiritually positive (eg "It is the best thing that ever happened to me"). The clinical literature also attaches *personal* evaluation to illness, as giving 'secondary' social benefit, or being, in itself, an unconscious psychological benefit. All medical/health factions also make wild success claims for their treatments, which can often not be clearly assessed except by directly trying them for oneself (even medical drugs). This utter confusion is one reason that leads most patients to rely on medical expertise.

Consequently, in this research, there was a need for some kind of classification and organising principle for 'mapping' the various perspectives into a general scheme. To

understand this situation, I also had to test empirically some of the explanations and claims, and find out what the actual effects are, their variations and the reasons for them, and whether there was likely differences in the effects between individuals or between the possible 'body types' or different baseline 'states of health' before illness. For example a brain stimulant can correct one person's health but cause an epileptic fit in another – this is part of what medicine calls 'side effects', and is a common problem in the uneducated use of herbalist treatments.

The elementary types of classifications and models I found in the literature, and those developed through the study of theories and experiential styles in many areas, are also present in the ground knowledge of medicine. For example, the descriptions of the body follow familiar elementary principles of intellectual construction and explanation of physical or material reality (eg operational: how things 'work', and connections we recognise) and of experimental/experiential finding (eg structure-function). Medicine thus involves four well-known styles of explanation/ description (respectively): anatomy, physiology, metabolic operations (or transformations) and nosology (disease-defining linking sets of symptoms. All four are reflected in the education of clinicians, but fail to account for low-grade chronic conditions, and yield the inevitable necessity to introduce complexities such as those of medical biochemistry and genetics, and therefore new styles of explanation. There are many ways of defining 'elementary' principles or categories; these are developed through most of the chapters.

Two of the most common, elementary, habitually unrecognised taxonomies are apparent in:

- (a) the three systems most often mentioned: nervous, endocrine, and immune systems, and
- (b) the dual distinctions such as parts and whole (eg cell and organ, the whole body and its sub-systems), objects [or subjects] and relation [or interaction] (eg organ-circulation, body-mind, body-brain, self-world, body-environment).

Both rely on the general notion of a 'system', which is understood differently under various styles of explanation (eg whole, object or thing). It takes different names as it is applied to

(or drawn from) diverse fields (eg social systems and organisations, the mind's self, spatial bodies in physics, the body-organ-cell biological hierarchy, the objects and subjects of human sciences, etc.). Such fundamental notions, not always basic, are the source of the parameterisation developed in the first phase of this work, for an analysis of the various perspectives that is applicable across fields ('perspectival analysis'), and across scientific and human domains. Integrating these domains into a common classification system permits a generalist approach. The combination of fundamental parameters gives a picture of 'health' that involves medical methods based on ideas such as activation of sub-systems (eg sexual drive, immune defence), compensating for negative effects (eg relax to reduce tension, purposefully avoid allergens), and practices that restore binding integrity (eg breathing, exercise, eating fresh foods or juices, spinal adjustment). These ideas lead to strategies that typically focus on:

- (a) inducing reaction (directed response), to normalise behaviour, or optimise or improve it,
- (b) stabilising the functions or circulations to prevent extremes,
- (c) establishing structural integration (binding) to prevent breakdowns.

All of them rely on either the physical entrainment of brain-driven processes (eg neuro-endocrine triggers, balancing feedbacks) or mental self-control involving intent, choice, decision, will, imagination, visualisation, etc. The aim is to exert active or directive ascendancy over the body, and shape it for use by the more 'interesting' self-mind inhabitant of the body-machine or vehicle, or the more 'complex' brain-mind (more 'evolved' than mere mechanical or animal physicality).

The problem is that these strategies, which we learn from childhood, were exactly the crux I was finding for my 'illness': an apparently normal body (according to others and to most medical tests – available in Australia –) but with too sensitive reactions, a chronic stress-alert climaxing into acute extremes and collapses (although 'small', not threatening with physical death they involve the entire lifeworld), and a progressive breakdown – the falling apart and 'consuming' or 'wasting' of the tissues systemically, with focused localisation in nerves,

spine and brain. The body was, altogether, also driven out of physiological effectiveness by both brain and mind (rather than brought by them to a restored health). This ineffectiveness involves vital activities such as breathing, body temperature, sleep, self-care, and inability to recognise precisely signals of 'physical need' (eg not knowing if 'need' means hunger, thirst, or need to breathe or move, and having to try one after the other). The explanations of causes and effects just did not fit. The brain, over-focused mind, and constant requirement to use both to 'cope', control, and for purposeful work, appeared as the *cause* of both the internal manifestations and external effects (lifestyle becoming 'stressful'), rather than as a *solution* for the condition. The accepted explanations presented a 'turned-around' view of the situation I was facing. Williamson & Pearse (1980) have noticed such an inversion, in another way and in a different context (see discussion of health in the next chapter), but it exists in other fields as well.

As a reasoned strategy, trying to take a holistic approach by synthesising brain central control and self-control over the physical body, its internal patterns of activity, and external behaviour (that of the human person), creates a causal circularity between the physical and the mental aspects of the head: One uses the mind to 'balance' the brain and external 'personal' behaviour, and the brain to regulate the mind and internal 'physical' behaviour. This translates into vicious circles and recurrent phenomena, and eventually gets out of hand. In practice, it is this very strategy that had left me with a mind in chronic stress, an over-used brain in chronic alert, now too damaged for efficient control of even the basic physiological functions of a strained body. The vital functions of the body had become so ineffective *on their own*, that constant mental self-monitoring had become a daily survival necessity to permanently make *conscious decisions* for actions as primary as calming the mind and brain to go to sleep, remembering to eat, drink, and even breathe (having to use a timing clock as a reminder when sitting for any length of time). This also spiralled out-of-control into recurring collapses from slight effort, into what feels like a 'brain storm' and into increasing dehydration and chronic swelling and 'burning' pains. Existentially all this correlates with

socio-material difficulties as well, and represents a ‘state of stress’ that has no particular ‘cause’ or ‘triggers’ but itself and which ‘pushes’ itself to extremes. Almost everything, inside and outside, that is ‘normal life’ to others, becomes ‘stressful’ and a source of ‘allergy’ (even taking a shower). Usual explanation could not account for these matters.

Problems related to explanation can be found in many other fields, particularly the general definitions used in theories and philosophies (an example is considered in relation to methodology). Through a ‘perspectival analysis’ (primarily but not only) based on linguistics and vocabularies, these can be clarified and organised into an overall ‘perspectival map’ that can represent both a specific case of illness (low-grade chronic syndromes) and a general image of our notions of health. It is a map of a general system of explanation and construction of experience. (There are many.) Using this way of analysing, one can also track *forward* the development of characteristics of illness that become generalised (eg inflammations and their developments into neoplasia and other degenerations), as well as the evolution of general perspectives (eg types of thinking, experiential styles, body types, and ancient ways of observing). Yet some other phenomena still do not make sense that way – for example, the *origin* of ‘spiralling up’, of ‘priming’ (what initiates or pushes into a ‘shift’ or ‘jump’ event). Using a different range of methods allows one to trace *back* the history of ‘behaviours’³ (or ‘workings’) and the expression of forms (eg aetiology of a syndrome, paradigmatic reaction at the source of a new perspective), to an ‘initiating beginning’ or ‘origination’ process. The various explanations, symptoms, and sensations of illness can also be *traced back*, and their characteristics studied, through topographic images (eg core-surface, centre-periphery) and simple geometry (eg up-down on a vertical axis) that shift from one iconic figure to another, representing ‘orders’ of development or of generalising, or localising effects (eg fibrous concretions, worsening chronic low-grade dehydration). This kind of modelling is a dimensional animated geometry based on topology, which is here developed into a method that I call ‘nexial-topology’. (This ‘geometry’ is presented in

³ The term ‘behaviour’, as employed in this work, means ‘workings of’ rather than the ‘externally’ observable actions or ‘internal’ motions of an object or subject, and describes nexial and topologic ‘properties’ rather than conventional movements and activities.

chapter <Deployment of Perspectives>.) It is apt to model and help understand what other methods cannot. It is presented by using geometric animations that can be related to a particular kind of daily life gesturing we use in speaking of stress pressure, strained activity, or of a restored state of ease, freedom or peaceful *joie de vivre*. The term 'nexial' is used in the literature to develop notions of activation and deactivation. (presented in Appendix C, in the <Endnote C5\ Nexus, nexial and nexialism>).

This dissertation aims to demonstrate that medical descriptions and strategies of improvement are derived *under* particular, sensory-based 'perspectival' views that may be perfectly self-consistent in a domain of application, while mutually inconsistent as general views. For example, a 'strong reaction' is a problem in nutritional medicine (eg allergy), but reactive strength is sought by athletes and in sports medicine, and strong effects (or fast, obvious) on the body or brain are prized in general medicine. Each view is logically self-consistent, valid and useful in its field (explanations, aims and values consistent with practical actions and observations), but together, as a general approach, they cause paradox and major questions concerning dosage and timing, but also high risks in the application of amino-acid 'loading' (leading to regulation of product sales).

Not only that, they also place health *inside* a systemic framing of 'the body' (or body-mind) that correlates with the appearance of limits and occurrence of 'boundary conditions' (for example, emergency or critical threshold). This is not taken into account in our understanding of health and of the low-grade syndromes studied here (nor in developments in fields studying other objects). Some of the characteristics of such syndromes will be shown to derive from the systems of representation themselves, and the strategies for healing and improvement practices that they prescribe, rather than from an intrinsic characteristic of the individual affected (or of environmental exposures, toxic or beneficial). For example, many 'symptoms' in *low-grade* chronic 'illness' correspond to *damaging* effects of such dosage and timing, or critical thresholds and 'state of alert', etc., which appear under lifestyle pressures normally valued. Without the positive evaluation of such directive

pressures, the condition is no longer devalued as an 'illness'. So the organisation of these perspectival explanations and practices is a core issue and is related to ways of 'valuing' and formulating.

Another example of problems of representation relates to symptoms of 'dying' and 'risk of death' as observed and treated in hospitals. They are associated with the idea that a person's body will or may soon be 'dead'. A few physiotherapists have confirmed to me that low-grade conditions can display highly similar symptoms (eg dry mouth, difficulty swallowing, disturbance from gentle interventions). They are, however, associated with a mere 'sense of impending doom', which I apprehend as a sensation of 'being in-dying', and which is often interpreted as a 'belief she is sick' when 'really, it's all in her head'. Yet nutritional science often finds this to be an 'imbalance in the brain'.

These are just striking examples, out of many, of fundamental problems in both explanation and findings (experimental or experiential) that involve both scientific and human domains. Moreover, these medical examples are only the tip of an iceberg: similar 'fundamental problems' exist in philosophy, in physics, in transpersonal psychology, in linguistics, in palaeoarchaeology, and many other fields. The implications of modelling with nexial-topology are global rather than limited to the ecology of health.

As far as my inquiries with other researchers could show, *geometric* topology does not appear to be used in human sciences (eg semiotics, ancient scripts) or even in some life sciences (eg salmon life cycle studies), although *topography* is quite common. *Mathematical* topology is the basis for much theoretical physics (General Relativity models, rather than quantum physics, are particularly relevant in the present work) and is used in other physical sciences (crystallography, physical palaeoanthropology – for example, learning about human physical growth and disease in prehistory through the patterns of tooth development). The complex developments of the topology of general systems (representing complex processes in point-set defined systems, using statistics, probabilities, and numerical analysis *calculations*) produce advances in biochemistry, genetics, and computer-based technology

such as medical imaging. It also supports engineering-based theorising for sciences of complex dynamic systems, whose results are popular for metaphorical interpretation in the human domain – but this causes problems for transfer of knowledge between the scientific (physical or natural sciences) and human domains (discussed in <Deployment of perspectives>).

The basic form of *geometric* topology that I use to formalise ‘nexial-topology’ is not ‘mathematised’ and models visually, without measuring the geometric figures, *small* distortion or deformation and the *approach* of boundary conditions, whereas conventionalised topology describes the appearance, occurrence, and repetition of boundary conditions and critical phenomena (See chapter <Deployment of Perspectives>).

This geometric ‘nexial-topology’ is similar to a kind of ‘thinking in image’ that is, it seems, used by mathematicians (see <Endnote C11\ Non-algorithmic>). It also provides an appropriate means for describing *formally* a ‘native’ capacity that some of us use in daily life, and which I associated, at first, with common notions of intuition and instinct. To me, it is a daily-life cognition style correlated with a certain ‘state of health’ (eg not accessible in states of ‘alert’). It is a very practical ‘lived’ animated geometry that ‘shows’ the same kind of properties as those described by topology.

The properties and effects modelled in this dissertation have been discovered through empirical observation, with experimentation helping to find rules, and intellectual analysis helping to find names and existing explanations. My fortuitous discovery of topology while critically examining definitions in various fields (and subsequently of its various definitions and interpretations) allowed me to find partial ways of expressing the properties and rules I found. It also provided a precise way of formulating this ‘native capacity’ as a process of ‘gauging’ an undifferentiated situation with ‘global’ properties (in the vocabulary of humanities, ‘non-local’ in the jargon of physics). This gauging neither evaluates nor measures, but rather ‘models’ by imaging how the situation is ‘shaping’ (this is not imagination, a mental representation). The imaging is apprehended through a ‘local sensing’

of how the situation ‘presents’ in its immediacy, without separating ‘me-observing-that’, and independently of representations bound to conventions of description such as self and world, or space and time, physical and mental. This method clarified for me the sense of ‘turned around’ in understanding, the sense that the many perspectives, as a whole, somehow ‘turn upside-down’ the conditions they represent. For example the role of the brain-mind in health), and its representations are, in terms of moving geometry, a ‘turned inside-out’ view that also manifests in health sensations and reactions (eg to medical drugs) that we sometimes express by saying, ‘I feel all turned out’, or ‘I am dispersed’.

The usefulness of a geometric method to deal with general notions will become apparent if the reader remembers how much symbolic images are an intimate part of both culture and technology. For example, medicine uses pictures of the body for teaching anatomy, and computer imaging techniques increasingly supports diagnosis. In ancient traditions and modern religions, as in metaphorical discourse or company logos, symbolic and iconic images are everywhere and rule the cultural elements we use to construct both our experience and explanations. Simple images also play a major role in theoretical models (think of the evolutionary tree or ladder), and govern our thinking (eg evolution goes ‘up’, not down). Gestural imaging also accompanies our speech and expresses the usual mimicking of motion, of the shapes of naturalistic objects, of speed and direction, etc. It can also express the changes of shapes, and the ‘shaping’ of a situation (eg when we talk of stressful situations or pain, we might gesture ‘increase’, ‘spinning fast’, ‘loosing ground’ and drowning, or ‘going off track’).

The ‘native capacity’ for ‘gauging’ is a well-known feature of human nature but has, to my knowledge, never yet been the object of a formal or technical description that is not subject to perspectival conventions. For example, calling it ‘intuition’ denotes a primacy of mind, calling it ‘instinct’ denotes a primacy of the animal body of humans, and calling it ‘gut feeling’ denotes an association of physical and mental aspects. It has many other such names. A description using ‘nexial-topology’ is independent of any such framing of

experience (that of a self, an animal body, or an emotional being), and of explanatory conventions. As such, it has the potential of achieving more widespread agreement.

As a method, a crucial advantage of nexial-topology for theoretical modelling is that it offers a much simpler means of modelling ‘deployments’ (such as generation and degeneration) by using only two parameters⁴, whereas habitual representations and complex advances of contemporary science require many variables that are dependent on conventionalisation. This method also avoids many paradoxes and pitfalls of philosophical and scientific ‘fundamental problems’ such as those of measurement, value, infinite regression, the excluded middle, or the ‘chicken and egg problem’. Much is currently being written about the need for ‘wild’ models, unitive models, a common ‘new language’, and an understanding the ‘origins’ of the universe, language, agriculture, humans, etc... The present approach, instead, highlights a common change toward ‘advanced’ frameworks in the theories of diverse fields, despite their different vocabularies, contexts and details, a change highly relevant to health. It also correlates with new questions: ‘deeper’, more subtle, specific, detailed, focused, expanded, or broad, etc.). It could reduce their multiplication, as well as the complications introduced by ‘multi-dimensionality’ or ‘many worlds’. It brings out a fundamental symmetry between human and scientific perspectives, which has important functional and structural consequences for experience, and crucial implications for knowledge transfer. It also suggests a different view of ‘wildness’ as ‘undeployed’.

In medicine, this method could make sense more easily of the systemic and metabolic syndromes in various degrees of gravity, without the confusing distinctions introduced by causality, localisation, qualitative specification, quantitative ranges of normality, and complicated naming of clusters of symptoms (or their over-simplification into ‘diseases’). This claim, which may appear suspiciously sweeping, is expounded progressively through the chapters of this thesis. It can be summarised by qualifying the confusing distinctions of ‘deployments’ that do not allow an unfragmented or non-differentiated view, whereas the

⁴ Parameters: orienting and activity. These are discussed in depth in chapter <Deployment of Perspectives>; the various ways of parameterisation are discussed in chapter <Many Perspectives>).

modelling method introduced here allows both conventionalised, ‘deployed’ perspectives (including integrated), as well as an ‘undeployed’ view that does not rely on focused or expanded discrimination. It evades having to separate or analyse (and synthesise or re-integrate) many aspects of a circumstance (eg a person’s life, mind and body), to locate a cause, or to devalue an original trigger or consequent weakness, in order to value a strength or an improvement. As a result, it supports more immediate ways of dissolving or ‘undoing’ illness and of keeping health on track. This could reduce problems of iatrogenic diseases and collective health consequences that arise from general medical advice, which is shifting (eg concerning dietary fat or sunshine), and the burden on the public health institution due to spreading obesity, chronic illness, degeneration and ageing. This applies to other kinds of circumstances as well.

In both scientific and human domains, two basic notions are at the core of many problems, both practical and in theory: water and gravity. They coalesce in medicine, for example, in weakness of vertebral discs and posture in chronic illness, as an ‘underlying cause’ of many systemic dysfunctions (eg though impairing breath and motions), and in the notion of female nature as ‘gravid’ (the source of the ‘inevitable female problems’ in physical and mental health and related to pregnancy). In the collective realm, they manifest in the ‘forces of inanimate nature’ and the rising issue of water supply and use. The proposed approach sheds light on the one aspect of water that is completely ignored – the involvement of its intrinsic physical properties in shaping the body-brain’s health, behaviour, and the mind. All three aspects are implicated in the human hazy sense of gravity or heaviness (in any way the reader cares to interpret these words), and in our endless needs and wants. These drive our chronic and repetitive seeking of all the comfort props of civilisation, which are so wasteful to produce and build.

As a *native capacity in daily living*, nexial-topologic apprehension helps keep a human life or a world ‘on track’ (conventionally: ‘healthy’, ‘sane’, or ‘thriving’), without involving programming, reconditioning, or learning (learned ideas are necessary *to explain* the

capacity, but not for using it). It makes it easier to care for the body, rather than wait for the sense of emergency or for something to go wrong before visiting the medical profession and require constraining, painful or costly treatment (a rising problem). This is its most important role: to help prevent critical events from occurring at all. Children are medicine's warning 'canaries in the mine', doctors say, because the most or first affected by the spreading of disease (as well as suffering and death, according to ancient myths). The role of certain basic spontaneous behaviours that we normally think random, meaningless, strange, even socially rude, and that have no medical explanation, modern or ancient, could now be understood. For example, looking out the window at school, or the 'walkabout' of Aboriginal Australians, are habitually or systematically suppressed by cultural and technological means (eg computer and car). Yet they could alter our fundamental medical views, attitudes to the body's health, and alleviate the struggles of childhood and teenage years especially.

The format of this dissertation

Images, animations and text, in this dissertation, need to be approached in a new way.

The range of fields examined for this study is wide, and their representations and explanations are complex. The various perspectives envisaged rationalise health and the 'physical world' by using various means, and explain their changes through different developmental paths. For example, a skill regarded as 'evolved' in one perspective may be considered 'primitive' in another, or just one 'type' in a third one. The chapters are not numbered hierarchically because any number of sequential rationales or meaningful paradigmatic 'stories' could be drawn from the issues addressed in this work, with different evaluations for the same thing. This thesis aims to model something that does not rely on value or on a special viewpoint. It starts from the mosaic of explanations and the patchwork of experiences, organises them into a general landscape, to introduce another way of apprehending them, more 'generic'. The account may seem disjointed until a global picture is built in the reader's mind. Some sections may be difficult to follow because the reader may be taken to unfamiliar territories. On my part, also, I am bound to have failed to come

across many relevant and even seminal works in specialised fields, but their general approach would be included, even if through entirely different contexts and vocabularies.

The use of images in this work is varied. Some of the images are abstract representations (models) that manipulate general ideas; others are concrete representations that describe objective facts or experiences. The geometric images and 3-dimensional animations are used in an attempt to visualise certain properties that connect them. A single developing field or space observed may warrant different geometric images to highlight different properties. This may create apparent inconsistencies *in the text*, which only exist because words represent separate idealisations (generalisations or specifications). Some topologic properties are difficult to explain even with geometry. A live sketching related to particular daily life conditions would make it easier to see implications and how they may overlap. This is not possible in a written account, and so the multi-modal format palliates this by (1) making multiple cross-references to the 'Book of readings' and other sections, and (2) by encouraging an intuitive overview of implications through a connection to the reader's own living situation. The use of animations and Power Point visuals is designed to suggest analogies and metaphors drawn from the reader's daily life in both its globality and its most subtle details. This may include gestures and sensations, health changes and developments, emotions and ideas, a general sense of one's life, and even a sense of 'where the world is going' and what humans may appear to risk, and to be missing or have lost.

The texts provide explanations and details to link images to the store of knowledge and of experience, and this complicated unavoidably the organisation of the thesis. Each chapter relates to a distinct sphere of knowledge and experience, and ushers the usefulness of images and topology. Inversely, the chapters may also be considered to detail implications of nexial-topologic deployment into field-specific perspectives. Each chapter refers to sections containing text extracts, Power Point presentations ('slides'), animations, and other information (in appendices). Among the supporting materials, one particular appendix is included that has an informative role that would not be necessary for a specialised study (see

below, Appendix F). These extracts are chosen to point to cross-field patterns, ‘not well understood’ phenomena, and areas neglected, unexplored and unexplained by academia, and save reader frustration in searching the literature for particular texts. The likely unfamiliarity of the reader with at least some of these topics, and the connections made, led to including a fair amount of text in appendices, as a fascicle separate from the thesis, for ease of reference.

I appreciate the attention of the reader and effort at following this unusual contribution.

Editorial notes

English is not my first language, and so my writing may sometimes be clumsy, or denote French habits. Some uses, however, are purposeful. Using the analogies of daily life helps to make the images meaningful, independently of explanatory words, whose specialised meanings differ in different fields. This is why a colloquial and ‘global’ meaning (little differentiated, interpretable in various contexts) should be assumed in most cases, rather than suspecting a definition ‘error’ (field bound and specific). Despite my great care, it is one such ‘misinterpretation’ (of the word ‘symmetry’) that led me to understand the topologic meaning of ‘turn-around’, to realise the difference between the discipline of topology and the geometric, *non-measured* imaging of ‘nexial-topology’. It also such an apparent ‘definition error’ that allows to differentiate the common ‘mathematical’ form of topology used in contemporary sciences, which interpret it in terms of point-set theory and calculations, from the original practice of topology as a *geometric* discipline, which is simplified in this work for the purpose of formalising non-perspectival modelling.

Small numbers (up to twelve) are, in some parts, written as digits rather than words, in order to make visually more obvious their relevance to the ‘modelling by the Number’ explained in the chapter <Many perspectives>. Some of the most significant literature is cited (author and date) in the chapters, endnotes (Appendix C), and in Appendix F. References (Harvard system) sometimes include a copyright date of original publication, when relevant in assessing historical development of ideas or of recognised types of experience. The chapters are referred to by name, for context; for example: <Health and illness>, <Many

perspectives>, and other sections in a similar way, with indication of appendix letter and number (see below).

Contents of this dissertation

- The chapter <Methodology> provides a description of the development of this research. Assuming a reader to some extent unfamiliar with *geometric* topology, or with the semiotic diversity of traditional symbols and theoretical icons, led me to weave into this description some examples that can clarify notions relevant to the geometric images of topology. Although they lengthen the *exposé*, they help follow the complex schema (summarised in figure 42) and the several dimensional orders of the diverse research steps taken. The details of inquiries and validation procedures are addressed in the second part of the chapter.
- The notion of validity is treated in a separate small chapter, <Validity and valuing>, which is placed after the chapter <Many perspectives> because it is the result of ‘perspectival analysis’ of the notion of ‘evidence’.
- The chapter <Health & illness> contains an orienting discussion of the works of Hans Selye and Scott Williamson, to introduce the problems of stress and strain, medical theories, and the difficulties due to linguistic expression. Two aspects are discussed in detail: experimental findings concerning the effects of food relative to different ‘health states’ and 3 properties of ‘immunity’ that I have not found described in the literature. The flat map of immunity (figure 43) presents a comparison of views on ‘immunity’, conventional and drawn from nexial-topology. The most important practical findings concerning the body are presented in images, in the Power Point presentation <PPT1\ Body>, and in a summary ‘portrait’ in phenomenological style, in both word and images, in <Conclusions>. Other health issues are only sampled through collections of text extracts in Appendix F and other collections.
- The chapter <Perspectival observation> is a commentary associated with one animation and two experiments for the reader to perform (< B1\ Lever experiment> and <B2\ The 3 Star experiment>). It aims to ‘show’ directly to the reader’s mind, by his or her personal

cognitive exploration, certain features of the processes involved in ‘observing’. Performing the experiments will allow the reader to gain an active understanding of the problems I faced in reviewing the many perspectives on health. The animation (<1 Trefoil>) will suggest analogies to the reader and connections to personal experience, which will be useful in following the rest of the dissertation, as a context of application.

- The chapter <Many perspectives> is a summary account of the developments of my theoretical work, using the vocabularies found in theories, experiential descriptions, and my own ways of formulating things. The aim is not an exhaustive review, but to classify perspectives into general schemes: (a) taxonomies based on words, (b) typologies based on the ‘Numbers’ that are apparent in geometric figures and categorisations of some theoretical and philosophical models, and (c) the geometric figure underlying the perspective or model is their general ‘image’, and these *general* perspectives are *not dependent* on the context or field of application, world location, or cultural history. Finally, the notion of cultural ‘icon’ is introduced to deal with the diversity of these ‘general images’: the various icons can be represented as a developing series, a progressive geometric deformation, which correlates with shifts in vocabulary and definitions, and semantic drift.
- The chapter <Nexial-topologic deployment of perspectives> is the core of my explanation of ‘nexial-topology’, whose understanding requires the animated visuals, as a modelling method. This presentation is the result of experimenting with various forms of ‘language’ for expression (words, numbers, images). The chapter organises all the perspectives in a global schema of ‘deployment’ that can be understood as combining ‘unfoldment’ and ‘enfoldment’⁵ into various ‘realities’, with progressive distortion. The geometric images and words used here relate to those used in topology (in mathematics and physics) and to the realities they represent. Certain ‘rules of thumb’ governing this ‘deployment’ are presented, and have been noticed in the literature (sample in <F18\ Rules

⁵ Unfold-enfold: to bring out, spread, develop or grow – and also wrap up, envelop into a folded state (Macquarie dictionary 1981). The typical naturalistic image in Chinese culture is that of an acorn growing into a tree, which produces acorns. (Detailed in <Nexial-topologic deployment>)

of localisation-extension in the literature>), but not put together. Two forms of nexial-topology are compared graphically, one being a method for describing ‘deployment’, the other being the ‘native gauging’ mentioned above. The differences create totally different images of ‘health’ – one of critical response to external or internal phenomena, in various degrees, the other of ‘ease’ or being ‘unaffected’ (here dubbed ‘proto-health’). One global consequence is expressed through an animation, <Grav-Wave>.

- In the chapter <Ancient perspectivalism, The Earth, & The East>, evidence is gathered for an ancient way of thinking that is generic, multi-perspectivalist. It has habitually been interpreted as an idiosyncratic kind of historical account, or as a ‘syncretism’ with little logic, because it produces a modal rather than linear kind of *exposé*. Assuming, then, the validity of these texts as sources of organised knowledge, one archaic general model they often review is studied: the ‘4 directions of The Earth’, whose origin can be traced to a less differentiating world model named ‘the East’. The words used in such texts are considered ‘obscure’ (and were already so in archaic times), but have a striking similarity to topologic notions, and have imaged equivalents in several cultures I investigated. A physical and practical interpretation is proposed for some remnants, in archaic texts, of the (probably Neolithic) oral tradition associated with ‘The East’. It is linked to health sensations and body ‘signs’ or ‘signals’ that I observed. Two examples are detailed through text extracts in <F10\ Left-Right> and < F11\ Red>. Such observations do not make sense to modern explanation and even modern common experience has obliterated awareness of them.

- The introductory section <Obscure words and ‘dark saying’> in <Appendix A\ Table 9\ Nexial-topologic vocabulary> is an integral part of the discussion of words and language in this thesis. It is an important element governing the choices made regarding the communication of the findings of this research. It also summarises a specific study made over two years, directly related to little known work done by Isaac Newton. It led to gathering the examples listed in the long Table 9, crucial to the argument that specific-general languages hide certain notions I call ‘global notions’ that Piaget studied in children.

They relate to a topologic understanding, which is habitually ignored because there has been no commonly accepted formal way of explaining it.

A number of ‘hidden’ aspects of culture are mentioned, in these two chapters and one appendix, that are ignored in medicine and are addressed only by highly specialised fields of academic research, only in a fragmented way (see <F13\ San Jiao and Inversion>, <F14\ Mysterious Female>, and <F19\ Published EEs>). One of them has a major impact on definitions of illness: the ‘primary-secondary’ distinction (addressed in <F12\ Mysterious Pass or Place>).

- The <Conclusions> express a set of general implications for various fields, to emphasise that our views of ‘the world’, of what is ‘natural’, ‘life’, ‘human’, and of ‘the body’, have practical, sometimes major, consequences for health and for our daily living. They point out that our reformulations of these views throughout history correspond with widespread recurring fundamental problems that remain unresolved. One aspect is presented in the form of an essential or summary ‘portrait’ in phenomenological style, through both words and an image. It was observed in archaic times already, albeit with less sophisticated vocabulary than today, described as a ‘wasteland’ phenomenon. Its manifestations, both external and internal, are now passed for idiosyncratic or senseless expressions of individual ‘body type’ or personality resulting in seemingly unavoidable chronic or acute ‘illness’ (or both, as studied here), as well as for ‘global warming’ and the apparently uncontrollable, globalised, periodic, breakdowns connected to the ‘dark side’ of ‘human nature’, its ‘body politik’ and ‘systems’ on which rest encultured economies, civilised ecologies, and still ‘fundamental’ problems related to survival, food, and water (and dehydration, whether obvious to hidden).

Supporting materials

- *Appendix A* contains an introduction and a long table of vocabulary gathered from the literature and is denoted as <Table 9\ Nexial-topologic vocabulary>. Examples are given with quotations from the literature, for context.

- *Appendix B* contains two experiments for the reader to perform: <B1\ Lever experiment> and <B2 \ The 3 stars experiment>.
- *Appendix C* discusses a few side issues and definitions in endnotes, with relevant references. For example, <Endnotes C4\ Topology>, <Endnote C6\ Core culture>.
- *Appendix D* gives some examples of my research organisation and techniques (eg <D1\ ‘Ring temperature’ technique>), and some records are provided in <PPT7\ Research notes>.
- *Appendix E* is denoted in the text as <EEs>, and is a collection of some special experiences and experimental observations: for example, <EE2\ Looking in the vague>, <EE15\ Red spot>, <EE17\ Burning Fire>, <EE18\ Episode of heart congestion>.
- *Appendix F* contains a selection of text extracts that is primarily informative but plays several roles. The extracts are reproduced verbatim, and their importance lies in the most general ideas (valid in various fields) and the most specific details (vocabulary, metaphors, and particular experiences). The intent for each section is presented in the introductions, except for three myths (<F1> to <F3>) and the four published ‘EE’ experiences (<F20>), simply reproduced. Some sections also contain a discussion that makes unusual connections between various fields. The sections <F16\ Variable body> and <F17\ Anatomy notes> combine text extracts and some of my basic notes, which may be useful for deepening the body topic. Some sections are meant to highlight vocabularies (particularly <F7\ Landscape vocabulary>), and so certain extracts are incomplete, limited to listing words and parts of sentences, in some degree of context. A number of sections are meant to support a quick scanning of little known areas of knowledge and experience, rather than leave for later a possible investigation of the literature. Summarising them in small endnotes would not show their importance in motivating the use of topology. Commenting on them would be less effective than letting the reader detect the patterns directly. The sampling in these sections is necessarily fragmentary, but the extracts are chosen to present several of the major ideas concerning each topic. Certain subtle, but important, details may also recall unusual aspects of the reader’s life (they may be recognised).

Image presentations

Nine animations, and seven Power Point presentations are provided (on a CD) to enable a more direct sense of what is described in words. They are summarised visually in <Image-summaries> at the front of this dissertation, after the table of contents and the beginning lists. The chapters refer to them by their number and name. For example, animations <1 Trefoil>, <9 Grav-Wave>, and slides presentations <PPT1 Body>, <PPT2 Models collected>.

- <PPT1 Body> contains some theoretical models, various developments drawn from physiology and tradition, images of anatomical features of the body, and representations that track certain crucial health sensations observed. These slides point out some ‘hidden’ aspects neglected in most forms of medicine. This set makes *global* sense if viewed last, but since concrete images represent the ‘ground’ of this research, it is useful to consult it earlier. These slides are supported by two sets of notes <F16\Variable body> and <F17 Anatomy notes>.
- <PPT2 Models collected> comprises a selection, from the literature in various fields, of *general* models that use pictures. They are organised by types based on numbers or named geometrical shapes apparent in the images used (for example, ‘3’ is for a triangle, and ‘cone’ is for a mountain), to highlight the role of iconic imagery in culture and civilisation.
- <PPT3 Geometry of perspectives> uses fundamental notions of geometry to demonstrate the role of flat, spherical and hyperbolic geometries in our explanations and experiences, and other expressions such as icons. The geometry represents the fundamental ways we use to ‘put in perspective’ or ‘view’ of what we observe, to ‘frame’ our mental constructions, and to ‘interpret’ in the brain–mind according to sensory parameters (sensory perception and ‘sensate’ psychological interpretation). These images also relate geometry to general philosophies and science. One comparative slide hints at a global ‘drift’ or progressive loss often described as ‘residual’ (modern) or ‘remnant’ (archaic).
- <PPT4 Einstein> contains images strikingly similar but produced by different people, in different places, times, and contexts. The presentation aims to suggest that this way of

‘thinking in images’ (‘thinking’ is not quite an appropriate description) is topologic in nature, and appears ‘non-locally’ in the human mind. It seemingly always produces the same basic range of simple geometric shapes, involved in developments of culture and civilisation.

- <PPT5 Nexial-topologic imaging>: this series gathers, from my records, various images I made to help me understand the fields I surveyed, and my own expression. Drawing to translate the words, descriptions, analogies, and metaphors into graphic properties helped me find underlying similarities in apparently very different approaches.
- <PPT6 Research notes> is a collection of some of my research records.
- <PPT7 Three nexial-topologic rules > is an imaged summary of the three geometric rules of thumb I found in the ‘deployment’ of the perspectives.
- The animations describe certain properties of topologic ‘deployment’ without particular context. Hence, their geometric nature can be interpreted as abstract or concrete, depending on preferential framing. These properties are valid in any applied field (topology is used in many different scientific specialties). They express both ‘directed motion’ and ‘return’, in space, and ‘directive activation/ de-activation’ in a timed framework. These ‘orienting’ properties can be apprehended intuitively, related to a context particular to the viewer (eg ‘my impression of ‘speed of life’) that can be generalised (eg the medical field in this work). They are also felt instinctively in daily life, expressed in gestures that a particular civilised culture immediately ‘translates’ into more conventional formulations. One missing property of ‘boundary’ – the core object of this work –, is a deployment through various stages, into a ‘bubble’, up to a ‘scattering’ (such as mist or dust). Its imaging can only be found in partial representations (eg a drop of water onto a surface, or a jet scattering ‘to all four winds’).

I hope that the images and animations will also make the reading more enjoyable.

Methodology and research process

Research setting and context

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

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

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

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

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

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

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

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

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

Naturalistic setting

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

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

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

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

Small changes in illness

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

Research frame

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

A generalist study

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

Integral approach

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

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

Radical empirical observation

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

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

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

Problems of definition

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

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

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

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

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

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

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

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

Choice of research design: experimentation and experience

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

Experience: self-as-subject

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

Pitfalls of self-as-subject design

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

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

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

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

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

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

Experimentation: single-subject

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

Pitfalls of single-subject design

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

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

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

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

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

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

An experimental-experiential 'local-case' design

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

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

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

Pitfalls of ‘local-case’ design

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

A broad literature review

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

The process of research in Phase one

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

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

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

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

B-Triangulation in experimentation

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

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

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

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

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

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

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

C-Cycling between abstract and concrete steps of research

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

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

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

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

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

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

CircumNavigating the perspectives

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

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

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

The process of research in Phase two

Emergent data & methods

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

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

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

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

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

Making use of induced phenomena

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

Gauging techniques (spatial topography)

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

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

Tracking ends and tracing origins

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

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

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

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

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

(b) Imaginal deployment (Newton 1994):

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

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

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

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

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

Epistemic iteration

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

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

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

A kind of ‘quadrangulation’

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

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

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

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

A complex research design

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

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

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

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

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

Specific methods & techniques – Phase one

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

Observing experiential correlates

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

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

-sensations of brain activity (physical and cognitive);

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

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

Physical experimentation produced a further category:

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

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

Soma-analysis and medical biochemistry

The analysis of these correlates involved biochemistry:

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

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

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

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

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

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

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

Inverting psycho-somatics

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

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

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

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

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

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

A global field accessed locally

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

Perspectival analysis and perspectival mapping

Perspectival analysis and perspectival mapping developed from two techniques.

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

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

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

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

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

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

Specific Emergent techniques – Phase two

Gauging techniques for ‘health mapping’

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

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

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

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

A new modelling method: Nexial-topology

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

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

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

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

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

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

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

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

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

Detailed steps of research

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

Auto-didact education

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

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

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

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

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

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

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

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

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

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

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

Observed induced phenomena: rediscoveries

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

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

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

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

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

Non-induced and non-oriented 'spontaneous' phenomena

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

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

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

Accessory studies

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

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

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

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

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

Experiential correlates

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

Experimental tests performed

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

Validity

Validation procedures

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

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

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

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

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

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

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

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

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

Validity of 'perspectival mapping'

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

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

Validity of ‘nexial-topology’

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

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

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

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

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

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

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

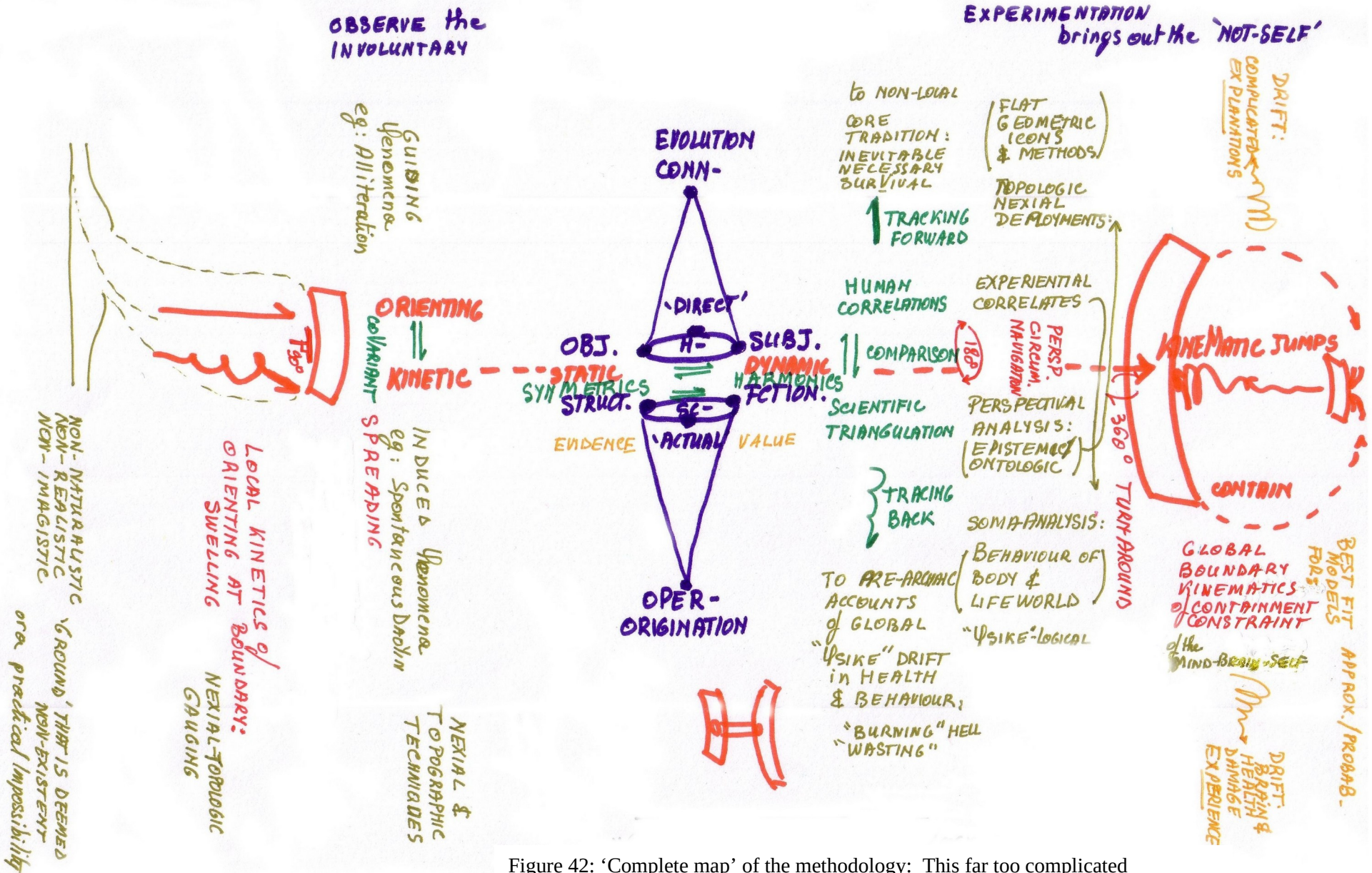


Figure 42: 'Complete map' of the methodology: This far too complicated flat map shows 'drift' but there is a turn-around, hidden by the mapping technique.

Health and illness

Supporting materials

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

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

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

Describing the syndromes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Difficulties with words

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

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

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

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

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

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

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

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

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

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

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

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

The shaping of health: using topology to image its changes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The investigation left now doubt about a general trend:

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

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

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

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

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

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

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

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

Another application: unfolding-enfolding of 'immune defence'

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

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

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

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

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

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

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

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

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

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

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

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

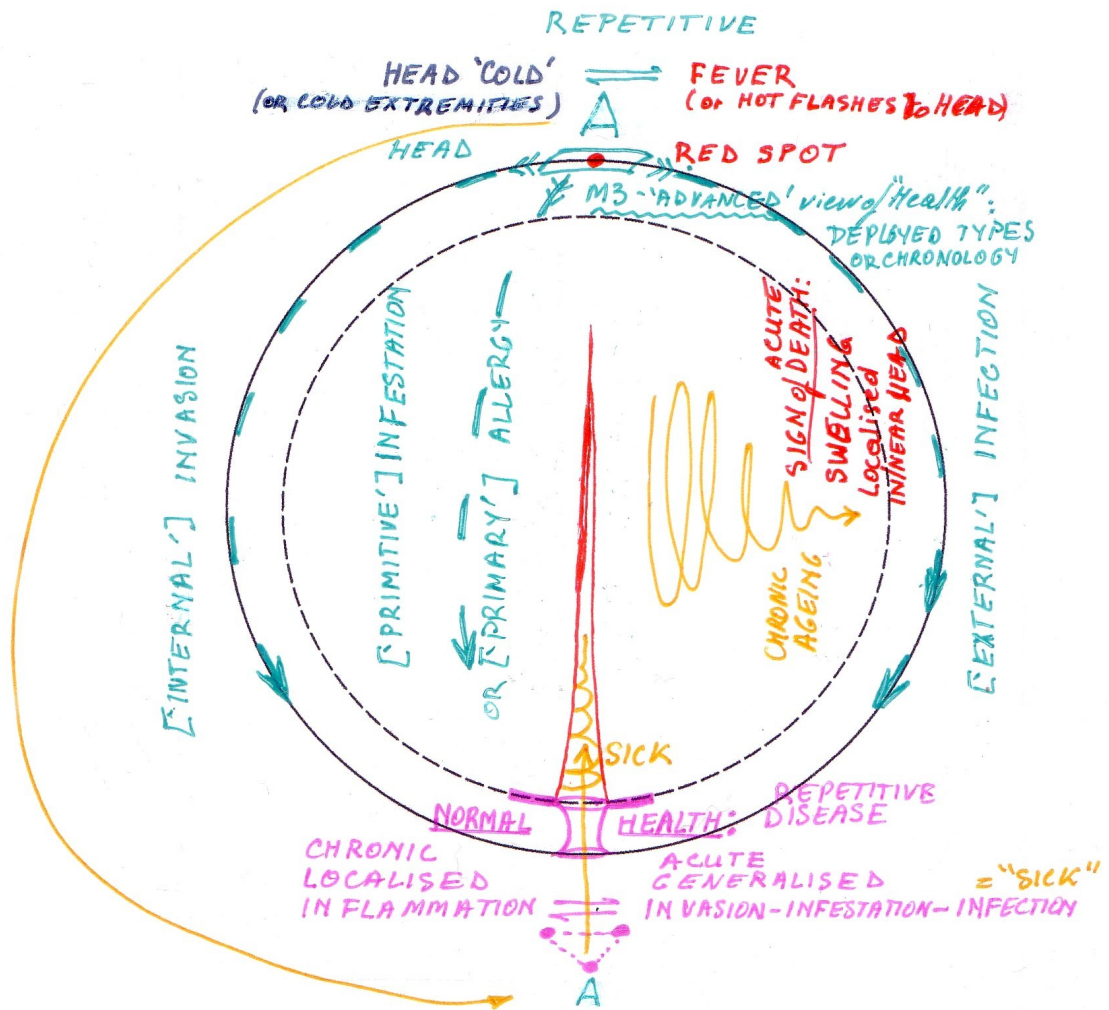


Figure 43. Flat map of immunity: something missing

Perspectival observation

Topology has various definitions. The discipline referred to, here, is a form of geometry that describes small or progressive changes of geometric shapes (see <Endnote C4\ topology>); most readers will not be familiar with this field. Rendering the images, with their variations, in words (think of the texts written by the ancient Greek philosopher-mathematicians) as well as what these mean, to the specialists (mathematical topologists, users of topology and philosophers of science) takes some work. Moreover, trying to ‘explain images’ and how the varying images have ‘similarity’ (rather than being analogy or metaphor) to the issues discussed in any kind of explanation, description, and research, is a daunting task.

In producing a written explanation that is a ‘continuous series of explanations, it is equally impossible without arbitrariness to distinguish... stages’, but ‘we are forced however to start [with one of the terms] for fear that too much will obscure the research’ (Piaget 1961 p.287). The description given in chapter <Nexial-topologic deployment of perspectives> takes such a form: it describes ‘stages’ of ‘deployment’ and is also split into a series of sections. This is an artifice to present a number of properties and their manifestations in various aspects of our realities, in our varied ‘perspectives’.

Among the modal mosaic of all the parts of this dissertation, some of the latter are reviewed through maps such as analytical generalist taxonomy, and a typology of graphic theoretical models (in <Many Perspectives>). ‘Classes and species [are] necessary but... depend as much on the free choice of the classifier as on the data classified’ (Piaget 1961 p.287). The findings associated with nexial-topology are broader, and model this bias, but they are more difficult to explain in words. The format of this dissertation constitutes an attempt to represent our views in general (what I call our ‘perspectives’, on anything), through texts,

pointed quotations, images, and animations. It seems a good idea to begin the *exposé* with some clarifications about the vocabulary I use, and with the most important of the presentation: the animated imaging. We say, ‘a picture is worth a thousand words’.

In this chapter, the reader is asked to view animations, read text with images, and to perform two experiments. The aim is to provide, before launching into abstract explanations, an immediate sense of the formation and deformations of the perspectival way of viewing by investigating summarily the process of observing. How it is used to ‘frame’ both experience and explanation gives a sense of their ‘deployment’ and of the globality of the implications.

Representation and the ‘likeness’ of what ‘presents’

The meaning I attach to these images and their variations is explained, but there may be some repetition and reformulation. These are unavoidable because there is overlap between various perspectives, which are projections and representations. What nexial-topology ‘shows’ is not a rePresentation, but a similarity, a ‘likeness’ of a global situation – particularly the ecology of health, as it ‘presents’ to the understanding (a global impression, or a sense of what is ‘lived’ and ‘acted’). The entirety of the work laid out in detail in this thesis is still only a re-Presentation¹ of this ‘likeness’. It is limited, among other things, by the choices I made regarding which issues to mention, those most significant in my research (its background in particular) and for the problem of low-grade chronic illness. Importantly, however, the images used and the texts should not be considered as partial views of a ‘whole’ or of a ‘larger’ view. In chapter <Nexial-topologic deployment>, I will show that such a ‘whole’ and a ‘complete view’ representation are not equivalent to the presenting situation because they involve a topologic ‘tearing’. The interpretation of ‘partial views’ is perspectival and would make it difficult, at times, for the reader to relate the different aspects presented. The geometric shape of the iconic projections depends on the property to be conveyed. A single ‘aspect’ of reality can have several properties, and a

¹ Sometimes in this dissertation, a letter or two inside a word are set as capitals. This directs the reader’s attention to a fundamental difference between this word and another, both of which being related through etymology. Here, ‘rePresenting’ signifies that a representation involves a further deployment than a ‘presenting’ situation.

property can be displayed in many forms in various aspects of reality. For example, the images and views are not ‘parts’ that can be added up to form one big image, like a reductionist puzzle. In this statement, ‘adding’ can also be understood, in a different context, as ‘multiplying’, or ‘spreading’, and these are ‘projections’ of a nexial-topologic property of ‘swelling’. If a bubble ‘swells’ up, its surface spreads and expands (as in visible growth), the number of ‘points on the surface’ multiplies, and the ‘size of its mass’ can be considered as adding more separate parts. These ‘projections’ (geometric meaning) of the property of swelling can be formulated very differently in various, limited contexts or aspects of reality: for example, growth of a foetus, prehistoric expanding migration of humans on the face of the planet, or multiplication of our modern theories and philosophies and technological objects. Yet, they are merely ‘projections’ of a single global situation (eg how we apprehend being an ‘alive’ human on planet earth). [By ‘global’ I mean undifferentiated, not localised, rather than a spherical whole] Nor are the views and images like an integrated harmony that could be split into single harmonics which, played all together, form the harmony. Each image, or aspect explained, is just one way to show a property and its implications, in the most convenient way to make a point. Different ideas require different geometric projections out of the same situation, and that situation may be projected in different ways, geometrically, to highlight different remarks. For example, two opposed triangles symbolising a perspective on ‘origin’ and ‘end’, might be viewed, in another order of dimensionality, using nexial-topology, as two cones or as a line going through two points (figure 1). The aspects presented in this work sometimes cannot be compared, integrated, or transformed one into another, without an important loss, and that is the very reason why the nexial-topologic imaging of generalities and specifics is useful. It models how such transformations or transfers alter not just the representation but also what is being represented. This is the case for the ‘whole’ and ‘complete view’, and in particular for the ‘whole’ we call ‘body-mind’ (see also <Conclusions>).

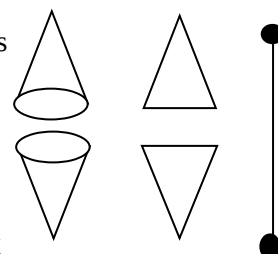


Figure 1. Dimensions of ‘origin’ and ‘end’

Animation: Trefoil

First, an animation will give a sense of the limitations of our normal ways of viewing things through perspective. The animation <1 Trefoil> is included in the accompanying CD, or the reader might prefer to view it at the website: _

<http://www.westmont.edu/~dhunter/tref/trefsm.mpg>

The point of watching this animation is to get a direct impression of the cognitive processes involved in ‘observing’ (or constructing reality in understanding or experience). This was one of the objects of the research project. The animation operates a zooming-in and zooming-out that brings the trefoil inside the box into focus and out (figure 2). There are three ways of learning from this animation.

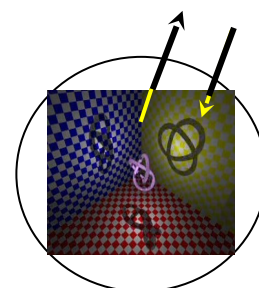


Figure 2. Observing the trefoil in a box

Three ways of viewing this animation with perspective

Objective view:

The playing of the animation is equivalent to an observer focusing on an object of observation – the observed –, and then² relaxing this focus. This corresponds to the traditional way of expressing the process of objective observation through a dual distinction: observer-observed. Only, the observer is not included in the field observed: the observer is outside the box and invisible. The ‘observing’ is equivalent to developing a line of vision.

Subjective view:

The direction of animation might be inverted. In this case, I might imagine myself to be the trefoil (eg my mind is, or my body, a ‘human instrument’ of observation), inside the box (as part of the world observed). Then, the self-body is at the ‘centre of the world’, which includes both trefoil and box. What I observe is the ‘entire field’, the ‘whole’ of reality, from my subjective viewpoint. I can see ‘all’ (including ‘myself’) ‘from within’, but what I see is biased: I am at the centre of the world, and can only see from that viewpoint. This is a common viewpoint in antiquity, when cultures and civilisations represented their own

² The term ‘then’ can be interpreted as a temporal sequence, or as two aspects of the same ‘process’. It is used, here, more often to mean a logical separation by distinguishing arbitrary ‘aspects’.

country or capital city as the origin of all that exists. In this observing ‘position’ (a term used in Neuro-Linguistic Programming), I can only *imagine* what ‘world’ another body-self might see. The sense most akin to such a process is hearing, but the heard includes what is happening inside the observer. For example, when too thick inner ear fluids start to flow again, there is a slight noise superimposed on sound, that appears to ‘come from the world’ (This is related to more dire perceptions such as tinnitus but does not fit symptom descriptions). The previous dual distinction (observer-observed) is still operating, albeit in a different way: There is a baseline sound, a ‘local noise’ that alters what I see or hear of ‘the world’. This noise is akin to the theoretical assumptions we make in research and to the baseline of experience that we consider the most ‘primary’ (for example a chronic low-grade stress we call ‘normal’ or ‘natural’ – see also <PPT1 Body\ slide 7>).

Modal view: geometric framing

If one adds up the ‘object’ or ‘human tool’ (trefoil), and the ‘process’ (in-out of the box), the totality may be considered a ‘whole’ or a ‘complete’ field of reality. Now, the process of observing consists in ‘framing’ the ‘whole’ as (a) an observed (trefoil object or subject), (b) the observer’s frame of reference (box), with a reference point or ‘centre of projection’ that is external or internal, and (c) a moving or operational process (in-out observing) that can also be apprehended as connecting (a) and (b), or binding them, or (re)integrating them.

This wholistic framing can be construed in many different ways, including as a ‘Middle’ between ‘in’ and ‘out’, or ‘up’ and ‘down’, or a ‘balance’ between ‘left’ and ‘right’ (to see this, turn the image of figure 2).

Centre of geometric projection and ‘framing

More simply, the framing is also a geometrical

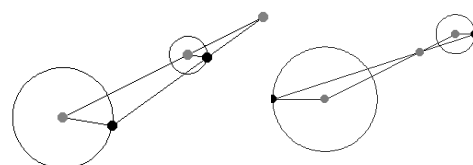


Figure 3a. External centre of projection Figure 3b. Internal centre of projection

projection. The notion of centre of projection is easy to apprehend visually. The animations <6 Homothetic centre External> (figure 3a) and <7 Homothetic centre Internal> (figure 3b) demonstrate the two Scientific-‘positions’ for observing, which correspond respectively to

the most popular Human-positions, objective and subjective positions. The more inclusive modal framing makes a different and more refined distinction than these normal ways of observation. It discerns 3 modes of ‘observing’: (a) an observed, (b) process of observation, and (c) observer. The relevance of this to the study of physical illness is expressed in Furth’s introduction to her study (medical anthropology) of medieval medicine in China:

‘Many social historians and anthropologists try to relativize post-enlightenment scientific understandings of the body without rejecting the knowability of a natural world, including a corporeal body, to which the language of health and disease refers. Thus Charles Rosenberg prefers to say that culture “frames” disease rather than “constructs” it.’ (Furth 1999 p.13)

These three types of description of ‘observing’ correspond to three fundamental modes that we use to ‘project’ geometrically both our experience and our explanations, through sensory perception and interpretation (which I call ‘sensate’ and which can give rise to complex mental imagery). These modes correspond to familiar abstract or concrete triads such as objective-subjective-direct (observation), structure-function-connection, left-right-middle (a number of examples are given in the next chapter). They are well known in mathematics (each mode gives rise to a different logic and a different set of techniques). They are also fundamentally dual (with built-in symmetry, this will be described in the next chapter). These three dual modes are the basis for all the ‘perspectives’ we derive from ‘observing’: all are dependent on the localising centrally a ‘human observer’ and on the use of the senses. Vision and hearing, our preferential sensory modalities (this is known in philosophy of science), and wholistic attention or perception, produce varied images that I named ‘general perspectives’ (see below), because such geometric projections give us ‘perspective on’ the conditions we observe outside, inside, or both. The perspectives are general because they are used for understanding any aspect of human ‘reality’, of the ‘natural world’, and of the ‘physical world’ that humans experience. They also manifest in the ‘normal’ sensations of living and of acting. These are our basic ‘ways’ to explain and experience what we tend to think is all that ‘exists’, and we differentiate them further into many diverse views and specific perspectives in particular contexts.

'Placing': localising, extension, 'deployment'

Perspectival framing can also be considered a relative 'placing' of an 'observer' (eg outside or inside, or on a beam travelling in between), of the box, and of an observed. This is a Sc-'localisation' of all 3 elements of 'observing'. The development of an objective line of vision, and its inverted version, a subjective hearing-like expansion in three dimension or H-'extension', can be viewed as a wholistic process. It can be reversed by paying attention to new aspects of reality (as done in human science), or by including all perceptions (as done with a naturalist or radical-empirical stance). This reversal, however, requires attention to detail or small clues, together with a re-integrating, and can be characterised as a tracking of special-relative aspects brought by framing or placing. The terms 'placing', 'localising', and 'extension' can be formulated as expressions of one property of 'deployment', which topology can model. Nexial-topologic deployment can model, 'show' or help to 'see' – with or without using the senses – the several ways in which 'perspective' can be derived from the 'presenting' situation. Hence, the perspectival way of 'observing' by framing is not the only way to know. If one does not distinguish or even discern 'all' the 'aspects', or does not discern 'in the first place' the 3 fundamental modes (or just 2), and if no central 'observer', thinker, self, or 'witness' is defined, then what is 'seen' is a 'global field' that is undifferentiated, without genus or species, real objects and subjects or natural 'things'. It is just the 'situation'. The images and animations used in this work are an indirect 'seeing', attempting to 'show' what the global field 'looks like'. In themselves, they therefore can only be also representations of the findings of this work. The technique used for this, topology, has not been used before in the humanities, as far as I know). This is why an intuitive apprehension of images and animations by the reader is a crucial complement to this thesis. Nexial-topology, can be understood by using topologic imaging to explain 'deployments' into 'perspectives', but the nexial-topologic apprehension itself is non-deployed, unlike this thesis, and requires the reader's 'apprehension. The dissertation only aims to suggest that the non-deployed form is a native capacity of 'gauging', and that 'nexial'-topology can model what it 'shows' (which is not deployed but 'presents'). This

native capacity can be explained through a first-order deployment, as a ‘nexial’ apprehension that does not separate the properties into perspectives (see below).

Two experiments to introduce the ‘native gauging’ or ‘nexial’ apprehension

The modal view described earlier is an integrative, framed, view that binds and connects objective and subjective views, and unifies the qualities. There is a less differentiated, way of viewing that I believe corresponds to what we habitually consider primitive, generic or lacking individuation: the ‘native gauging’ or apprehension. Instead of seeing the ‘whole’ as integrated, connected, interactive, binding, or even ‘glued’, as many current works on complex systems or special relativity do, it sees it as an undifferentiated globality (or topologic ‘field’, ‘space’, or ‘continuum’). It apprehends the global situation ‘like a ball’ in the mathematical sense: the ‘inside’ of a sphere that *has* no limiting spherical surface. (It is not ‘open’ as opposed to ‘closed’, or boundaried – see <Endnote C10\ Mathematical ‘ball’>). The word ‘nexial’ is not used in the same way as what the proponents of wholism mean by a ‘nexialist’ approach. (See <Endote C5\ Nexus, nexial and nexialism>; refer also to the remark above, concering parts or aspects and wholes). The modal, integrative, or ‘nexialist’ view is a combination and, being inclusive, produces an objective-modal-subjective set. ‘Nexial’³ apprehension replaces this modal set of observing positions, by a non-positioning way of ‘looking’ without framing or placing. The nexial view does not discern modes or positions.

In order to get a sense of what ‘nexial apprehension’ is, the reader might like to perform two little experiments. Please refer to the appendices:

<B1\ Lever experiment> (figure 4a) and

<B2\ The 3-stars experiment> (figure 4b).

In the ‘lever experiment’, the fulcrum of the lever works in the same way as nexial apprehension. The ‘3 stars experiment’ allows one to compare

the orienting directions produced by the objective, subjective,

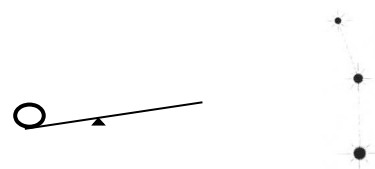


Figure 4a. Lever experiment
 Figure 4b. 3-stars experiment
 (See Appendices B1, B2)

³ The words ‘nexialist’ and ‘nexial’ are confusing, but I could find no appropriate word to describe the cognitive ‘position’ (I refer to Neurolinguistic programming jargon) of the ‘local observing’ in the ‘native gauging’.

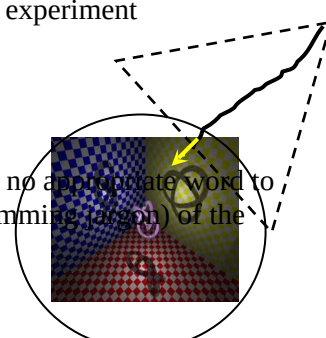


Figure 5.
 Motions of observation

and nexial modes of observing. The main characteristic is that the directions cannot be made to match. This had been a major difficulty in my early attempts at reconciling all the perspectives I found in the literature, modern and ancient, into a ‘big picture’ into some kind of less complicated and more inclusive understanding. (an attempt I eventually abandoned, shifting instead to topologic geometry). It is also a major source of dissent between academics and spiritual schools alike, as well as between people in daily life. One typical example is that ‘correspondences’ in ancient frameworks of the Elements, never completely match (a source of much confusion). The nature of these disagreements can be apprehended by using the geometry of perspectives to ‘see’ how the three modes transform into each other (see <Many perspectives> and the Power Point presentation <PPT3 Geometry of perspectives> [slides]). Using topology, as explained below, allows us to ‘place’ these modes geometrically with respect to each other and to see how deformations or distortions lead to the various sets of correspondences. The geometry of perspectival projection rests on two fundamental parameters (see <Many perspectives>, further addressed in <Nexial-topologic deployment>), which are derived from the geometric consideration of observation. They can be approached as two generic notions that are the basis of all the general models, ‘advanced’ sciences of subtle details in specific context, and arcane philosophies. They also have a rather primal meaning in the realm of the human physical being, of internal sensations (as distinguished from sensory data – see Appendix <D\ Research materials and techniques> and Appendix <E\ ‘EE’ special experiences>).

‘Primus Movers’ – a general notion of N3p-polarised activity

Vertical ‘Axis Mundi’ – a generic notion of N2d-dualised direction

In the animation <1 Trefoil>, the imaged ‘motion’ corresponds to the ‘process’ by which we observe the world. In Western culture, it is conceived as the activity of the senses from which the brain-mind ‘receives’ perceptions. In India, it is more likely to be regarded as a ‘motion of the mind’, which ‘grasps’ at or pays attention to a particular object (figure 5).

In both cases, the activity, physical or mental, is polarised. This is an expression of the general parameter symbolised by “N3p-“ (‘p’ for polar). In natural sciences, this is associated with physical movement of bodies, energies, and their related variables, and is often called ‘motion’. This can also be construed in terms of activation (priming, initiating, or ‘starting’ activity) — and deactivation (unpriming, stopping, or ending). In medicine, this is used in ‘activation’ (eg of hormones, brain-based control, or of immune system defence). In humanities, this polarised activity is often thought of as induction, tendency (a new term is ‘enaction’ in Arco [2006], a reformulation of the archaic notion of ‘Life’ or of vitalism). In general, philosophical models of reality, the activity parameter is sometimes called ‘*Primus Movers*’ – the ‘primary’ polarised activity that induces ‘life’, ‘existence’, and ‘creates’. Vitalism and animism are derived from this (Bose 1902), as are emotion, spirit, the Chinese ‘*ressort du monde*’ (Ch’i, ‘spring of the world’, ‘life energy’ or ‘breath’), and the archaic ‘churning’ of ‘the sea’ (the world). Expressed in the body, it produces the sensing or detecting of ‘signals’ and fluid motions, and the movements of the object-body as a whole or its sub-systems (eg muscles). In the context of nexial-topology, N3p- also represents harMonics (eg sounds, words, monads, holons...) and harmonies. In global or ‘nexial’ attention, it is a less sophisticated sensing of ‘noticeable activity’ (of any kind) (symbolised by “N3”). For my purpose here, “N3p-” symbolises any sort of ‘activation’ (polarised activity).

In animation <1 Trefoil>, the in-out direction of observation (eg line of vision) distinguishes observer from observed, or puts them in symmetric positions, as a pair, with respect to the edge of the framing box (figure 6). This is an example of duality (or parity, in topology), an expression of the generic parameter symbolised by “N2d-“ (‘d’ for dual), which is associated with direction. This can manifest concretely as a vectorial orientation (‘directionality’ in the jargon of the human domain) such as intent to observe or direction of the attention, targeting a goal, or direction from which a cause effects visible consequences, and other related notions. It can be also abstracted into more general, dual notions such as

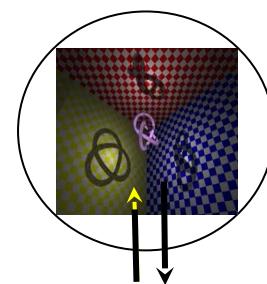


Figure 6.
Direction of attention

self-world, in as the experiment with the trefoil demonstrates. Without the duality or symmetry, it is a mere line without direction (symbolised by “N2”), an axis which, however, may *become* oriented.

A still image of animation <1 Trefoil> can be turned upside down, and the observer placed at the bottom (figure 6) or ‘below the world’ that is observed, or which seems to ‘come to existence’. In this case, the observer appears to be in a ‘primary’ position. The ‘line of sight’ then becomes a ‘vertical’ axis of ‘creation of the world’ perceived, conveniently in the same way as a human body standing straight or upright on the ground does, and significantly unlike most non-human bodies (animals). These last remarks have major implications for medical views on the health of the ‘human’ body.

Eliade (eg 1954 p.12) has found expressions of this vertical axis, in the core of culture and the artefacts of civilisation. Archaic houses were built with a central pole, and in general religion, ideas such as ‘going up to heaven’, or the tower to reach the sky or God are common. He called it by a general name, the *Axis Mundi*.

This vertical axis is ubiquitous in culture (eg the ‘up’ direction of evolution or growth), in anatomy (eg the spine, up to the head), and its reverse in medical treatment (eg entraining brain or mind control over the body, down).

In most minds, the spine constitutes this ‘vertical axis’ of the ‘body’ (the body-brain tandem).

It is a major element of medical models of the human physical being, opposing the body to the brain/mind/head, or making them complementary and a whole. The ‘spine’ is often conceived as a tube of vertebrae containing the core of the ‘activation’ property, the spinal cord, itself conceived as a ‘conduit’ for nervous impulses originating in the brain (eg neuromuscular) or ending in it (eg perceptual impulses and pain signals). These ‘common sense’ topographic notions (structural tube, functional conduit, operational nervous flow of the ‘reticular activating system’) are well suited to interpretations based on the most common form of topology, *calculated* topology. The most well-known ‘vertical axis’ in physiology is related to the activities of the H-P-A axis (Hypothalamus-Thyroid-Adrenal, sometimes in

more complicated variations that include gonads, thymus and other glands). As the limbic-hypothalamus-thyroid-adrenal axis (LHTA), it fits perfectly with the mind-governed perspective ('mind over matter', mind over body) of 'psychoneuroendocrinoimmunology' involving emotion and self. Some of the slides in <PPT1 Body> represent this pictorially. As a natural consequence, the head is viewed as a complex little tree that drives, governs or leads the entire body (or a cauliflower shape that highlights the role of the surface we call neocortex). Many metaphors for this are used in technology, politics and business. Another element of this vertical axis is mostly ignored: the cerebrospinal fluid that bathes both the spine and brain. It is only recently is becoming the object of research because of its role in immune reactions and pain. Its role at surfaces does not seem to be researched, although surface and 'film' behaviour of water is quite peculiar, and suited for topologic treatment. The vertical axis is also associated with the vagus nerve that modulates vital functions, but has been rather neglected in the past twenty years of medicine, although prehistoric 'female' perspectives on body and behaviour would relate to it. Vital functions are those interrupted or reduced in a state of stress or strain, or increased to cope or respond (hence the calming or re-enlivening action of acetylcholine is neglected to the benefit of its cognitive effects on memory). It seems little meaningful to medicine that some of the organs do not seem innervated by the autonomic system, which cannot, it seems to me, disconnect certain 'responses' by any action of the mind, will, or directive brain. Several health 'EE experiences' relevant to this discussion of the body's vertical axis are related in Appendix E <EE collected> (EE7, EE10, EE16, EE 17, EE18).

Another, related, form of the vertical axis (in the 'up' direction) exists in representations of bodily operations drawn from the core tradition, that of the 'chakras' in yoga and 'tan tiens' in Chinese Qigong (see some of the slides in <PPT1 Body>). This developed into models of stages of consciousness in medieval Chinese inner alchemy (as steps up a mountain) and Indian yoga (expanding spheres and 'rising' of Kundalini). The vertical axis is also a major element of internal sensations (eg spinal posture, projection of heat to the head) and in the

languages of the human domain (eg the integrity of being ‘upright’, or ‘standing’ one’s ground).

Expressed according to perspectives, N2d- produces patterns and ‘signs’ (including those of internal sensations), that can be represented in terms of binary information. In the context of nexial-topology, N2d- also represents ‘synMetrics’ such as symmetry, complementarity, parity, direction, and vectors. Global ‘nexial’ attention is less sophisticated and detects nexial ‘orienting’ (development of a ‘line’, irrespective of direction).

Dual polarisation: ‘primary’ conventions and ‘primitive’ apprehension

Combining the notions and motions of both parameters, for example, as pattern of activity or active patterns, or motions and directions, produces complex representations such as sensory-mental interpretations, or the computer reconstructions. Computers reconstruct 3D spaces that are directional (mathematically ‘oriented’ – see <Endnote C10\ Mathematical ‘ball’>); they are viewed on a one-sided surface. Their images are binary (N2d-bits), and use *measured* kineMatics⁴ to represent kinetic activity (N3p-). In abstraction, the two parameters produce ideas such as ‘effective causation’ (Piaget 1951) or teleology. In health, the N2d-N3p or N3p-N2d combinations (or permutations) produce the objective ‘symptoms’ (sets of signs and signals), and topographic distributions that change, become distorted, or deformed. These are related to expansion or shrinking from or to a ‘core’ (such sensations can be clearly felt, but are not a recognised as part of ‘normal experience’, although they are reflected in language).

These two parameters are the basis that is used to build or construct all our explanations, descriptions, interpretations, as well as our experiences – our perspectives (see <Many perspectives>), including sensory construction, physical sensations and ‘exceptional experiences’. They are a means for naming, measuring, or rePresenting with images, according to ‘conventions’. Conventions are the normal ways of parametrising to describe (eg spatial place, whether in a mental space or a physical one, or sequence, whether temporal or causal). N2d- and N3p- are ‘primary’, used for fundamental explanations of the existence

⁴ The capital in KineMatics implies that kinematics is a description of measured kinetics.

of the world, of things, as well as our own. In experience, they are considered 'primitive' and associated with our animal nature. For example, animal-like instinctive behaviour is 'activated'; reaction to danger is directed, even in animals. It is these constructions and conventions that I have organised into analytical 'maps' of perspectives (based on words) and geometric 'flat maps' (four are provided: figures 30, 31, 42, and 43). Such representations based on the N2d- and N3p- parameters are limited

The native apprehension of what 'presents' is not perspectival, constructed or conventionalised, and this causes a problem in validating the 'existence' of such apprehension and the 'reality' of the undifferentiated 'space' it apprehends (see <Extract F9\ Deep confusing questions>). In the particular context of health and sanity (including medicine), this means, that some propensities or tendencies a person notices, and which affect their body but also their life in general, or their 'whole world', are of a topologic nature, such as 'twisting'. This cannot be discussed in the clinical situation without differentiations and 'valuings' (scientific measures and thresholds, human evaluations of the improvement/optimisation value, etc.) that interfere with a less fragmented understanding such as the patient can obtain 'locally' (but without physical, mental or biosocial localisation). This manifests as a clash of vocabulary (the doctor translates the patient's 'primitive ill talk').

The *geometric* 'twisting' is conventionally formulated, in much of topology, as 'distortion' or 'deformation'... of something in particular, and 'disturbance' of something located (eg of digestion or brain), and this yields many human devaluations (eg a disturbed mind, behaviour or worse, a disturbed 'person' or 'personality'). The devaluations are built-in in the words, and technical evaluations imply regard to standards. Twisting may also 'manifest' as 'formation' (eg facial features that have 'charm' or of creative ideas): The valuing can be reversed, and whether it expresses damage or improvement at one order of deployment or another can be different for different people an different contexts: twisting can be expressed geometrically, as torsion (a strain) or torque (power), with a variety of projected

interpretations (eg internal emotion, external hyperactivity, central mental activity...) or 'activation' (of body or mind).

Nexial-topologic 'oriented activity'

In a more basic (or more advanced) vocabulary, oriented activity may be apprehended also as 'agitation'. The diversity of words and contexts is broad. One case is more interesting for us here, because it involves the geometry of a more global notion (less differentiated). 'Activation' implies both activity and a direction. For example one activated/directed propensity is a 'state of need' (or 'alert') – without specification of what is needed (or paid sharp attention to). This also fits well with medical notions of a body-brain physiology and biochemistry being 'activated' in a state of stress or physical strain, this independently of any causes or triggers. 'Need' orients us toward finding something to meet the need, irrespective of what this something is, of what sphere of experience it comes from (eg food, social, material or religious comfort, an idea to understand what can meet the need, moving out of a stressful situation, etc.). Irrespective of whether the activity to get this something has to be mental or physical, and whether it feels good or not, is valued socially or not, need affects all other aspects of daily life. Need 'directs' behaviour (including that of the mind) and 'drives' – a word often used for 'oriented activity'. Feeling 'affected', without any particular cause, or in 'need' due to too many causes (stress and strain), appears too complex an issue to discuss with a doctor, and agitation causes medical explanations sometimes controversial in the general population; but 'drive' can be interpreted – and treated – in a variety of ways that can conveniently be reduced or limited to a doctor's own perspective or a culture's current bias, with correlate evaluations, about suitable forms of clinical response.

The 'ease' that Williamson and Pearse (1980) find at the core of health is not oriented or directed, nor activated or induced – it is not an 'oriented activity', not a drive, has no particular purpose, target or goal.

'Activity' is not necessarily directionally oriented, and 'orientation' is not necessarily characterised by di-rectional patterns of activation or deactivation (eg immune defence, the Brownian motion that we normally understand as random or as statistical chaos, or the

spontaneous behaviours we normally consider meaningless). Undifferentiated ‘twisting’, or its absence, is a property of ‘oriented activity’ that the native gauging ‘shows’ and which can be modelled with nexial-topology. Approaching it fragmentarily through its specific manifestations in physical and mental realms limits the capacity to do something about it.

The notion of topologic ‘space’ and ‘likeness’

In this project, finding a common way to describe both physical space and experientially or perceptually ‘real’ human spaces, as well as the models underlying culture and civilised behaviours, in their general and specific manifestations, was difficult. It was resolved when I discovered topology (December 2003), through websites on physics and mathematics. I realised that my habit of drawing iconic images of the vocabularies that I encountered, and scribbling geometric figures to understand ideas or experiences, could be construed as a simple form of topology. The technical innovation is to use the convenient notion of ‘topologic space’ (or field) to describe an undifferentiated⁵ situation, *without* using the conventionalisations. The latter involve a framing bound to systemic and spatio-temporal conventions, which are different in natural and human sciences (eg compare ‘physical body’ to ‘mind embodiment’, and the ‘system’s neuro-hormonal transports’ to ‘molecules of emotions’). In daily life, we often call this undifferentiated ‘space’ or situation, a ‘place’. This nexial-topologic ‘place’ is not concrete, nowhere in particular, nor located in time (eg a person’s ‘peaceful place’ or ‘own space’). It is a non-naturalistic and non-realistic ‘meta-space’, in the jargon of humanities, but it is not abstract (as in a Platonic-style ‘pre-existence’) and an imagination (which is conventionalised). Its main benefit is that whatever properties are noticed in that ‘space’ are also at work in the naturalistic and realistic spaces projected from it. They ‘work the same way’ (activity), and ‘look like’ each other (pattern). In this sense, this ‘meta-space’ or ‘place’ is topologic (patterns of change) rather than either abstract or concrete. The naturalistically or realistically concrete expressions are ‘a likeness of’ the topologic space that is ‘in shaping’ (changing shape). Such an animated image (often pictured in gesture) ‘looks the same’, whether derived from the

⁵ A term ‘immanent’ is sometimes used in the human domain to mean ‘undifferentiated’. In physics, ‘immanent’ properties are ‘non-local’.

‘real’ or ‘natural’ spaces or from the ‘place’, but the ‘likeness’ is more than an analogy, metaphor or similarity. It is a ‘likeness’ of the ‘shaping’ (eg twisting, swelling, or ‘speeding-up’, which nexial-topology ‘shows’ (as a global moving shape).

By ‘naturalistic’, I mean physically concrete for scientific instruments or the senses and perception, and this yields analogies. By realistic, I mean mentally concrete for human experience, and this yields metaphors based on experiences of the real. Both are constructed or interpreted in the brain-mind, and analogy and metaphor are ‘similarities’. I find it easier and less limiting to use a generic term such as a ‘likeness’, which has not been given any precise definition (especially in mathematics or logic). This way, the use of specific interpretations of the words interferes less with the undifferentiated meaning conveyed. The notion of ‘likeness’ exists in ancient texts (eg non-canonical biblical writings), but the complications of Sc-naturalistic (eg materialistic) and H-realistic (eg moral) interpretation appear to be an impediment for exegesis (they introduce reification). The same problem seems to exist in physics, in which topologic properties are now exclusively associated with *physical* space or spacetime. It seems to me that the early discipline of *geometria situs*, before it became *analysis situs*, was not thus limited by spatial convention (see <Endnote C4\ Topology>).

‘Gauging’ the ‘shaping’ or ‘presenting’ situation

‘Gauging’ is a simple matter of noticing properties of ‘how the situation is shaping’ (‘shaping up’, in vernacular), considering ‘the situation’ as an undifferentiated topologic ‘space’. Its properties ‘apply’ globally to any real or natural space conventionalised out of the topologic space, or are ‘expressed’ (or ‘manifest’, ‘immanent’, global, on-local, etc.) in the conventionalised forms of reality, and they ‘arise’ from the nexial-topologic ‘space’. ‘Gauging’ the global ‘shaping’ of the situation, is very different from the conventionalised ‘valuings’ (eg measuring, naming, finding cause & effect... – see <Validity and valuing>), which are attached to *shapes* (or N2d-patterns) and *motions* (or N3p-activations). Perspectives apprehend and represent only the latter. ‘Gauging’ the global shaping means ‘seeing’ how the situation ‘presents’, rather than *rePresentatng* its patterns and activities in

various conventional spaces or worlds, which is a further logical step, a stage of 'deployment' or geometric projection. Nexial-topologic deployment models how specific perspectives and general models of 'reality' – perspectival representations – 'shape up' or develop into both a scientific and a human viewpoints (or a combined one) and concretise experience through perspective and geometric framing. The notion of 'gauging' will be addressed again, in other ways. In the following chapter <Many perspectives>, I will outline some of my early techniques for classification, and other ways of ordering the framed perspectives on medical theory, experiences of health or illness, and practices related to the body, as well as those in other areas of knowledge.

Many Perspectives

The following text may not be very easy to follow because it relates to a number of diverse fields, as well as to a general approach to knowledge and experience and ‘generic’ notions, and a way of organising their diversity. It is only an orienting summary in order to introduce the reader to some issues that are addressed in chapter <Nexial-topologic deployment>. There may also be repetitions, compared to other chapters, necessary to clarify certain concepts. By the general term ‘perspectives’, I mean any and all our ways of representing our ‘views’, whether they be general views on culture, civilisation, on man’s sophistication or evolution, on reality, etc., or particular views on specific topics. These include our explanations, experiences and practices related to health, and our ways of apprehending the body, its environment and the interface between the two, whether we see it as mental or physical.

Vocabularies of the perspectives

In my Masters thesis, I had devised a system of classification using four directions to map learning, personal growth and shifts in experience. It was based on (a) the popular notion of ‘left-brain’ and ‘right-brain’ thinking, (b) the axis suggested by Ken Wilber’s ‘pre-trans fallacy’ (1996), with (c) an added ‘core of self’, an ‘I’ (Bouchon 1998 p.72). Given the nature of the present project, the ‘I’ had to be refined to account for physical aspects, interactions between body and environment, and to cater for much more complexity¹. The first complete classification model I used was a system of 3 axes, each with 2 directions:

¹ The term ‘complexity’ in the human domain does not mean the same as in science: it means diverse, multiple, rather than a formal organisation that is complex.

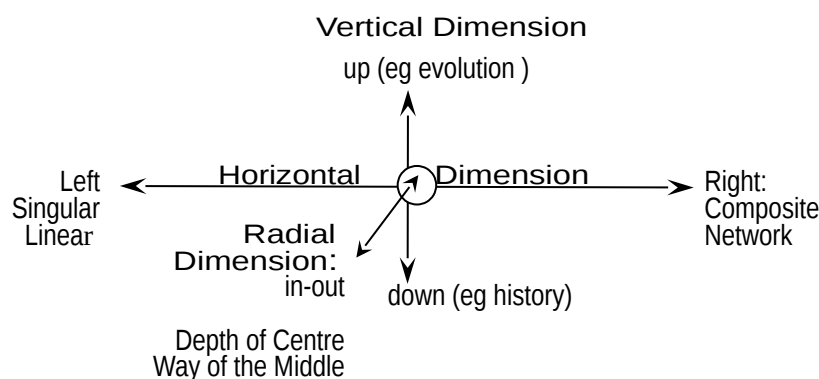


Figure 7 Three bi-directional dimensions of complexity in theory and experience

Linguistic indicators of perspective

I used these axes to collect field-specific words and find cross-field similarities and equivalent theoretical formulations, which come under the guise of various vocabularies and contexts, but with similar essential meanings. The dimensions represent different ways of conventionalising entities observed and this is reflected in the concepts we use. Each axis corresponds to a particular type of perspective bound to a particular way of conventionalising. For example, something observed might be viewed as an object with structure (a thing), a subject with functions (an entity), or a field of interactions and connections (a ‘world unto itself’). Following is a summary of the most common vocabularies used by the perspectives related to the 3 axes, in any field of research.

- **VERTICAL** dyads of words, in general frameworks yield the essential choice of ‘up or down’, such as up in evolution and down in history, up advancement and down to primitive states, up for humans and down for animals, etc. In abstraction, this corresponds to duality: (closed-open systems), body-mind, mind-matter, space-time, body-brain, inside-outside, etc. The fundamental characteristics of this dimension are linearity and singularity. The vertical line can also be split into many ‘levels’ that add one onto another. The dyads are used to model functional dynamics and structural binding.
- **HORIZONTAL** triads of words represent 3-modal types, styles, colours, tastes, sounds, etc. that can be multiplied into a diversity of many. The archetypal modal triad is ‘Left-Middle-Right’ – the ‘middle’ is a later addition (a logical integration), and so is derived as (Left-Right-Middle). The triads correspond to different ways of conventionalising an

observation or description, such as (Left-Right-Middle), (singular, relational, connective), (structural, functional, operational), (linear, circular, spiralling), (static, dynamic, kinetic ‘motion’), (electric, magnetic, gravitational), (initial, 'boundaried', radial), (radio, chemistry, biologic), etc. In abstraction, they correspond to different logics and frames of reference, such as: (cause, factors, wholistic conditions or triggers), (objective, subjective, direct), (combinations, types, modes), (connection, transformation, operation), (existing, real, actual), etc. The frameworks of this dimension are used to model composite sets and networks.

- **RADIAL** tetrads of words bring a concern with ‘in-out’ boundary phenomena, based on definitions of the limits of wholes, systems, bodies, objects, subjects, selves, worlds, etc. and the discernment of dual forms (giving a ‘systems’ view). For example, a body can be cold or hot with respect to an environment (heat activity), and wet or dry (sensory patterns). The in and out are named by reference to learned notions of body or self as systems having a ‘within’ in relation to a world ‘without’. Combinations produce ‘advanced’ thinking in terms of an integrated or binding ‘core’ or nexus (the ‘nexial’ view) or differentiating several modes or types (a ‘modal’ view), which exist also in refined experiencing. Both build views in terms of extremes, limits, surfaces, edges, or development, binding, history, origination, etc. This kind of complexity deals with the Middle or Centre, with the Sc-broad and H-deep², with differentiation, discernment, discrimination, or subtlety, small details and fine-tuning, with ‘hidden’ clues or lost wholes, with instinct and intuition, with codes, spirituality, and ‘secret’ traditions (see <Endnote C6\ Core culture>). The frameworks of this dimension abstract patterns and motions from more habitual views.

Early in my study of perspectives, I started finding practical rules of thumb concerning the way they operate. One of them is that when someone’s perspective shifts, the new perspective adopted always appears to be an improvement on the previous one. This is the case even if that means ignoring certain aspects that were effectively mapped by the old

² ‘Sc-’ and ‘H-’ are shorthand notations signifying ‘scientific’ and ‘human’, the 2 fundamental domains of knowledge and experience.

perspective, because the new one describes additional things the old one could not. The collection of such rules I gathered eventually grew to such large numbers that meta-rules, of a geometric nature began to emerge.

The patterns expressed in words through various dimensional frameworks have a similarity. Each dimension or axis is capable of making distinctions between particular things, of increasing the number of ‘things’ found in ‘reality’, and of reducing the number of elements and abstract concepts necessary to describe or explain them. This is what I call ‘general-specific’ thinking or ‘detail’ experiencing. Some forms of these qualities are listed in table 1.

Table 1: The fundamental symmetry: Specific ↔ General	
General, generalise, generic, genus	Specific, specialise, special, specify, species
discrimination, discernment, distinguish, define	differentiation, individuation
large, long-term	small, short term
simple	complex
general relativity	Sc-special relativity & H-post-modern relativism

Describing experience requires a lot of specific details related into some kind of whole, whereas explanation reduces them to elements related by some kind of logic (eg cause-effect, inside-outside interaction). Explanation and experience are not disjoint or independent aspects: any experiential paradigm has a basis in a culture and civilised techniques, a particular way of explaining that governs what can be described from experience and what can be observed, to draw abstract ideas for theory or philosophy. I simplified and organised the classification by defining a general ‘perspective’ as a general framework that is applied to all three: explanation, experience, *and* observing (or living or acting). These perspectives represent all the ‘ways’ of explaining, experiencing, and observing, in any field (one such ‘way’ is the ‘Way’ of Daoism; another is the way of science). There are two fundamentally different and archetypal general perspectives: the scientific and the human. They correspond to different domains that I symbolise by ‘Sc-‘ (scientific’), and ‘H-‘ (human), with the combination being ‘Sc-H-’. The vocabularies of the 2 domains are different (eg H-experience and Sc-experiment). The Human- also corresponds to perspectival anthropomorphism. By symmetry, the Scientific- also corresponds to perspectival

‘physikemorphism’³ (attributing physical, material, spatial or ‘natural’ form to the observed). For example, ‘sensing’ can be anthropomorphised into mental impression or physikemorphised into ‘internal sensation’ (in the body) – these are limitations. One rule of thumb I found concerning this is that ways of explanation limit what can be experienced, and the correlate ‘observed’ imposes limits on what can, in turn, be explained and represented in theory. Both express a basic perspectival bias. In daily life this bias manifests in personality type, body type, limiting cultural-educational background, and the biased filters of our perspective in communication (eg one says ‘order’ and the other understands ‘organisation’), and perception.

Searching the literature for a generalist taxonomy to organise all these perspectival biases or a scheme to classify *general* approaches to any subject in both human and scientific domains, I could find only very limited ones. There are specific growth models, developmental models, and evolutionary schemes that describe changes in perspective. Unitive schemas (eg McArthur 1990, among a large number of authors) seek to simplify, but do not account for the multiplicity of perspectives except as an anti-valuing, post-modernist patchwork, and this simply ignores the details and diversity. Integralist schemas (see <Endnote C1\ New Paradigm> and <C2\ The term ‘integral’>) are interpreted either as unitive-patchwork (but do not usually include *all* types of perspectives), or as simplifying emergence into unitary forms that describe the process of change, but not the diversity it comes from. One scheme (Linstone 1997) embraces the human domain with three modes (“technical/ analytic” perspective [T], “organizational/ intittutional” [O], and “personal/ individual” [P]), but it does not fit the scientific domain. In science, the cognitive creative processes are studied, and philosophy of science classifies the models according to their role

³ This term is meant to show the symmetry with anthropomorphism. ‘Morphism’ means giving form. ‘Physike’ is the feminine of the Greek word ‘physikos’, nature. In Old French, ‘phisike’ meant art of healing. About 1300, ‘fisike’ was a healing potion. In Middle English, ‘phisc’, meant a medicine to move bowels. The root ‘phyein’, to bring forth, gave rise to ‘physics’, science of matter and energy, but also to these notions related to medicine, the art applied to the body considered ‘natural’, currently conceived as ‘physical body’. The word ‘physike-morphism’ is meant to show this reduction of sensory meaning to the ‘material’-‘natural’ sphere.

of specific representation or general theorising ('abstract model'), but at best their organisation is in terms of families of models (Dutra 2006). Popular culture has its distinction of Left-Right logics, and this duality can be extended and deepened with other dyads to find many different logics that I tried to map into a combined L-R-evolution scheme. It is from this that I drew my first mapping dimensions (figure 7), but it left me with a paralysing 'multi-dimensional' diversity. One 3- modal scheme of logic (Hendrick 2002) confirmed the Left-Middle-Right distinction I was beginning to make, but this takes no account of the vertical dimension of development, evolution, or growth. There is, in the literature, a rising sense of need – as yet unsatisfied, it seems – for some sort of generalist taxonomy for all these perspectives. There are difficult problems with 'theory unification' (Rueger 2005), and with matching definitions of words rather than invent new ones for new subtle variations of meaning. Specialisation also wastes human effort by producing similar frameworks in diverse fields, each invented independently and under the guise of different vocabularies that represent the same entities. This creates redundancy. The discussions in physics about the nature of space, those, in philosophy of science about the development of the thinker's ideas, the challenges to evolution (see below), and the philosophers' doubts about their own discipline, are clear indications of this. This was a dire need for me, to understand the many medical theories of chronic illness, of 'the origin of all disease', of ageing. The many models of the body, which are disparate across cultures, and are the object of medical anthropology and history of medicine, added to the need. Models of health-sanity and philosophies of life are even more diverse, many involving spirituality. The closest I could find to a classification of general worldviews is what I call 'ancient perspectivalism', which I detail in chapter <Ancient perspectivalism, The Earth & The East>.

Perspectival analysis: taxonomies by the word

I set out to explore systematically and organise the general frameworks, by collecting general concepts that are context-independent, but in their many forms (eg a 'system' can be a body, self, world, etc.). My taxonomies were based on the wording of the general ideas and descriptions of experience (eg focus, intent, power, energies, will), and I used colour coding

in both my tables and my writings This helped me to visualise patterns, similarities and differences between perspectives, and logical orders of thinking. Patterns, tables and colour coding are common basic techniques, used by other thinkers such as Ken Wilber, or Graves (Spiral Dynamics). Among the countless integrative tables I built to classify the many vocabularies, of the theories and experiential descriptions, both specific and general, a few general ideas came to the fore. They are directly related to complex developments of theory, the archetype of which is a general-systemic view in science, and a world-model in the human domain. They are also linked to complexification of experience (eg refinements of perceptions). Intuitively I focused on notions of integrity and stability (table 2), and this is just one aspect (the symbols N2d- and N3p- are explained below).

Table 2: Concepts of integrity, equilibrium, evenness, and stability		
L-coherence (abstract)	Middle-consistency (general appearance or specific mean, means methods)	R-cohesion (concrete)
L-integrity (structural) N2d-dual binding	M-individuality (operational) degrees of specific freedom (connective) =generalised specificity	R-identity (functional) N3p-polarised bonding
one *	even *	full *
holding, holding together, holding as one	Left-right even, even throughout, or in all directions	soundness
unity	uniformity	union
symmetry, direction	uniform motion kinetic automorphism	harmony (harmonic resonance, harmonies)
L-static equilibrium in closed system	R-L-punctuated equilibrium in informational- physical closed-opening system	R- dynamic equilibrium (cycle, feedback, interaction... loop) in open system
N3p-N3p-kinematic resonance	N2d-N3p- quantisation, emergence integration into 1 new, non-linear behaviour of a 'self'-system	N2d-N2d- dynamics entangled dependent-arising. co-evolution
... for Sc-perturbable 'life' and H-disturbable 'existence' to not be affected, to be:		
L-maintained N2d-established	made L-true-M-actual-R-real N2d-N3p-substantiated	R-sustained N3p- stabilised
N2-steady 'within sphere' (eg holding a steady course, 'keeping on track', staying 'what one is')		N3 -smooth 'under operations' (eg 'holding it' under stress or pressure)
* One, even, and full are sophisticated integral notions found in texts arising from the traditional 'core of culture'.		

Fundamental parameters: N2d-dual and N3p-polar

The cycles of the inquiry in any area kept bringing up the same fundamental distinction between 'N2d-dual' and 'N3p-polar' ways of conventionalising (further explanation to

come). These parameters are most obvious in the *general* models that describe the development or 'origination' (process of creation) of our realities. These general explanations govern our civilisations and cultures, our descriptions of experience, and even what most of us *can* experience or feel. They also create new realities, and so, inversely, the nature of the most special experiences that humans have (often the most extreme, for example in mysticism, sport, or healing), is what governs the arising of new explanations and the validation or invalidation of old ones. These 2 parameters also drive the paradigmatic changes of experience and changes of general perspective that authors undergo – and bring to culture and civilisation –. They come to be through their structures of analysis and experimentations, through the developing concepts in their writings and the fields they explore, through the stories of their lives and the perceptions they describe when they share their special experiences. I mapped the careers of a few of them, as well as my own path.

The same concepts are named differently in the Sc- and H- domains, the evaluations are often inverted, and the definitions can be confusing. For example, the Sc-'dimension' is a H-logical 'order', and the many H-dimensions are Sc-variables or parameters (of the same logical order), and the latter are interpreted as H-details (of lower order than generalisations), etc. The only way to bypass the divergent naming and the ordinal classifications, for cross-domain analysis, was to reduce the various guises to basic parameters in an underlying domain. The parameters had to be applicable to language, but also to the mathematical descriptions of science. Various parameters yielded some simplification, but did not apply to all the fields reviewed. More abstraction eventually yielded a set of two parameters. All the perspectives I studied used a fundamental way of explaining based on some form of: (1) pattern or direction, and (2) motion or activation; and this can be reduced to a set of two parameters of a geometric nature. In table 3 are listed some of the names given to these 2 fundamental parameters.

Table 3: Fundamental parameters of perspectival analysis		
<i>the fundamental parameters of perspectival analysis</i>		
human domain: formation	patterns	activation
scientific domain: localisation	direction or projection	motion
primary Sc-H- parametrisation	N2d- dual binary, stereo	N3p-polar polarised
wholistic derived perspectives	2-nodal	3-modal
<i>the primary generic parameters of perspectival mapping</i>		
Sc-H-combinations of space-time explanation and sensory-sensate modelling	patterns of activity or directive activation (eg wave)	active patterns or active patterning (eg path)
geometric parametrisation of models of development or origination	synMetrics dyNamics of orientation	harMonics kineMatics of resonance

Armed with the 2 abstract parameters that I denote with ‘N2d-’ (dual) and ‘N3p-’ (polar), I could detect similarities (and differences) with much more ease, and I developed perspectival analysis into a more technical method. This is more methodical than merely collecting and classifying words, and could help a more systematic investigation. Such perspectival analysis can be conducted on a short piece of text or discourse, as long as it contains an explanation or description of experience. We do that intuitively when we apprehend the hidden implications of what someone says. We fail to do this, however, when we ‘twist their words’, and interpret them according to our own framework or perspective.

Source of the notation ‘N2d-’/‘N3p-’ and geometry

In the ‘advanced’ knowledges (see <C6>) of the scientific and human domains, the general notions attached to the parameters take many shapes. Geometrically, they all come down to what I summarised as ‘synMetrics’ for N2d- and ‘harMonics’ for N3p- (this came as an alliteration – see other examples in <EE9\ Alliteration>). These words mean that, from the Sc- and H- viewpoints, we measure (metrics) or name monads such as bodies, objects, systems, selves, worlds, through dual or polar techniques, and we localise them by using orientation (direction) and movement (motion).

- ‘Orientation’ is directly related to duality, and a simple way to represent it by 2 dots with a line, with ‘direction’ being 2 dots with an arrow of motion (figure 8).
- ‘Movement’ is directly related to polarity, and a simple way to represent is by 3 dots with a directed circle (figure 8).



Figure 8. Direction (orientation) and movement (motion)

In the notation I devised, the ‘N’ is the initial of ‘nexus’ (see <Endnote C5\ Nexus, nexial, and nexialism>). It aimed at reminding me to not split, divide, and reduce the ‘field’ I was studying, and yet be aware of the way in which other do that. The word ‘nexus’ is not quite adequate, but it is useful to describe wholistic realms such as the human nexus of experience, or the scientific nexus of physical existence. The numbers, 2 and 3, could be, I think, likened to the mathematical concepts of numbering according to the ‘base 2’ and the ‘base 3’. What these can do in mathematics, duality, and polarity can do in language and perspectival description.


The notation ‘N2d-‘ is a shorthand to denote the ‘base 2’ (eg in dynamics or binary relations) and the duality between ‘2 things’. The 2 dots encapsulate a linear geometry linked to an oriented line. For example, a ‘Left-‘minded person uses intellectual linear thinking, seeks targeted goal in experience, speaks of the arrow of time, sees evolution as a ladder, judges truth in binary terms of good-bad, defines systems with binary means of within-without, observes preferentially through the filters of stereo vision, finds the ultimate source of reality in the duality of male-female, etc.

The notation ‘N3p-‘ is a shorthand way to denote harmonics and resonance. The 3 dots encapsulate a flat geometry linked to an oriented circle on a plane, and the polarity of movement (from here to there). For example, a ‘Right-‘minded person uses the multi-dimensionality of the psyche, seeks inter-personal relations in experience, speaks of human spaces, physical (3D space) or of the mental space of the psyche, sees evolution as a tree, evaluates in modal terms of sets of values, defines systems with 3-modal elements of resonance, observes preferentially through the filters of volume-localising audition, finds the ultimate source of reality in the polarisation of 3 fundamental processes, etc.



Please note that these examples relate to a model that only has ‘left’ and ‘right’ (the ‘middle’ is in the processes or transformations they describe).




Diagrams and sketches

At the time, I was scribbling little drawings for everything, to understand the way others (and

myself) think and experience. For example, an ‘in-coming influence’ I represented by ,

out-going action, focused or powerful was , interaction , closed system ,

vectorial focus or directional intent , numbered scale , alternance or oscillation

, bipolarity , spiralling –up , bifurcation or separation (division)  (compare to

the ‘Y’ of Yahweh in Hebrew), direction , circulation , etc. It is thanks to these

schemas that I realised how much my understanding and learning have always been governed by these mental images, and that they allow me to bypass the different wording to access more directly the divergent meanings. What this does for me is best expressed by mathematician Korzybski (1933 p.664):

‘We would evaluate the terms “matter”, “space”, and “time” as forms of representation, and non-objects, and we would describe events in a functional, operational, behaviouristic language of order...Diagrammatizing and even following with one’s hand, the visualized order of occurrences, helps enormously. [...] We shall also be greatly helped in our power of visualization when we become acquainted with the structure of the Minkowski four-dimensional worlds.’

This habit of sketching my understanding helped me realise that my conscious Left-minded intellect, focused on language as a precise tool, French-educated into Cartesian doubt, and imprinted with a deep interest in logical rigour, had a more unconscious symmetric realm. The ‘depth’ of my thinking or intuition sees the practical, operational and nexial (eg awareness of ‘twisting’ or distortion). This gave me a means to study my ‘epistemological

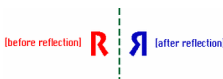


learning' (comparing the drawings I did for the same thing after trying on different ontologies, for example), and follow my paradigmatic shifts. This developed into making theoretical diagrams, and comparing them to those I found in the literature: I sometimes found striking inversions.

Model-making

Creating Sc-abstract models is an intellectual activity that is studied in philosophy of science (eg Nouvel 2002, Nersessian 2002), and cognitive science (for the creative process). Thinkers who attempt to use scientific knowledge and methods to model human experience create H-'meta-models' (a term drawn from philosophical jargon). In the human domain, critical and 'meta-thinking' are stages 'beyond Piaget' (Lauer 1983), and what the Buddhists call the discerning mind is used extensively in theoretical 'model building'. The abstract activity of allowing the visual productions of graphic models to emerge seems to be known, in this domain, only as learned symbols, rather than as an intellectual creative development (and possibly a sensory complexification). The images are attributed to visionary intuition, the psyche's archetypes, learning of 'sacred geometry', or to dreams and shamanic or religious visions. To me, this is a mental-experiential activity that allows linguistic deconstruction of explanations and descriptions (see Spinoza 1901 and Husserl 1939). It simply is an algorithmic activity: patterns can be described by using information, colour, or sound in alliteration (see <EE9>), can describe harmonics, and both create transformations that can model animation. In archaic stories, model-making is a known technical function of the mythical builder of civilisation, of the socio-cultural innovator (eg agriculture, irrigation, religious ritual), of the hero who helps beat Nature's disasters. For me, as for Korzybski, the 'order of occurrence' and representation are 'non-objects', neither real things (eg objects or human processes) nor 'pure abstractions'. This is the basis of the nexial-topologic imaging I used in my study of the 'global field' of health (conventionally, 'non-local'). The images are neither naturalistic nor realistic for human experience. They are just a geometry of changing shapes (I call this, 'shaping'). Scribbling was not active only for theoretical work, or generalising experience. I made drawings of what my gestures showed when I spoke of the

state of my health and life, or those of the world, and did the same for other's gestures. I also used anatomical pictures to sketch sensations inside my body.

These sketches showed that human and scientific domains did not view things in the same way, although we ignore this because most of us have a bias to one of the two domains, usually developed from school years. This can be used to classify the general perspectives across both domains. For example to organise the varied interpretations of a general notion such as 'symmetry', I turned to definitions, but in words they are confusing, so I had recourse to definitions in geometry (table 4). This helped me organise the many notions derived from them.

Table 4: The 3 fundamental types of symmetry		
<i>Classic symmetries in geometry:</i>		
reflection 	translation 	rotation 
<i>The symmetries and asymmetries in human thought and experience:</i>		
opposition	complementarity,	inversion,
The human-scientific complexes of symmetry and asymmetry:		
symmetry, combination	conversion equivalence	circularity permutation transforms

Circularity and symmetry

I symbolise symmetry, as a general property, with the sign: \square . It manifests, for example in the geometric symmetry of the notions used by L- and R- perspectives, whether evaluated as opposed or complementary: L- \square R-. Another symmetry is simple \square complex, despite the evolutionary models that place one above the other. It also manifests in the practical cohesion between Explanation \square Experience. This is a fundamental duality that pervades languages and culture, but also science and daily life (eg the modern mind-body). This consistency also manifests as a logical coherence: what cannot be explained is sifted out of experience (selected perceptually), and what cannot be experienced is sifted out of explanation (biased interpretation). There is a circular consistency between explanation and experience that produces a logically self-consistent entity with a special bias – a perspective.

Getting out of this circle requires deconstructing explanations and accessing aspects of experience that are not recognised. I express such circularity with the sign: \square , as in:

Explanation \square Experience.

Types of perspectival models

There are many types of perspectives and of general models, and different ways of organising them into taxonomies and typologies. Some are presented below; others are represented as images, in <PPT2 Models collected>.

Taxonomies by the Name

In this category I place the general perspectives that arise from the dimensions defined in figure 7, and the classifications based on linguistics. The 3 categories of symmetry represent general categories, based on different logics, and offer a means to classify ideas and perspectives, for example the Left-Middle-Right basic distinction. The 3-modal taxonomy is as common as duality (eg body-mind-spirit, physical body -behaviour-person, within-between-without, square-triangle-circle in graphic models, the 3 stages of the General Adaptation Syndrome, 3 meals a day, percept-concept-recept [for 'percept', see Romanes 1888], etc.). This tripartite way of classification corresponds to three stages of my exploration of specific perspectives (of explanation, of experience) and of the models created by generalist perspectives (with their theories about observation, experiential or experimental). One example of archetypal

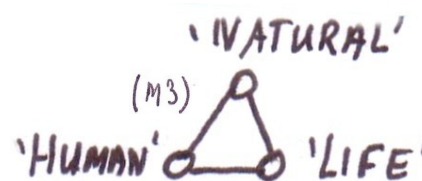


Figure 9. Modal taxonomies

3-modal distinction (figure 9) is found in all the general perspectives on human behaviour, whether physical (heath), mental or otherwise. It is particularly relevant to understanding explanations of the behaviour of the brain-mind ('human' and 'not animal'), of the personal body (survival is 'natural'), and of the internal-physical 'body' (animated with 'life' rather than being 'dead') – a body that is a lowly machine, vehicle, temple, or container for the 'human' nature or driven by the brain-mind. These definitions are domain-specific interpretations of 'existence' or 'reality' (eg survival of personal body belongs to the Sc-H-

domain). They also vary in detail with each particular perspective (eg the philosophico-scientific problem of what it means to be ‘human’). These notions are an underlying basis of medical theories, practices for healing, and the clinical encounter, whether in Western biomedicine, Eastern, ‘alternative’, or traditional core of clinical help.

Another very common approach to health is to ‘take to the power’ the fundamental parameter chosen. For example, seeking patterns of patterns lead to N2d-N2d- strategies of focused intent, lifestyle ‘choice’; seeking changes of activity leads to compensating reductions by a reactivation of N3p-N3p-willpower, spirit, or sexual drive. In practice, these representations lead to statistics of normality and probabilistic risk of disease, and leave many unexplored corners and anomalies. For example, the percentage of statistical error in medical trials is normalised rather than studied, and the failure of health strategies in certain improbable cases is simply ignored.

Typologies by the ‘Number’

Certain models represent dimensions, logical levels or orders, by the number of basic elements needed to represent them (eg 2 for duality or dynamics, 3 for circularity or boundary phenomena). For example, many models are quadratic (eg Wilber’s 4 quadrants, the 4 forces of physics, etc. – see <PPT2 Models collected>), and triangles with a central point, related to a pyramid). These will be addressed differently in <Nexial-topologic deployment>. I symbolise the ‘Number’ of a model (eg number of categories) by calling the model ‘Mn’: for example, M2 symbolises a dual model, M3 a modal one (eg figure 9). In modern thinking, there usually is no conscious reason for choosing one ‘Number’ rather than another for a categorising model. In antiquity, however, this was an intentional practice (Feuerstein 1994). Some examples are: 2 for Male-Female (or dark-light), 3 for primary colours, Father-Mother-Child, sky-sun-moon and other trinities, the bodily systems (neuro-endocrino-immune) or the simplest Elements (Earth, Water, Fire), 4 for cardinal directions of the Earth (see chapter <Ancient Perspectivalism>), the Egyptian pyramid (square basis), and the quadratic models so common (see below), 5 for the senses, colours, tastes, the Chinese Elements, or the basic chakras (India), 7 for the stars (astrological cosmologies or chakras of

the 'subtle' body) or the modern cosmetic '7 signs of ageing', 8 for the 8 trigrams of the I Ching (Chinese 'Book of Changes'). Other popular numbers are 9 ('many rivers' or colours), 10 and 11 (in modern physics), 12 (eg 'twelve steps' in AAA, twelve disciples), and even up to 64 (in Feng Shui). Knowledge of 'Number' is part of the modern 'mysteries' of culture and religion, but it is common and part of daily life in ancient texts:

'...the Yi and the Ch'i, the four quarters, the five colours, the six pitch-tubes, the five notes [determined by them]. [...] I assisted in completing the five Tenures, extending over 5000 li; (in appointing) in the provinces twelve Tutors, and in establishing.' (Legge 1879)

'Number' is an important element in esoteric knowledges. Many have tried to explain the cultural developments from one model to another (with changing Number) in terms of combinations and permutations of 3 and 2 (eg 3 elements with 2 types, or 2 types and 3 stages), through geometry (sacred or not), or as certain special mathematical series. It seems that each system finds a block with one or another Number framework that does not fit. There is also the problem that '1' appears as first, yet 'One' appears last. In any case, this approach confirms my analysis of perspectives in terms of N2d- and N3p- as the fundamental parameters of both explanation and experiential description. The mapping system in figure 7 is based on this too: 3 axes with 2 directions. The ancient Chinese already traced the historical development of their perspectives to them:

'1. In ancient times the holy sages made the Book of Changes thus:

They invented the yarrow-stalk oracle in order to lend aid in a mysterious way to the light of the gods. To Heaven they assigned the number three and to earth the number two; from these they computed the other numbers. [...] They put themselves in accord with Tao and its power, and in conformity with this laid down the order of what is right. By thinking through the order of the outer world to the end, and by exploring the law of their nature to the deepest core, they arrived at an understanding of fate.' (*I Ching, Shuo Kua* section, in Wilhelm 1989 p. 262)

M6, the 'ideal' model: perfection and completion

The number 6 for modelling 6 categories or describing a single shape is a direct result of these parameters. It represents a 'complete' model (in the Human- domain) in which all

combinations of 2 and 3 are represented. As such, it tends to be considered an ideal model, or a model of the ideal way of living. From a Scientific viewpoint, it represents 'perfection'. Geometrically, it can take several shapes, such as two opposed triangles, or cones, a hexagram, a shape of star, a snow-flake, crystal, or a mathematical knot drawing. Some examples are included in the Power Point presentations, including some of mine. This model is of importance for classifications of details of physical-human realities such as the body (eg 3 systems, nervous, endocrine, immune, which interact between body and head). Here is an example of its appearance as an underlying structure of culture, not explicit for the writer (3 chains, left-right), together with some other developments (helicity, or chirality that will be explained later):

'The synthesis and deposition of collagen is a critical event in the proliferative phase and to wound healing in general. Collagen consists of 3 polypeptide chains, each twisted into a left-handed helix. Three chains of collagen aggregate by covalent bonds and twist into a right-handed superhelix, forming the basic collagen unit. A striking structural feature of collagen is that every third amino acid is glycine. This repeating structural feature is an absolute requirement for triple-helix formation.' (Romo & Pearson 2005)

The (2,3) and (3,2) descriptions

This notation comes from mathematics (combinatorics). I also use: N2d-N3p and N3p-N2d. The M6 models (discussed further in <Ancient perspectivalism>) are concerned with beginnings (or origins) and ends (think of 'the alpha and the omega'), and so the order of the notation ascribes one parameter to beginnings and the other to completing to ends. The kinds of 'big picture' produced can display drastically opposed views, depending on which of 2 or 3 comes first, the other coming last. It is in this realm that sciences resolve mind-body problems by using the brain, and the human practices resolve brain-body problems by using the mind. These (2,3) or (3,2) descriptions are the fundamental structure of mathematical formulation, as well as words. They are, as far as I can tell, the source of 'languages'. They are found in the highly simplified concepts taught at school, such as the 2 ends of a line, the 2 sides of an equation, equivalence or equilibrium, and the 3 basic forms of symmetry. Highly developed into topology (with higher numbers of dimensions than 6), they produce

sweeping models of spacetime or of reality that claim universal application. The system of description based on 2 and 3 can be considered the simplest to describe all perspectives. The human domain considers it ‘complete’, but not science (since Gödel’s theorem), which, on the other hand, tends to see it as mathematically perfect. Either way, it is the basis of our collective reality (see <Nexial-topologic deployment\ Virtual reality>), and it is no wonder, to me, that it is ‘unreasonably effective’ (Wigner 1960) in describing its physikemorphic, anthropomorphic, and systemic realities of ordinary and extraordinary experience, as well as the fine-tuning of the body’s health. The appearance that this is ‘the’ best way to view what is ignores that it is most ‘complete’ or ‘perfect’ only within the range of these common normalities, ordinary or not. Its validity depends on remaining, experientially, in that sensory-based range. This leaves out, as ‘not well understood’, the aetiology of syndromes in which ‘illness’ is difficult to pinpoint with either senses or to explain with N2d-N3p concepts. Such modelling provides only two solutions: become normal, regulated, or push to extremes and ‘sublimate’. If neither solution is practicable, a disheartening verdict falls: ‘learn to live with it’. These perspectival models leave a paradoxical situation in which others’ human (subjective) and scientific appraisal (objective) of ‘sickness’, and the patient’s are at odds. The latter feels a developing, progressive illness that appears non-existent to others, and whose manifestations appear impossible to medical theories (eg extreme difficulty in recovery from exertion while still being capable of great pointed effort, an apparent healthy appearance with fast internal or systemic wasting and a greatly slowed healing capacity).

Shapes: models by the Image

Intellectual development into meta-models and experimental development of pictorial models come together in the M6 models that suggest many forms. Imaging is the third major way of creating models. They are built by using N2d- as topographic synMetrics (1-way or 2-way oriented lines) and N3p- as nexial harMonics (eg sound-word, colours, song, etc.). They are detailed in <Nexial-topologic deployment>), and constitute the underlying core of modelling that governs developments of culture (see <C6>), mind and experience, and

civilised living. Imaged models are found in ‘advanced’ knowledges, whether scientific or human. Most often, the image is a flat geometric picture, but sometimes it is a 3D-animation that represents ‘the world in changing’. The most common types of topographic models produced are:

1. flows, whether directional (eg time, the ladder or tree of evolution) or circular (eg time, native spiritual wheel).
2. landscapes: The image is that of a flat land or ‘field’ (square or round), or of a ‘flatland’ with a depth (basin or pit) or a height (eg mountain, island, pyramid), in models of complexity (the topographic vocabulary of landscape is obvious in some section of the literature – see <F7\ Landscape vocabulary> and images in later chapters and Power Point presentations).
3. ‘onescapes’: The image is that of a circle, sphere, or cube (eg ‘body’, building, house, temple, experiential ‘world’...).

These models can also be viewed as the basis for our geographies of explanation, and our geometries of experience (see below). This imaging is apparent in the gesturing that accompanies speech, and constitutes a kind of ‘meta-space’.

The workings of perspectives: geometry

The following section would be easiest to formulate through images, but I will attempt to provide explanations as well.

Geometric properties of framing and conventions of representation

The Power Point presentation <PPT3 Geometry of perspective> is a collection of some discoveries I made, concerning all our perspectives, general or specific, which find their clearest explanation through geometry. Whether human or scientific, all our perspectives of explanation and of described experience are based on the two fundamental parameters. The descriptions they produce are related, geometrically, by a simple conversion of coordinates (see <PPT3\ slides 3 and 4>), yet such a shift in one’s experience or intellect can feel like a deep transformation. In describing, in <Validity and valuing>, the cognitive process of

deriving representation and ‘valuings’ from observations involves a ‘frame of reference’. This would be a familiar idea to a physicist: it consists in framing geometrically, using coordinates relative to the self-centre. For a human scientist, this is related to the idea of ‘psychological projection’, but rather than from one person ‘onto’ another (which topologically is a ‘turn-around’), it applies to one person’s own various ways of apprehension and representation. The term ‘projection’, as I use it, refers to ‘projecting’ what is observed into ‘spheres’ of experience or explanation ruled by conventions such as time and space, or self and world, producing ‘conventionalised’ perspectives. This idea of perspectives as ‘projections’, can be translated in geometric term (figure 10).

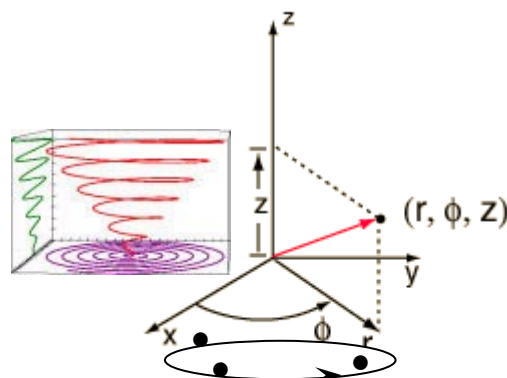


Figure 10. geometric projection

I realised that the sketches I made to summarise essential notions, the drawings of theoretical models, and images such as in figure 8 constitute geometric 2D projections of what the 2 fundamental parameters are able to represent. The perspectival representations are naturalised, physicalised (‘physikemorphed’), or made real (realistic, ‘anthropomorphed’) by attributing conventionalised meaning to the parameters. This, however, also limits what they can ‘show’. One of my early ways of summarising notions of projection is shown in table 5:

Table 5: Framing and conventions		
Framing:	<i>Frames of Reference</i>	Conventions: sensory coordinates
	 Integration & differentiation	 Point Fulcrum Field
abstract paradigms: exPlanation	systemic compactions and division of ‘one’, multiplication to ‘many’	concrete world-views: EXPERIENCE or EXPERIMENTATION

The perspectives are mental, frames of reference in which the framing can be intellectual or perceptual, and require interpretation (with a bias). Their symmetries are similar, for example, to the graphic symmetry in architecture (Darva 2003).

Perception-based perspective: vision-audition-based models

The number of modes of ‘sensory perception’ varies in different cultures (3 to 6, usually). A textbook of functional anatomy (Marieb & Mallatt 2003) describes 5 ‘special senses’: taste, smell, sight, hearing, and equilibrium rather than ‘touch, which is a large group of general senses’ (Marieb & Mallatt 2003 p.466). The senses are governed by ‘special sensory receptors localised and confined to the head region’ (ibid. 5 p.466) ‘General’ visceroreceptors and other interoceptors and proprioceptors are considered ‘peripheral’ with respect to the head (ibid. 5 pp.337, 411), which interprets them. In other words, ‘sensory perception’ is ‘brain-central controlled’. It is also correlated with a self having sensate experience (psychic or psychological, constructed according to sensory modal parameters). As a result, our scientific and human models originate mostly with two senses, and which are constructed according to the corresponding ‘Number’: 2 for the stereo of vision and 3 for the volume-localising capacity of audition, or their combination.

The most general idea that pervades scientific studies of cognition and perception, as opposed to human cognitive sciences, is that scientific instruments are built on the model of perception (mostly vision and hearing), which we describe with geometry.

Moreover, the ‘geometry of experience’ (Husserl 1939), or cognition’ (eg CNRS 2006) is conceived as either a Euclidean geometry of normal perception (eg Todd et al. 2001, Todd et al. 1999, Baird & Noma 1978), flat or spherical (or geocentric), or as something closer to hyperbolic geometries for visionary experience. These correspond to ‘extra-ordinary’ perceptions, in shamanic or psychic styles of extra-sensory perception (eg Krippner 2000a,b and other authors in transpersonal and paranormal fields, who now use general, complex, systemic, and emergent approaches such as in Tart 1978). Yet the many studies are not put together to notice that both are based on what the brain-mind constructs on the basis of sensory perception, whether in the intellect or psyche. These are all located in the head and

reflected directly in the geographies of our explanations, most visibly in our theoretical and experiential ‘landscapes’ (see <F7\ Landscape>). The mutual influence of mathematics and word language and their relation to ‘advanced’ knowledge and refined experience is clear in the following statement:

‘That this subject [imaginary numbers] has hitherto been surrounded by mysterious obscurity, is to be attributed largely to an ill adapted notation. If, for example, +1, -1, and the square root of -1 had been called direct, inverse and lateral units, instead of positive, negative and imaginary (or even impossible), such an obscurity would have been out of the question.’ (Quotations by Gauss 2006)

The very practical aspects of direction, inversion, and lateralisation are directly involved in health (for example the mind-brain, vertical H-P-A axis and brain lateralisation) and do not necessarily involve the habitual geometric descriptions.

Framing systems: the view from the head

The problem of the geometries of perception is that the origin of the objects, subjects, wholes (complex or not) – in short, systems – that they see appears to be a great mystery to all but a few. It has plagued both science and philosophy for centuries. Satprakashananda (1974 pp.163-70) summarised the problems of perception of wholes under the term of ‘non-existence’. This can be (a) the absence of a thing to perception, (b) of a thing in its components, (c) of a thing in a particular locus, or (d) a thing not being separate or different from the not-the-thing. This is similar (and symmetric) to the Western notion of a ‘thing in itself’ ... as a whole [This is a perspectivalist classification]. Satprakashananda concludes, as does Spinoza (1901), that this ‘non-existence’ (or ‘existence in itself’) is known by ‘appropriate’ (or ‘adequate’) knowing that does not rely on the differentiating mind and the locating sensory perception. But then, there is the problem of the seeming self-evidences:

‘ It is a general conviction that geometry... is valid with unconditioned generality for all men, all times, all peoples ... The presupposition of principle for this conviction have never been explored ... But it has also become clear to us that every establishment of a historical fact which lays claim to unconditioned objectivity likewise presupposes this invariant or absolute a priori. Only through the disclosure of this a priori can there be an a priori science extending beyond all historical facticities...Only on this fundament is

based the secured capacity of inquiring back from the temporarily depleted self-evidence of a science to the primal self-evidences.’ (Husserl 1939 pp.179-180).

‘Self-evidences’

The animation <trefoil> (see chapter <Perspectival observation>) helped disclose how perspectival viewing operate a framing that results in geometric projections. To oversimplify what this means, in the context of health, we could say that we look *down* on the body as an object, *out* onto the environment of the self-&-body through the senses, and *inside* our living existence through indirect operations of observation that frame various types of spaces, which we interpret mentally and perceptually. In other words, all the ‘aspects’ that we explain, experience, and describe with our various languages (including mathematics) are based on ‘systems’. For example our historical facts concern people, cultures, objects, countries, environments, and we even justify historical catastrophes and suffering (Eliade 1954). Our spatial realities concern objects, subjects, things, bodies, worlds, and other systems. One of them integrates both space and time, and is particularly the object of all sorts of justifications: the body’s ‘natural’ ageing, diseases, and childhood illnesses. The ‘existence’ of all these, proven or ‘self-evident’, is not primary, but relies on geometry and projections which, circularly, arise from our perceptions, abstractions and concretions with the self-centre of reference.

The result, for health, is the view of the lowly body, as a machine, vehicle, temple, or container for the self-mind-brain that is the centre of projection residing in the head. This view seems to transcend the boundaries and differentiations of culture and geography and to be universally accepted. Even when we praise the body, we anthropomorphise it as a ‘being’ that ‘knows’ and is not the self – it is ‘another’ self, still a system. The invisible activity of the head-centre transforms all observing into representations of systems with boundaries, of all kinds. In ‘advanced’ frameworks, the systemic notions are described more simply, through combinations of patterns and activities (the 2 fundamental parameters) that are directly related to the brain-mind and the various forms and images it produces. For example, Stanley Krippner (1996, 1998) discusses

‘shamanic epistemology’ in terms ‘neurognostic frameworks’ that can be viewed as “image-schemas” (see Mandler, 1988), a ‘calculus” of archetypal processing’, ‘neuro-algorithmic space-time simulations’. These are ‘needed to coalesce human neurophysiology with human epistemology. Now may be the time to reconsider.... their sources in imagination, intuition, visions, dreams, the senses, and the body.’

This sort of approach still assumes the separation of mind-body, even if it aims to integrate it.

The representations are algorithmic ‘image-schemas’, which come down to N2d- and N3p-parametrisation, and which, for all intents and purposes, can be qualified as ‘simulations’ (see <Nexial-topologic deployment\ virtual reality>). Whether they be mental or perceptual interpretations and constructions, their most abstract form comes as geometries. ‘Where’ the apparent universality of these geometries of perspective and framing comes from has been the object of deep questions, but no commonly acceptable answer has emerged.

The ‘idealizing primal establishment of the meaning-structure “geometry” (Husserl 1939 p.180) appears as the corner stone of the ‘problem-horizon of reason’ (p.180), but ‘what we learn [in text books] is how to deal with ready-made concepts... substituted for the actual production of the primal idealities’ (p.169). ‘This production is the ‘*animal rationale* in every man’ (p.180) and requires ‘the capacity for reactivating the primal beginnings... [which] has not been handed down with it [the learned geometry].’ (Husserl 1939 p,170)

The animal rationale

Geometry is sometimes considered as a realm of abstractions or primary ‘Ideas’ (referring to Plato), and sometimes as a realm related to the physical nature of the body, of the ‘animal body’ of ‘humans’. This ‘animal rationale’ is different from normal human ‘reason’, and what such an ‘animal body’ sees, it seems, is known only by imagining what and how animals can ‘know’ through ‘instinct’. Romanes (1888, pp.49-59) describes the ‘animal rationale’ as ‘recepts’:

‘[...] Recepts are *received*: [...] How far this process of spontaneous or unintentional ... combining go without the intentional co-operation of the conscious agent? [...] animals display generic or receptual ideas of Good-for-eating, Not-good-for-eating, &c.; [...] How far, then, can this kind of unnamed or non-conceptual ideation extend? Or, in other words, how far can the mind travel without the vehicle of language?’ (p.49-51)

‘[...] these facts cannot be ascribed to “instinct”, seeing that tram-cars could not have been objects of previous experience to the ancestors of the ants; and therefore the degree of receptual intelligence, or “practical inference”, which was displayed is highly remarkable. Clearly, the insects must have appreciated the nature of these repeated catastrophies, and correctly reasoned out the only way by which they could be avoided.’ (p.53) ‘ [...] this practical knowledge in the case of animals enables them to form a generic idea, or receipt, of the equivalency between causes and effects....’ (Romanes 1888 p.59)

The ‘unnamed or non-conceptual receipt’, as a ‘generic’ idea is here related to a location of learning in the spatial environment, or in experience past, in time. This brings us back to the two fundamental parameters that are the source of descriptions based on sequences and ‘spaces’. They primarily express geometry (of one kind or another), and develop into all our other views, which are rooted in framing and perspective. The ‘receipts’, in this passage, are ‘received’, but they are also learned. There are various kinds of ‘received’ knowledge, in the literature, all characterised by the fact that whence they originate is not clear. The notion of ‘receipt’ does not suggest to me the same elements of experience as Romanes describes. In my cognitive investigations, I have detected two sorts of ‘receipts’. To me, ‘receipts’ are induced in my head, in various forms such as the automatic, learned reactions that are often called ‘instinctive’ and considered ‘animalistic’ (eg habitual reactions), which I find driven by brain-central-control, and knowledge, which involves the neocortex and thought.

- Sometimes they constitute simplified ideas that are related to solving thought problems of abstraction, such as alliterations (see <EE9>), iconic images (see topographic dreams <EE13> and <EE14>) and images related to numbers from 1 to 6 (beyond requires voluntary and organised thinking, as do 0 and ∞). These are intuitive, and have guided my classification work. In this case, I understand them as ‘my brain talking to my mind’: If the manipulation of ideas is a construction of patterns of neural activity (Laughlin, McManus & d’Aquili 1990), then the ‘unconscious’ work on thought problems during sleep translates back into solutions coming ‘not from my self’ and received in the mind – receipts. This is the best known process.

- The ‘recepts’ can also constitute practical warning or guidance (rather than ‘practical inference’ – there is no ‘reasoning’ although it ‘makes sense’), often directly related to health. Some dreams simply ‘show’ (eg <EE11\ Dream2: gluey road tar>). I construe them as ‘my body talking to my brain-mind’. Some of the visions of Teresa of Avilla (see <F20\ published EEs>) are an example that seems flagrant to me. Yet, they have been interpreted in psycho-spiritual terms, although her own first interpretation related to health and physical pain ‘here-now’. These sorts of receipts are governed by the separation self/not-self, of mind (identity)/body. The symmetry, appearing in the word ‘equivalency’ used by Romanes, relates to this separation. It is also linked to what I will call ‘covariance’ in my explanation of the ‘deployment’ of perspectives. This separation is, again, rooted in the 2 fundamental parameters of perspectival representation of experience, and in the major senses, stereo-vision (ruling N2d-) and hearing harmonics (ruling N3p-). The ‘animal rationale’ explanations, therefore often denote our own geometries of representation and the present study suggests that the geometries are the result the brain-mind-head basis of the perceptual and perspectival framing we use for rePresenting both knowledge and experience.

The problem of describing the undifferentiated

Describing another way of ‘looking’ that does not involve boundaries (structural, functional, connective, or operational), real or naturalistic space(s), and systems of various types, or repeated experience and recognition remains a problem. The N2d-and N3p- parameters always result in some form of perspectival view, and pose an insoluble problem for the description of a domain that is undifferentiate. The term ‘generic’ is often used, but it does not resolve the problem because it still implies patterns (those of genera) and elements of geometry (types):

‘For a receipt is the kind of idea the constituent parts of which – be they but the memories of percepts, or already more or less elaborated as receipts – unite spontaneously as soon as they are brought together. It matters not whether this readiness to unite is due to obvious similarity, or to frequent repetition: [...] In animal intelligence... [observations] imply a faculty of forming generic ideas of a high order of complexity.’(Romanes 1888 p.49-51)

‘To attain a general idea of causality ...demands higher powers of abstract thought than are possessed by any animals, or even by the great majority of men; but it is no less clear that all men and most animals have a generic idea of causality, in the sense of expecting uniform experience under uniform conditions.’ (Romanes 1888 p.59)

The ‘native gauging’

The other somewhat global ‘looking’ is not a ‘general (complex) or ‘generic’ idea (stable forms), nor ‘a receipt’ (received from whatever is ‘not-self’), because there is no part speaking or showing to another part, nor objects and relations. It uses imaging but is neither imagination nor geometry (classic, or hyperbolic...). It can arise from physical sensations but not from a ‘physical body’ (a spatial system), or from mental general or generic impressions (eg general mood), but it does not fit the definitions of ‘human thinking’ found in the literature (it is not algorithmic). I prefer to call it a ‘native gauging’. This mode of apprehension appears to govern the processes of apperception, induction, intuition, instinct, and global orientation, which are still considered obscure. I drew the description of ‘nexial-topology’ in <Nexial-topologic deployment> from a non-conventionalised, non-framing cognition (see <Endnote C11\ Non-algorithmic> that is this ‘native gauging’.

The problem of domain transfer (Sc-, H-)

The profound differences of interpretation of the graphic models we make and turn to scientific and human images, explanations, and experiences, leads to creating deep problems that involve anthropomorphism (a known issue) but also physikemorphism. I noticed such problems in comparing three things: the effects, described in the literature, of the strategies of ‘activating power’ in the physical body (eg hormones, or work); the vortex effects of adding more or less water in my kitchen blender when making the ‘Budwig spread’ (see <Appendix D\ Research materials & techniques>), and the effects of dehydration on my degree of feeling ‘in survival mode’ and my cognitive styles. I found the problem of domain transfer in many other situations, in which simplicity and complexity are evaluated in inverse ways. For example, a scientific Sc-broad approach to detail may be considered, by the human domain, to remain on the surface of things, ignoring general ideas and truths, or

lacking in direction. Conversely, a human H-deep approach to internal subtleties may be considered by the scientific domain, to limit itself to a small core of self-centredness, ignoring many small empirical anomalies, or lacking in operational understanding. Following are two other examples of the problem of transfer from the scientific or physical to the human and psycho-social, and vice versa:

‘The Ladder or Linear March of Evolution: ...The most serious and pervasive of all misconceptions about evolution equates the concept with some notion of progress, usually inherent and predictable, and leading to a human pinnacle. Yet neither evolutionary theory nor life’s actual fossil record support such an idea. Darwinian natural selection only produces adaptation to changing local environments, not any global theme of progress. (Gould, 1995 pp.42-43)

‘Why do scientists grasp the importance of visual imagery, while most humanists accept the hegemony of the word?’ (Gould, 1995 p.40)

‘I know of no other subject so distorted by canonical icons [than] evolution and the history of life: the image we see reflects social preferences and psychological hopes, rather than paleontological data or Darwinian theory. This theme of constraint by standard pictures is particularly important in science, where every major theory has a characteristic icon... [for example] the Bohr atom.’ (Gould, 1995 p.42)

‘The study of art has been plagued by our desire to see this essentially human skill in a progressive evolutionary context: simple artistic expressions should lead to later, more sophisticated creations. [...] Yet... the evidence increasingly refuses to fit. [...] for example,... from the first charcoal animal drawings to the more recent multicolour animals drawn with a clear sense of perspective at famous sites such as Lascaux and Altamira... And yet the beautiful multicolour horses, lions and mammoths at the Grotte Chauvet,... dating from 32,400 years before present, are now thought to be the oldest examples of cave art in the world.... The archaeological evidence is now forcing us to come up with new timescales for cultural change and innovation. This is a challenge that makes the smallest finds of archaeology as important as the largest.’ (Sinclair 2003)

The problem of reification

In science, model-making is viewed in two ways, as a basic activity of concrete modelling of physical objects or bodies, or as a creation of abstract models by analogy. The models are attributed to either something real to the senses, or considered ‘pure abstractions’, whether logic or analogic. In the human domain, models are mind representations, real to the mind or

self, and represent objects or subjects that ‘exist’ in time, or are material or spatial. They can also be productions of the imagination, still real to the mind, or even real to the senses (eg visions). These views may be considered as sensory-derived (geometric) ‘projections’. They are also ‘reifications’, objectifying or subjectifying what is observed, or turning it into entire worlds, all of which are systems. They are anthropomorphised (realistic or imaginal), or ‘physikemorphed’ (naturalistic), or considered ideal descriptions of the appearance, occurrence, or arising of these realities and spatialities. This requirement imposed culturally on imaging forces the models to make use of the 2 parameters we use to describe reality through the many perspectives that constitute culture:

‘The Googly problem: [...] Although all this was remarkably satisfying, a definite problem began to loom large. The problem of introducing SD Weyl curvature into the geometry of twistor space has been referred to as the (gravitational) *googly* problem of twistor theory—in reference to the cricketing term “googly” for a ball that spins in a right-handed sense even though the bowling action suggests a left-handed spin. Taking the cricketing analogy further, I now refer to the original “non-linear graviton” (mentioned above; as given in (Penrose 1976) as the *leg-break construction*. [...] If twistor theory is to be taken to be a *physical* theory, the gravitational field as it is *actually* understood, must be described by a (Weyl) curvature for a space-time which possesses *both* an SD (self-dual) and an ASD part [anti-self-dual]...’ (Penrose 1999)

Thus, the models and images can only build on previously accepted images, and become ever more complex – and oversimplified –, and cannot describe anything *but* what our biased perspectives apprehend. With this limitation comes the deepest failure of perspectival framing and geometry-derived mapping with dual and polar parameters: their incapacity to explain the origin of value and validity, which they define. Consequently, they ignore properties that can be ‘observed’ (but not described conventionally or described in the N2d- and N3p- terms), and in particular some that eventually lead to disease occurring suddenly, apparently ‘out of the blue’ – one does not ‘feel it coming’. One such property is ‘swelling’. This results in the medical helplessness for sufferers of chronic syndromes, but also for all the ‘little discomforts’ and small deformations of the body that we habitually attribute to personality or body type, gender, ageing, or life stages. These receive no explanation from

medicine, apart from 'it is not going to kill you, so nothing needs to be done about it'. This attitude is difficult to accept for a mother who wishes to keep her children's health, sanity, and life in the human world 'on track', and who senses physical deformations, personality distortions, mental and social limitations that loom in a child's young existence. A patient may also sense such small changes in their own health, although most do not. Another consequence of the ubiquitous hegemony of the N2d- and N3p- parameters and their imaged productions is the progressive deformation of new ideas or approaches to the realities they produce. These are evident when reading entries in an encyclopedia of philosophy. The explanations of the work of a 'deep' thinker shift the ideas through changes in vocabulary or definitions. This is visible also in the development of an author's thinking throughout a career. One example of the effects of linguistic derivations is provided in <Endnote C12>, concerning aquatic biologist Rachel Carson.

Implications

The general approach of perspective cannot describe anything *but* what is conventionally framed as systems, represented in terms of time-space, or of self-world, with boundaries (of various perspectively defined kinds). Since boundary phenomena (eg reactions, extremes, recurrence) are a major aspect of the chronic low-grade syndromes, it is no wonder that conventionalised explanations in medicine cannot make clear sense of them, in particular, with respect to causality. Perspectival analysis and mapping also explain why the general-systemic and integral approaches to methodology were not sufficient to understand the syndromes. Even this most 'advanced' approach (combining Sc- and H-) does not allow the description of an undifferentiate domain (eg global correlates of health) and non-local phenomena. These can be apprehended directly through animated imaging, but not appropriately described with conventionalised means. In particular, using words to 'lay out' this undifferentiated situation, and its countless non-local implications, produces complicated texts, like this thesis. It also forces the reader into the details of unfamiliar fields that are unnecessary and which hide the simplicity of what the animated imaging shows more directly. Explaining my findings in words is inherently inadequate.

The present work proposes another way of interpreting the ‘animated geometry’ style of imaging that can be ‘sensed’, but does not involve sensory or ‘sensate’ representation. In chapter <Nexial-topologic deployment> I attempt to explain with images how ‘nexial-topology’ provides a means of modelling an undifferentiated situation and its impact on particular conditions that arise anytime and any place in the ‘physical world of humans’, such as the syndromes studied. The impact also concerns all the perspectives we use in explanation and experience description, as do our cultures and civilisations in general. These are involved in the medical and body domains, but also in all the other aspects that influence our attitudes to health and body. This chapter is also fairly difficult to follow, because I am limited to flat images to convey my findings in general terms, with specific examples (perspectival limitation), as well as to give a sense to the non-specialist, of what ‘topology’ means.

Validity and Valuing

'Particularly important is the notion of not blaming the victim.' (Graham 2001)

The effects of attributing values to bodily and mental variables to evaluate 'evidence' of illness can be devastating. The issue of validity in research can also be distressing.

The notion of validity

During my Masters studies, I made a mind-map of many definitions of the word 'science', and of 'scientific method'. I explored the criteria for 'good science' and what is 'valid' knowledge. Various writers have emphasised diverse aspects (eg logical rigour, empirical evidence, reproducibility...) What is valid for one perspective is not necessarily so for another, particularly in the mutual appraisal of physical and human sciences – a problem for the present cross-domain study. I was faced with dilemmas that contributed to motivating my analysis of perspectives. General validation strategies and what constitutes 'evidence' are contentious, and have been the object of large bodies of literature in both philosophy and sciences. They make it difficult to define low-grade medical syndromes and clarify their symptoms

General strategies for validation

Validation procedures differ across the various areas of science: proof is crucial in mathematics, and non-circular logic or reasoning in philosophy. In qualitative sciences, phenomenology of a human experience has to be reasonably widespread in the population, and this often requires long justifications about the existence and reality of experiences for some people. There are countless models for complex mechanisms of validation in qualitative science – almost one per new method formalised – and this causes distress to

many researchers, particularly for innovative approaches. This problem is also no longer limited to human sciences: nutritional research and clinical trials are rife with challenges to methodological validity. Some areas remain unexplored, such as the percentage of failure in a clinical trial, almost never investigated and rarely discussed. These problems are related to epistemology and theoretical assumptions, but also to ontology. Revisiting several times during this project, the diversity of perspectives on validity of explanation and experience did not clarify these problems until the less differentiated model, which provided a topologic meaning, was developed (see chapter <Nexial-topologic deployment>). The most general types of validity and validation strategies I found (not only in academia) can be classified as perspectives (table 6).

Table 6: Validation strategies and perspectival validity			
generalisation:			
internal validity (logical reason or intuition)		external validity (collective consensus)	
confirmed by L-time--Prediction	reliable & 'pragmatic' usefulness verified by M-Replication in spaces	justified by R-time-honoured Tradition	
substantiated existence of 'evidence' = localisation in a collective timed-space			
N2d- 'eSTABlISHED' validity objectively true to brain-interpreted senses ¹ = found in the collective physical reality collective geoMetry of experience		N3p-'STABilised' validity subjectively real to mental sense of self ² = found in the collective human reality collective geoGraphies of explanation	

Internal and external validity are abstract, generalised notions. The first requires non-circular explanatory reasoning, for a logical rigour that has its root in collectively accepted intuition (eg mathematical or spiritual principles). The second requires the consistency between experience and explanation. This is a basic circularity, although necessary for a coherent perspective and a collective consensus on what is 'real'. The second line of the table is based on sequencing: time-prediction (of physical findings), time-series replication (to generalise), and time-honoured traditions (eg defining humans as emotional or energetic or material beings). These strategies aim to compensate for the unreliability of what the senses (outer or inner) show, which many know, can be deceiving. Scientists often speak of 'establishing'

¹ The brain interprets sensory perception (5 senses in Western culture).

² Psychologically or subjectively real experiences are 'sensitive': constructed mentally as sensory models that inform the self, sometimes with several 'extra' senses for the 'psychic'.

scientific evidence or causal correlations, and philosophers of communal processes that stabilise the evidence into a collectively agreed human reality (paradigm) – or unreality. All these arise from *and* produce, circularly, our re-Presentations, the geoMetrics of experience and collective geoGraphies of explanation (see chapter <Many perspectives>). They are the basis for cultural symbols and icons such as the head-centre. More developed forms result in the complex landscapes, abstract and concrete that rule our lifestyles. They ultimately produce ‘syndromes of instability’ (how is demonstrated in <Nexial-topologic deployment>), and knowledges that cannot make sense of them. This project aimed to address this by ‘going back to the drawing board’ for a fresh look.

Until such time as all this could be mapped or modelled, one way to avoid complete paralysis and begin to experiment, was to reduce the complicated literature on validity to something workable – a few key guidelines. The following three quotes show that even guiding words do not necessarily express matching models:

‘The entire study’s trustworthiness is tested by four naturalistic analogues to the conventional criteria of internal and external validity, reliability, and objectivity, which are termed “credibility”, “transferability”, “dependability” and “confirmability”, respectively.’ (Lincoln & Guba 1985 p.188)

‘Much has been written, especially within the positivistic paradigm, about the need for *empirical adequacy* in all components of research. Definitions must be operational; methods and conclusions must be objective, valid, reliable, and generalizable, and theories must provide for the possibility of their falsification by subsequently collected data.’ (Braud p.66).

‘...the various procedures that help ensure internal and external validity, generalizability, and reliability, and on intellectual criteria for consistency,’ (Braud p.66).

Many such sets exist and could be devised, so I decided to adopt the simpler general attitudes I had learned a long time ago in physics: Any hypothesis, ‘truth’, or ‘reality’ is a ‘working truth’, liable to be reviewed if it is defaulted by observations that do not ‘fit’ or cannot be explained. It is also only a ‘representation’, adequate ‘for all intents and purposes’ in the situation at hand, until challenged. All evidence, ideas, experiences, models, and other

aspects, are explored systematically, with unbiased rigour, and failsafe mechanisms against bias. I added that findings must be consistent with the global store of both knowledge *and* experience, but not create self-consistent ‘worlds of the mind’ ungrounded in daily living and physical health. The ‘working truths’ drawn from my observations must account for other’s ‘truths’ and ‘realities’, but, inversely, those mapped and modelled from others’ views must also account for the local-case studied, and not exclude the non-‘Human’. All this within the measure of my limited capacities.

This general approach has served me well. It detected that, despite consistency, both internal and external, perspectival maps, as well as their nexial-topologic ‘deployment’³ are incomplete. They ‘turn inside-out’ the ‘native gauging’³ and do not map what it shows. Instead, they focus on finding arcane rationalisations for its being ‘invisible’, ‘hidden’, or ‘lost’ (or on creating correlate iconic experiences). Together, nexial-topologic *deployment* of conventionalised³ perspectives, and *non-deployed* gauging³ provided a new understanding of chronic syndromes, and answered my general research question. The approach also led to defining the domains of validity of the two forms of nexial-topology (see <Conclusions>).

Types of ‘evidence’: ways of ‘valuing’

Validity rests on criteria related to ‘evidence’, whether it is physical existence (eg symptoms, proof) or substantiation of human experience (eg pain, existing description). I approached this by exploring the variable nature of ‘attributing value’. In the particular case of syndromes of low-grade chronic illness (not resulting in life-threatening conditions), some sweeping devaluations are due to the difficulty of ‘proving’ symptoms (signs of ‘illness’ far from evident to the clinician’s senses, medical instruments, and even to the social circle). These rely on the recognition of elements that can be measured, named, ascribed a valance (eg degree), or ‘valued’ in other ways. Perspectival analysis of these ways of ‘valuing’ produced the following table 7. This table can be read downwards, or upwards.

Table 7: Forms of ‘valuing’

³ The terms ‘deployment’, ‘conventionalised’, and ‘gauging’ are explained in <Nexial-topologic deployment>.



⊕ / ⊖ N2d-Binary value (dualist valuing / devaluation) 'good-bad'	N2d-N3p-Evaluation (valance on a scale: usefulness in establishing / stabilising a desirable baseline)	N3p-Modal set of values (‘value-based’ polarisation)
substantiated existence: localisation in the human-physical timed-space (<i>genera</i>):		
measured, numbers COORDINATES of experience	naming, word FRAMEWORK of explanation	
	geometric imaging & ‘Number’	

Explanation-down: collective ways of valuing

In the down direction, ‘value’ can be regarded as a graded evaluation (eg of impairment, improvement, dysfunction), a binary sentence (eg ‘sick’ or not), or a modal value (eg polarised comparison to a statistical normality or a standard point or range). These values are based on measures and nosological names, and pose problems. Objective measures are often not enough for the diagnosis of a condition such as the FM-CFIDS-ME syndrome. Moreover, because the condition forces one to slow down (tension, fatigue, brain difficulties), the ‘illness’, in some ways, also feels like a return to some sort of behavioural sanity, making an illness name not quite appropriate. Yet, on the other hand the common verdict of ‘there is nothing wrong with you’ does not suit either, since integrity is drastically reduced and susceptibility is high. Simplistic values such as strong/weak create many paradoxes: reactions can be quite powerful and overwhelming in a weakened state. The forms of ‘valuing’ are inconsistent, and do not adequately make sense of the condition. This begged the question: whence does this confusion and diversity of valuing come from?

Explanation-up: individual cognitive process of observing and valuing

This, I explored by investigating the cognitive process of observing and ascribing value. The perspectival classification of table 7 brings out the process I found, which goes from a first logical step of ‘observing’ to ‘valuing’ in various modes. This can be apprehended by reading the table from bottom to top, following one persons’ cognitive deployment (the valuer). A previous step is the ‘native gauging’ that produces an animated-geometry of the situation. It is expressed in gestures (geometry-related) that tell of nexial and topographic elements. This develops into my referring to ‘me’ as a human-sensate observer,-placed at the

centre of the 'space' observed (seen, heard: its centre is in the head). I also refer to this 'world' as physical-sensory evidence perceived at a moment in time. This can be represented with coordinates of experience (eg to measure an intensity or direction), and a framework of explanation (eg naming the origin or cause of my perceptions). Eventually, an evaluation appears (eg 'this isn't normal', 'natural', 'what it used to be', 'not good'...) that betrays an entire set of values... (There would be many other ways of creating a story out of this table, and it might be different for someone from another culture.) I summarise all these forms in the term 'valuing'. 'Valuing' produces at once the 'self' that values, and the 'evidence' it uses to experience and explain. The 'valuing' arises from the brain's interpretation of sensory perception and the concurrent localisation of the 'observer' in my head. This cognitive process is confirmed negatively by the wide acceptance of the necessity or inevitability of having a 'self' (an ego, soul, godly Self...). The vague sensations and 'native sense' do not involve a 'self', cannot be named, measured, scaled, or evaluated by these means. They have no recognised value or validity for health (or other spheres), are ignored.

'Researcher bias' and circumnavigating the perspectives

For perspectival analysis, I 'tried on' others' ways of valuing. I circumnavigated their related abstract explanations of health, epistemological techniques, experiential styles, and ontologies of the body, attempting to 'walk in their shoes' as far as my limitations allowed. This was my understanding of the integral method on which I based my research design

[...] by privileging only certain ways and aims of knowing – and by ignoring or devaluing others – we are unnecessarily and unwisely limiting...' (Braud 1998 p.3).

My analyses of these perspectives involved classifying them and critically comparing the eventual 'valuing' thus produced of physical 'health', to the global image given locally⁴ by the native animated geometry that does not use valuing conventions. In most cases, the result was the inversion noticed by Williamson and Pearse (1980; also see <Health and illness>). The body appears healthy and to feel well while, in fact, affected by disease. Alternatively,

⁴ This 'local' gauging is related to a bodymind affected by chronic damage.

the body is devalued as 'primitive' or 'animal', compared to the mind or brain, because of its apparently inevitable endless demands for attention (food, 'work at' staying healthy...), inevitable pain, and disgraceful ageing. It is considered a mere carrier of its emotions and energies, or an imperfect machine-vehicle-container for the mind and brain.

I cannot embrace this, but always make a point of not devaluing *any* perspective and, instead, 'place' it in the global 'space' of the physical-human world-history (a *topologic* 'space' with a scheme of unfoldment and enfoldment). To me, such views come with a state of emergency, in which the mind-brain 'drives' hard and directs all; it is not a permanent state. I studied the progression into this state (through nexial and topographic indicators), and its stopping into 'ease' (more physical and physiological effectiveness). I compensated for perspectival bias by circumnavigating all perspectives on health ecology and body, by deconstructing the notions of anthropomorphic self, 'physical body', and their integration 'as a whole system' body-mind. 'Gauging' the perspectives (without measure, naming, or other valuings) *showed* them as 'turned-inside-out'.

'Soma-Analysis and the Vertical Axis

The 'soma-analysis' performed in Phase one brought to light the importance of the localisation of the point of reference in the head, brain, and mind, and the consequent dualism [brain-mind]→body. Many tend to consider that this dualism is characteristic of Western culture, but Eastern culture has its own version. The dominant Western version tends to be more structural and connective (self and body things), the Eastern version more functional and operational (energies of the emotional or sexual self and flows of life). All forms actually operate in both general cultures, some being more dominant. In Eastern as in Western traditions, from antiquity (at least about 650BC) to modern times, the collective 'core' framework of explanation and experience, including medical, always considers, it seems, that the mind or brain affect and control the body or fail to do so (see <Extract F6>): the head rules the body vertically. This view seems to be a collective constant in most stages of cultural / civilised development (reexpressed through long periods). It places more value

on the ‘life of the mind’, its social or mental self, its driving spirit for survival or sexual power, on brain-organised behaviour of person and ‘physical’ body-system, than on the brain-body’s insusceptibility (*not needing to* entrain these or, in turn, entrain aggressive-defence behaviour of the body-system – see <Health and illness>). This is not consistent with the basis of ‘native gauging’ in non-entrainment, nor with what some people actually do in their daily living in certain conditions.

In my experiments, the ‘needs’ of emergency/critical conditions entrain head control temporarily, for targeted benefit, but at a cost for insusceptibility and ‘ease’: There is hidden low-grade damage to ‘integrity under operations’ (an ‘exhaustion of resources’). In a few archaic remnants of earlier myths of ‘The East’ (see <Ancient perspectivalism>), the stories are less differentiated and mention the same global damage, affecting children most, and the baseline of critical response. This corroborated my sense of ‘turned-around’, and the ‘gauging’ for which this critical basis of perspectival valuing constitutes a modelling of ‘limit’ and extremes (small or large).

H-‘researcher orientation’ and Sc-‘local orienting’ in observation

[These two names are H- and Sc- interpretations of the same projection of the topologic ‘vertical axis’ (explained in other chapters)]. Both the critical benefit and devaluation of the body-container are valuings, and other practical evaluations are often justified by using them. They arise from the vertical axis, whether its ‘direction’ becomes set ‘up’ or ‘down,’ or both. Valuings are perspectival differentiations, related to the reference localisation in the head, and so to this vertical ‘orienting’ in critical state. They are ‘turned inside-out’ because they consider some degree of criticality as a primary baseline, and describe only deployments (eg nature \square nurture). The ‘self-evidence’ that philosophers who evaluate works in physics often mention, is of the same nature – an unchallenged acceptance of the baseline of critical deployment, boundary phenomena, definition of systems, and conventionalised valuing.

I construe this tendency to deploy as a ‘local’ topologic ‘orienting’ (creating an axis) of both observer and observed. In human terminology, it is a ‘researcher orientation’ to degrees of criticality. The H- and Sc- vocabularies are here difficult to manipulate⁵. My own ‘researcher orientation’ is opposite. It acknowledges the mental realm (used to report on my research) and primacy of the head over the ‘physical’ body-system (used to make the body sit long hours at the computer), as *deployments* rather than as primary. It tends to stopping deployment, non-criticality, and not discerning mind from body or from world. The non-deployed state can be described as global ‘ease’, ‘integrity under operations’, ‘proto-health’. I cannot change or compensate for my H-orientation as I can for bias, cannot ‘turn-around’ my Sc-‘local orienting’ (shifting my apprehension of spontaneous ‘ease’ into something to be worked at, grown into, chosen, deployed), but I observed it, and can disclose it. I did this by investigating experimentally the mutual ruling of brain-mind-head and rest of the body, and disclosing (a) <EEs> concerning my experience related to criticality and lack of it, (b) a wholistic ‘view of the world’ apprehended locally – the phenomenological portrait ‘Physical wasting’ in <Conclusions> (obviously coloured by my current critical health ecology.), (c) the discussion of domains of application in <Conclusions> and (d) attempting to express ‘non-deployment’ or non-differentiation. What allowed me, however, to *offset* this H-‘researcher orientation’ and Sc-‘local orienting’, was to take the ‘native gauging’ as a

⁵ The following is unavoidably complicated (the imaging shows the same, more simply). My focus on physical health ecology during this project was placing primacy on the body. This bias was inverted during my Masters study of the mind. My ‘orienting’ is something different. It would be an inadequate conventionalisation to interpret my ‘local orienting’ or ‘research orientation’ as considering the physical realm (or ‘body’) as more primary than the mind realm. It just happens that ‘ease’ manifests more readily in physical sensations than mental impressions in my local case. The non-deployed state can be described as ‘ease’, but also translates as ‘physically insusceptible’, ‘mentally unaffected’, behaviourally ‘effortless’ (not straining or stressful, ‘easy’), etc. Such words are liable to drastic inversions and drifts of meaning rooted in conventionalised valuings: see ‘materially easy’ in <Conclusions\ figure 44>, think of mental detachment, ‘follow your bliss’, ‘don’t work hard, work smart’, etc.). It is my current bias (health, body) that focused on the physical effect. None of these explanations make it clear that I cannot embrace *criticality* as ‘primary’ or as a ‘*natural*’ baseline of experience (eg the recurring but not quite permanent pains and instability of a female body-mind) – and this does not mean that I devalue critical phenomena altogether. Hence the necessity to use imaging rather than words to express such things.

permanent benchmark throughout the project. This paves the way for possible generalised use of nexial-topology by others.

Rarely is the basis of criticality made apparent. In <F20\ Published EEs>, are examples of disclosure, but these are not academic publications and do not make the 'local' orienting of ideas clear. The non-critical in daily life is 'invisible'. We dismiss many unremarkable sensations and vague moods that are neither exceptional nor habitual. We simply tend to consider them 'natural', universally 'human', 'self-evident', and 'the same for every body' as in ourselves, even though they may differ with individuals and groups (think of the speedy physical healing in 'primitive' tribes, which astonished so many anthropologists). Yet, these unremarkable 'givens' – the very practical basis of daily living, betray the unnoticed baseline that remains unchallenged. Neither this baseline nor 'researcher orientation' are taken into account in research. (The perspectival forms of 'researcher bias' are derived from this.)

Findings of research, I propose, (and those of daily life accumulated 'experience') are relative to a domain of criticality that can be modelled through 'researcher orienting', denoted by the 'unremarkable' of daily living. They are relative to this 'local orienting' and state of criticality, to the observer's state of 'need'. The attendant generalisations and specification of practices can have deleterious effects on daily living that is 'oriented' differently (eg non-critical, without special need or generalised survival imperative). This remains a blind spot, and a hidden aspect of research.

Predictable valuing and deployment

Although details of valuing vary with context and perspective, 'valuings' have global properties of deployment that are modelled by nexial-topology and therefore their deployed 'placing' is 'predictable' – that is, the 'placing is a built-in part of deployment (see figure 11), For example:

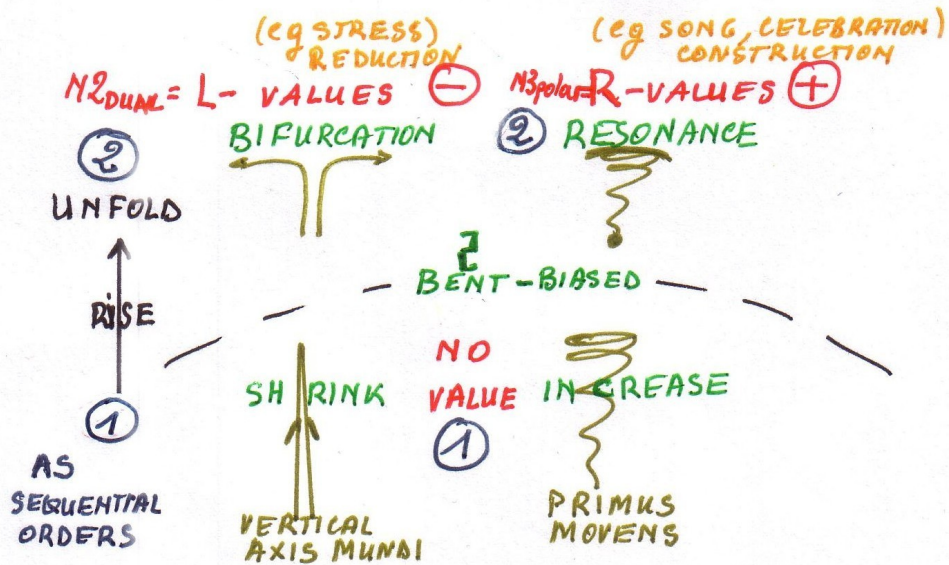
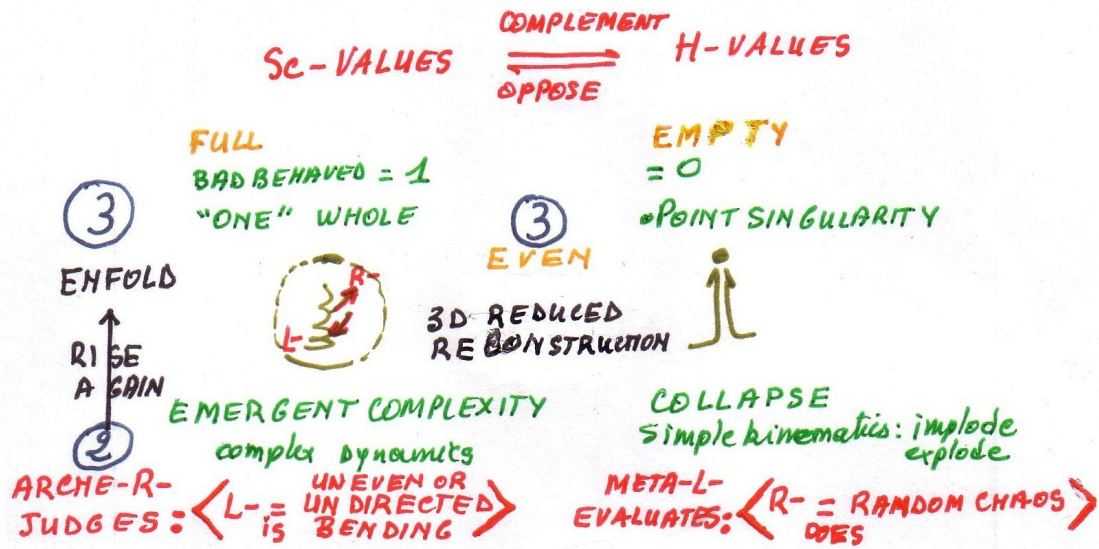
(a) The scientific and human valuings are symmetric, viewed as either opposed (at order 2) or complementary (order 3), and transfers between the two can create conflicts of valuing that are endemic in all aspects of culture.

(b) At the order 2 in this image, a person whose perspectival bias is toward the Left- tends to collect intellectual information about what is wrong \square ('monitor our demise', Hill 2001), and be pessimistic \square . A person biased toward the Right- tends to look for the 'good side of life' \oplus experientially, and be optimistic. Resonance may be seen as R-creative chaos or L-catastrophe. I symbolise this as L- \square and R- \oplus , in general. At order 3 in figure 11, the paradigmatic position shifts, devaluing the other side's perspective as a 'previous' or less complete stage. In more developed stages, the positive and negative can be evaluated as complementary, and either a benefit or a hindrance. In 'gauging' these binary values are irrelevant unless there is emergency or critical conditions.

(c) A number of other remarks could be made, but these are sufficient to show that the deployments of validity and value are predictable. They do not, ultimately, alter the global course of deployment, but participate in it. They locate or place differently the causes and blames, solutions and improvements, *only shifting* them from one expressed sphere to another. The 'orienting' to criticality remains the same, and the conventionalised 'valuings' maintain the same baseline hidden costs to human physicality.

I will show that 'valuing' also interferes with 'gauging'. Thanks to 'gauging' the perspectives globally, I discovered topology as a method applicable for a cross-domain study of health ecology and un-deployed nexial-topology to describe health without hidden cost. The account presented in these pages would not have come to be without my attempt, purposeful during this research project, at following in the footsteps of Spinoza:

*'I have made a ceaseless effort not to ridicule,
not to bewail, not to scorn human actions,
but to understand them.'* (Spinoza 1901)



- VALUING TYPES (PERSPECTIVES)
- EXAMPLES of NAMED VALUE
- GEOMETRY - GEOGRAPHY
- NEXIAL-TOPOLOGY
- ① 'STAGES' of SEQUENTIAL DEPLOYMENT

Figure 11. Valuing

Nexial-topologic deployment of perspectives

The perspectives and models, previously classified in <Many perspectives>, can be organised visually, as a progressive change of shape, a ‘spreading’ that is also a ‘gathering’—a ‘deployment’. The following images are based on topology, but the topologic ‘space’ that alters is not a conventional *physical* space, although it is strictly grounded in the body (including sensations and the brain-mind). Nor is it an abstract, ideal, or theoretical space with distortions described by complex mathematics (eg knot theory or strings). This topologic space is an undifferentiated ‘nexus’ of physical human daily living, hence the descriptive method is called ‘*nexial-topology*’. Anything not directly relevant to this nexus is found to belong to conventionalised perspectives derived from the 2 fundamental parameters I defined. The present nexial-topologic description does not need to take into account whatever particular expressions are normally (or extraordinarily) derived from separating or combining the parameters *Axis Mundi* and *Primus Movens*. Doing this produces perspectives characterised by conventions such as space-time, systemic separation of body-environment or self-world, specific or generalised contexts, universals-particulars, or evaluations of ill or not-sick. In contrast, nexial-topology is a non-differentiating ‘situation modelling’ for a non-defined ‘situation’: for example, without defining a health case with causes for an individual body or personal history discerned from the global human world and history of the physical body. The following description may appear very abstract or general, but recalling iconic images, analogies, and metaphors of daily life can bring out the wide-ranging application and implications of the images. What the images ‘show’, or ‘lay out’, affects general ideas and theories, but it is also extremely concrete: I found the topologic properties I describe by

observing sensations, what others and I say when we speak of illness or stress, and the human world in general.

Materials supported by this chapter: Power Point presentations

- The Power Point presentation <PPT1 Body> is designed to demonstrate how practical all this is for bodily sensation as well as general notions of health.
- The selection of imaged models gathered in <PPT2 Models collected> will help follow the developments listed in this chapter.
- The ways of framing described in <PPT3 Geometry of perspective> are presented below as *differentiating expressions* of nexial-topologic apprehension, and their apparently ‘primary’ nature as a topologic deployment.
- The images of <PPT4 Einstein> are included to relate the following explanation to both fundamental science (Einstein) and philosophy (Abbott), as well as daily life (my images).
- The diversity of images gathered in <PPT5 Nexial-topologic imaging> is aimed at showing various applications of nexial-topology, and various circumstances in which this kind of imaging is useful.
- The rules of thumb for geometric deployment are summarised in <PPT7 Three geometric rules of Nexial-topology>.

All these images describe general ways for creating models, from which the various types of specific *perspectival* models and perceptions are derived, as will be explained. Perspectival analysis can map and explain these limited *developments* into various types (as shown in <Many perspectives>), but my interest in this chapter is not in the categorisation of models. Rather, my aim is to describe the process by which the ‘apprehending’ through animated-imaging becomes expressed in and limited to ‘creating models’, general or specific representations, and ‘manifesting’, ‘acting out’, or ‘finding’ the realities of our explained experience. What these ways leave out is highlighted by (a) reducing the ‘animated imaging’ to flat images for the purpose of explanation, or description, and by (b) demonstrating ‘activity’ through 3-dimensional reconstructions of ‘movement’ or ‘motion’, which have ‘extension’ in spaces. Both are ruled by perspective (eg computer animation or perception),

and something is lost from the nexial-topologic imaging, in thus conventionalising, ‘reducing’ (Sc-compacting) it.

The order of deployment presented here could be different for the derived general and specific models (for example, beginning with general duality and ending with modal perspectives on the body, but in reverse, beginning with activities of the mind to finish on the cognitive patterns and physical networks of the brain). The order of deployment of all derivations that I use for the following sequential explanation is what makes sense to me globally. That is, it expresses an undifferentiated apprehension of human living in general, and mine in particular, without ‘personal’ bias, but given the ‘human-physical instrument’ I have (a female body-brain) and its ‘orienting’ (see below, and <Validity and valuing>). The order would be inverted if the basic orienting made the head-brain-mind (eg consciousness, be it ‘embodied’, or culture) ‘primary’ and the physical-animal body-brain ‘secondary’, as is the case in most theorising in any field I reviewed.

‘Deployment’ of general perspectives: ‘unfolding’ & ‘enfolding’

The term ‘deployment’ is topologic, and so graphic, geometric in nature. It is sometimes used intuitively, without clear definition. Bohm (1980) used the linguistic split of ‘unfoldment’-‘enfoldment’ to express it in describing his ‘implicate order’, and ‘undivided universe’. To ‘unfold’ means to bring out, spread, develop, or grow, and to ‘enfold’ means to wrap up, envelop into a folded state (Macquarie dictionary 1981). A wholistic or integrative image often used is the naturalistic analogy of an acorn growing into a tree, which then produces more acorns, or a new acorn. The philosophical term ‘extension’ and the scientific notion of ‘localisation’ (see <Extract F5\ Gauging thinkers>) seem equivalent to the idea of ‘deployment’. In conventional contexts, ‘deployment’, is expressed as unfolding-enfolding, development-regression, generation-degeneration, abstraction-concretion, expression-manifestation, creation-destruction, growing-dying, etc. Unfolding-enfolding may be considered a device of the method of nexial-topology to explain in words or images, or ‘lay out’ the meaning of ‘deployment’ which, in turn, is a device to model, or extract and compact in image, the animated ‘likeness’ of the situation apprehended by ‘native gauging’.

This modelling (nexial-topology) is not ‘precise’ in the scientific terms of calculation, nor ‘approximate’, but is a H-global, or Sc-‘non-local’ imaging and applies like a generic notion. The following images provide an artificial and necessarily partial breakdown of a non-differentiated situation. There are various ways of operating the descriptive breakdown to show different things. This particular breakdown may appear clumsy, to a geometer or topologist, and even inadequate at times, but my aim here is not exactitude in the particular details of the images or to mention all the specific associations with or expressions of the models. Rather, I am attempting to show how topology may underlie the geometries we use to create theoretical models and practical representations, and to build the icons that rule both culture and our ‘civilised’ behaviours. It is sufficient to see that the ‘deployment’ is both an ‘unfolding’ of generalities and an ‘enfolding’ of specifics, and how this works in creating all the particular systems of what we consider to ‘exist’. The list of models is far from exhaustive, and there are countless other variations and derivations, particularly as icons in the arcane or ‘secret’ knowledges related to religion, such as those found in Chinese inner alchemy or the Bible. Some words attached to icons are listed in the large table 9, and my study of them introduced there. Focusing attention on the inadequacies of my understanding of others, or on the details of my *exposé* in words, to understand my ‘original meaning’, would detract from apprehending the imaging and its global meaning. It will be more useful to the reader to sense intuitively the workings of topology in the global realm that can be apprehended locally, and that underpins his or her personal lifeworld and health

Order 1: Two fundamental parameters and generic properties

Generic notion: Primus Movens and N3p-polarised activity

Generic notion: Vertical Axis Mundi and N2d-dualised direction

The two fundamental parameters of perspectives, N2dual- and N3polar-, representing projection and activation, or direction and polarisation, are widely accepted meanings. In <Many perspectives>, the most generic names introduced for them are: *Axis Mundi* and *Primus Movens* respectively. ‘Axis’ and ‘moving’ are what I will call ‘global’ notions (in <Ancient perspectivalism>) are less differentiated than our modern ideas of direction and

activation. The latter are habitual ways to consider *either* ‘how it all came to exist’ or ‘what happened at the origin’ – appearance and occurrence, or cause and change – to separate and discern them. They are used also in combination and for integration. These distinctions are found in the writings of both those who enquire through scholarly tracing back to ‘deep’ or discerning philosophies, and through tracking forward subtle clues and precise details. They are however, conventions learned by collective ‘enculturation’ (intellectual, experiential, cultural habits), and just two separate ways of apprehending the same generic situation, or rather undifferentiated, which I image in figure 12. These two fundamental parameters (N2d- and N3p-) are symmetric, or equivalent, or ‘work the same way’, but lead to different ways of constructing both explanations *and* experience. To make this symmetry apparent, the 2 fundamental parameters may be considered as different generic properties of the same undefined or undifferentiated situation, and represented geometrically as in figure 13. These images are at the origin of the symbolic notation (presented as 2 and 3 points in <Many perspectives>):

(1) for *Axis Mundi*: N2d-orienting (2) for *Primus Movers*: N3p-spinning-up.

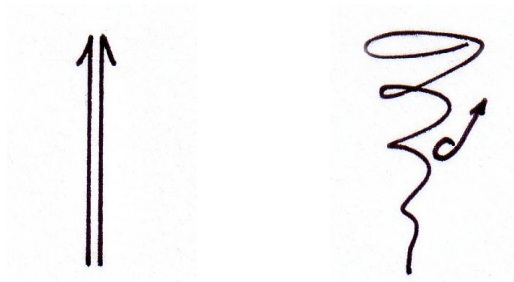


Figure 13: ‘Orienting’ and ‘spinning up’

Generic properties of the undifferentiated ‘situation’

An ‘orienting’ (in the language of mathematicians) is different from a ‘direction’. What direction (eg arrow) is to ‘orienting’ (eg line or axis), is what one-sided ‘development’ is to ‘deployment’ that unfolds and enfolds. This ‘oriented deployment’ is a way of differentiating basic aspects of an undifferentiated ‘the situation’. For the ‘native gauging’, the most basic ‘deployment’ is a ‘swelling’ that ‘spreads’ at the surface, like a bubble welling up to the surface of a pond, expanding in size, until it bursts through the surface. (This will be

explained further below). ‘Spinning up’ involves both turning and increase, together. They can be imagined as a spiral of increasing diameter and speed, like a 3D-spiral. In figure 12, the two parameters of figure 13 vary concurrently, in the same way (named ‘covariant’, below), but they are usually understood as separate. That is, the ‘fundamental’ explanations of appearance and occurrence involve only one of the generic parameters. In more complex models, the one parameter may be doubled to describe interactive processes. I will now present in parallel, two ways of building deployments, one based on explanation, the other based on experience, and their integration, as a ‘framing’ that produces models. This will allow me to demonstrate the equivalence of the generic parameters and the consequences of the construction into general models. This ‘construction’ has two aspects that can be viewed as ‘unfolding’ and ‘enfolding’. The difference between unfolding-enfolding will appear more clearly with images than worded explanations. Distinguishing 3 orders in sequence, and then repeated steps can also show these constructions. Some general models, drawn from the literature, are presented in the Power Point presentation <PPT3 Geometry of perspective>, which it will be useful to peruse while reading this, and again afterwards. From the viewpoint of explanation, the fundamental parameter that is the most obvious is projection, and so the topologic or generic property to use is ‘orienting’. The other parameter of activation or ‘increase’ is more significant to experience, and the topologic or generic property to use is ‘spinning-up’.

Order 2: Flows: linear and circular

- The ‘orienting’, as topologists explain it, is difficult to represent without a surface. To show how this topologic property is involved in model making, I will reduce it to a double-version of the common notion of ‘direction’, which is 1-dimensional. It can then be developed into greater dimensions (or orders, in the jargon of human sciences). Hence, I

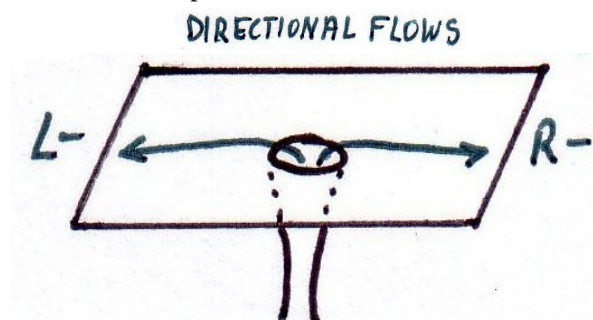


Figure 14. Directional flows and division

represent ‘orienting’ as a set of two arrows in opposed ‘directions’ on a surface or plane.

This set (figure 14) operates a division of ‘orienting’ in two direction-arrows. When this orienting property is applied to an undifferentiated or undefined situation, it ‘spreads’ on a surface and splits in two, thus creating 2 ‘directional flows’ that separate. If the 2 flows, which are H-directions, are interpreted as having one *mathematical* Sc-dimension, they define a 1-dimensional ‘line’. Hence a ‘line’ of ‘transport’ is Sc-H- notion derived from topologic ‘orienting’, but the topology has become a surface topography. In archaic literature, these ‘flows’ are often named ‘rivers’. In modern literature, the bi-directional or double flow is understood as a splitting or division, and associated, in complex contexts, with reductionism or linear thinking, or with a re-integrating notion of interaction. Such splitting or spreading flows can be gestured with a movement of the hands separating from each other, palms of hands up. In this case, the topologic notion of ‘spreading into a surface’ is still there, whereas it is not in the word ‘transport’. One crucial characteristic of these directional flows is that the most basic way of construing them is as dual opposites, and to gesture or speak of going ‘left and right’ (see text extracts in <Extract F10\ Left- and Right->) (now the ‘spreading surface’ notion is gone). The directional flows of figure 14 can be interpreted in many limited and conventional ways. As a duality – a single line of transport with directions–, they define dual relations such as stereo vision, cause-effect, or symmetry (eg opposition, divergence, complementarity, etc. – see table 4 in <Many perspectives>, which can then be differentiated further into 3 fundamental types of symmetry). The image underlies many binary representations such as before-after, activation-deactivation, going and returning, making and unmaking, etc., and the thinking we call ‘linear’, from which all ‘patterns’ are derived.

- The typical image of an ‘increasing spinning’ is that of a widening spiral-cone. The more it increases, the wider the opening of the cone and the more the circular turning motion becomes obvious. This can be understood as a ‘circular flow’, and I represent it by the



Figure 15. Circular flow and spiral cone

image of figure 15: The cone is a typical icon in modern theories and abstract models (Gould 1995 pp.37-68). The spiral-cone is a typical image in naturalistic analogies (see Nersessian 1995, and <PPT3 Geometry of perspective\ slide 12>). In archaic literature, it is associated with a twister wind, and is typical of the ‘East’ framework (see <Ancient perspectivalism, The Earth, and The East>). This moving shape is also common in gesture when we speak of stress or explain a cyclical ‘flare up’ in a chronic condition, of things ‘getting out of hand’, or a child ‘getting into a spin’. A crucial characteristic of this imaging is the notion of turning circularly – of cycle. This may be considered a basis for the idea of natural cycles of seasons, of time, of female menstruation, etc. In fact, in archaic literature,

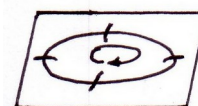


Figure 16. Synthesis of direction & circulation

the framework of the ‘East’ is associated with the Female as fertile Mother, and with Nature, producing ‘Mother Nature’. In the chapter <Ancient perspectivalism>, I detail a few correspondences with colours and bodily states, to what came to be called the ‘East wind’ (see <Ancient perspectivalism>), used in the old medical idea of ‘wind disease’. Both the directional flows and the circularity, as images (reduced from topology to geometry), can be combined, into a synthetic model (figure 16), in which two sets of opposites, rather than one, are generated.

The symmetry of explanation □ experience, and perspectival circularity

This combination can also be understood in terms of abstract symmetry (□) or circularity (□) (figure 17), which can be interpreted in various ways. The most fundamental consequence, for theorising and modelling, resides in the symmetry between the general perspectives that

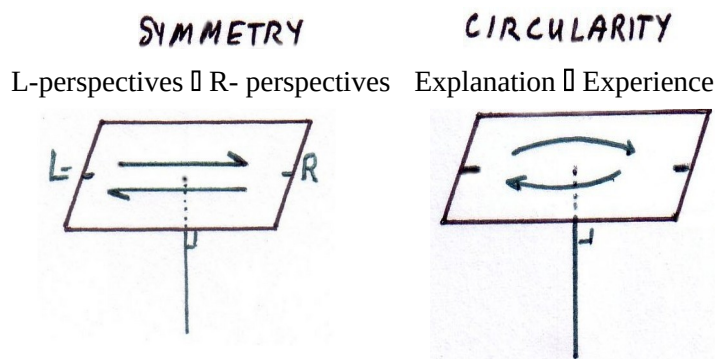


Figure 17. Symmetry and circularity

we derive from this topologic 'spreading at surface', and in the circularity that exists between one's explanatory framing and one's experience, each reinforcing and validating the other. The first was particularly obvious in the symmetric vocabularies used by L-perspectives \leftrightarrow R-perspectives. For example, a L-transport can mean the same thing as a R-communication (and a M-interaction), with only a change of context.

The circularity is what makes any general set of explanation \leftrightarrow experience, any general perspective logically self-consistent, and a workable practical paradigm. Otherwise, observations would not match explanations, and theories could no predict experience. This makes it, however, very difficult, without geometry, to detect the biased internal logical circularity of a perspective, and its externalised duality (eg physical-human) that is considered fundamental. Without images, it is not easy to see that this self-consistency does not mean the general perspective is valid for *all* aspects of human living for everybody universally, or that it represents everything. This symmetry-circularity is used, in particular, to rationalise the necessity, or inevitability of many things, including for health (eg the self-world interaction for survival). The symmetry means that Left- and Right- thinking are most often considered opposite in the human domain, and as one shifts from one to the other (either way), the second usually appears better. Yet it also means that Left- and Right-derived specific perspectives are equivalent, at this surface, in the general shape. For example, science uses both structural and functional concepts for its explanations. This is equivalent to the human concepts of objective and subjective: they 'work the same way' (same rules) and give the same image, whether interpreted in human or scientific terms. The circularity, nevertheless, is becoming known in the human domain, through the study of theoretical assumptions and experiential biases, as separate bases for paradigms of research. An implication is that quantitative and qualitative research methods are equivalent in the models they produce, and arise from the same geometry, despite the many claims that put one above the other.

Order 2: The topographic 'FlatLand'

From a topologic viewpoint, the 'surface phenomena' of directional and circular flows, described in figures 14 to 17, represent a single topologic situation. They are various aspects of how to define, extend, or localise a global territory that is a flat surface out of an undifferentiated topologic 'space'. This generic flat surface, I call a 'FlatLand' (figure 18), in the terminology of Abbott (1884). The plane, surface, or FlatLand, is at a square angle to the *Axis Mundi* 'orienting' (see a summary of my geometric rules of deployment in <PPT7 Three nexial-topologic rules of deployment>).

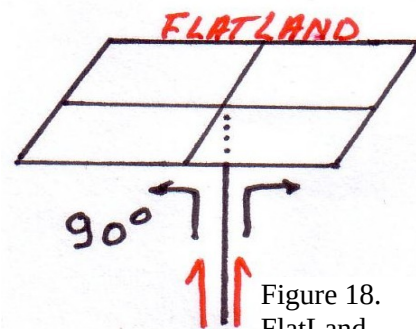


Figure 18.
FlatLand

Order 2 derivations: flows to establish or stabilise

The many possible combinations all have, however, something in common. They represent some kind of edge, or limit conditions that are valued in general culture. The combined image of figure 16 (or some related imagery), and the associated notions, are fundamentally put in correspondence with two ideas that rule all aspects of our lives:

- **Dual relations to establish.** For example, structural bounds establish mechanical integrity, knowledge recognised as valid is established, flows between the brain and body establish normal adult health. This occurs in particular during puberty.
- **Circular flows stabilise.** For example, scientific knowledge is stabilised by interactions in the scientific community, creating an accepted paradigm. In daily life, our cycles of work and rest, job and holiday stabilise both health and societal living. Regular eating is part of the basic body-training we undergo in childhood, and this is related to fitness, also called 'physical conditioning' that has to be kept stable ('use it or loose it', loosing it means illness). For women, cyclical menstruation is widely considered a necessity for stable female health (not menstruating is associated with disease, extremes of athletes, and infertility). The

importance of these notions becomes clear in perusing the literature (see the selected sampling in <Extract F8\ Establish and forms of stability>).

Virtual reality: real to the senses and 'sensate' mind constructions

The circularity (and circulation) introduces limitations on explanation and constraints on experience, and on lifestyles in which both reinforce each other, creating a collective 'virtual reality'. Its existence is known by a few (see <Extract F15\ Virtual reality>). It 'represents' the world to the senses, whose perceptions are constructed in the brain, interpreted the mind and psyche, and real to the self [or else, it disappears entirely, for consciousness.]. This reality relates to the physical senses, 'sensate' imagination of real things, and 'psychic' senses. Several parts of this thesis address this sensory basis, and it is an association with vision that gave the generic name 'perspective' (for the set of our experiences, explanations, and other expressions). From a nexial-topologic viewpoint, a perspective, specific or general, is simply the self-based reality and naturalistic physicality produced when the body and lifeworld are ruled by the brain and self-mind, by sensory perception (or sensory shutdown), and the head, activated through the vertical axis.

Stable ▯ Established normalisation

Combining N2d-dualised establishing and N3p-polarised stabilising is what makes us 'normal'. (Note that this word means 'at square angle' in geometry). These processes are also two different ways of understanding the same normality. Two consequences of normalisation, in health, are the compensatory adaptation noticed by Williamson and colleagues (eg Williamson & Pearse 1980), and the selective adaptation described by Selye (1976), named differently by others. These are known to rely on our neuro-endocrine systems (which 'transport' substances and 'communicate' signals). Stabilisation and establishment are the main goals of most medical treatments in our dominant culture, and of the larger part of practices in any domain. This framework is also the basis for the *physical* adaptive selection of individuals in other animal species (Gould 1995 pp.42-43, and Darwin. There is, here a problem in the transfer of the idea to the *human* domain – see

<Conclusions>). The view of daily living afforded by frameworks of this kind is both limited and constraining. This is visible in particular in the over-simplifications of left-right thinking (L-linear and R-relational), and in the rejection of this normality and simplification in marginal circles.

Order 2: Flat geographies and geometries

Interpreted in terms of patterns (Left- thinking), this ‘FlatLand’ produces the most enduring general model found in archaic literature, which we still use for both explanation and experience – that of the ‘4 directions of the Earth’ (East-West-South-North; figure 19a). Unlike other models, this one exists, it seems, in all traditions. It governs the world of normal living, the ‘natural’ or ‘physical world of humans’, in which we have body-object, self-subject, and other relations. It stood out enough for me to make a particular study of it.

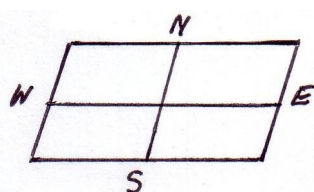


Figure 19a.
East-West-South-North

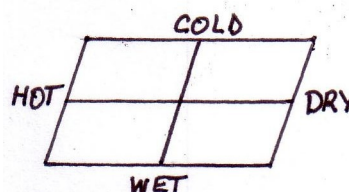


Figure 19b.
Wet-Dry-Cold-Hot

This ‘FlatLand’ is, among other qualities, a geography of explanation of the objective ‘physical’. Strangely, I could find no logically valid explanation of the origin of this framework to represent the physical world we live in (see <Ancient perspectivalism>). Nobody seems to know whence it comes. It is taken for granted, and even spiritual frameworks explain only its developments into the traditions they carry on. This ‘FlatLand’ is the ‘Land’ or ‘Dry Land’ in the Bible. It is the basis or baseline of both representations. I gather this is a case of the incapacity of a framework to explain itself. This idea, usually attributed by philosophers to Gödel’s theorem of incompleteness (Weisstein 2006a), confirmed my findings. In such frameworks of ‘FlatLand’ notions of reality, the appearance and occurrence of reality, space, or the physical world, becomes invisible because the representations are geometric rather than topologic and cannot take into account the oriented ‘origination’ of ‘existence’, or the result of spinning-up (the surface-land they describe

comes by ‘swelling’ and ‘spreading’). This stage of deployment of perspectives is the basis for the quadratic models in many analytical frameworks (symbolised by M4, see <PPT2\ Models collected\ slide 2>). One of these dominated Western medicine from antiquity to the medieval period: ‘Dry-Hot-Wet-Cold’ (figure 19b), and is necessary to understand old explanations of the syndrome of instability. This ‘FlatLand’ is a landscape, a limitation of topology to topography.

Order 2 further derivations by repetition of details:

‘The Many’ in colours or spectrum

The combination of linear and circular flows (figure 16) can be repeated. This produces models of ‘The Many’ in spiritual philosophies (many ‘particulars’, in philosophy.) They are often explained through specific models formulated in terms of colours, in both modern and ancient times (eg many forms, rays, rivers, or names, or colours, as in particle physics and ‘spiral dynamics [Beck & Cowan 1996]). This can also be formulated as a ‘continuous’ spectrum (as in Willer’s 1977 framework, or the continuous series of numbers). If the ‘many’ are mapped onto a FlatLand, they may be concretised into specific models (iconic images), as abstract modelling of transport, realistic models of flowing (eg physics of fluids), naturalistic rivers, or be interpreted as real spreading or expansion, as a multiplicity or multiplying (eg of languages), a complication, etc.

The notion of repetition in itself plays a major role in our lives. Endless repetition of details is the basis for the widespread idea that the reality of human living is ‘all a matter of repetition’, and for the maintenance of that reality itself. It manifests most visibly in our habits and repetitive or patterned behaviours, in the aimless repetitions of the ‘monkey mind’ (the ego’s unstoppable mental rambling or the echo of a song). In particular, in schools this transforms spontaneous and ‘organic’ ways of learning by active doing, into the drudgery of repetitive learning practices that kill the ‘love of learning’ they purports to encourage. In daily life, repetition is ubiquitous, in our lifestyles, in the endless stream of problems to solve, and obstacles to evade, in our attitudes to the body.

Perspectival circumnavigation

The 'FlatLand' imaged in figure 18 gives rise to many different perspectives, each with a theoretical and an experiential side, with a circulation. I circumnavigated these perspectives during Phase one of this research, and the entire circulation represents the exploration of the dominant paradigms relative to health (eg regulation, or 'freeing blocks' in alternative medicines). Dualisation leads us to view human reality most often in terms of a limited perspective, each associated with a set of problems-solutions addressed through a general strategy for improvement (eg illness-healing by selective adaptation). The perspectival circularity of explanation \square experience brings the consequence that we keep shifting from one set to another, each new solution creating a new problem and challenge with it. We just keep shifting problems from one sphere to another, to eventually come right back to where we started, the same first strategy, with a slight difference. This manifests in shifts between scientific and human views, between mind and brain views of health, always coming back to the basics; including the recognition that there are 'problems'. This going around in circles is particularly obvious in politics, but has been noticed in ecology as well:

'Rice is increasingly replacing traditional cereal crops. But the new rice fields are ideal habitats for the vectors of diseases like malaria and schistosomiasis. Changes in the size of livestock herds can, in turn, modify the population densities of biting and blood-sucking insects. The use of new pesticides entails new risks of poisoning. Sometimes we even go in circles. In South-East Asia, after deforestation destroyed the habitat of the most important vector of malaria, new plantations of rubber trees, oil palm, and fruit trees recreated even more favourable conditions. In the agricultural sector, the Ecohealth approach aspires to create synergy between the improvement of agricultural practices and the improvement of human health while ensuring the ongoing viability of agricultural ecosystems.' (Lebel 2003 p.41)

Order 3: Unifying diversity: 'crossing' or 'passing'

The diversity of models (and perspectives) produced by deployment to order 2 leads to a need to unify the diversity and multiplicity, or integrate the many aspects. One way to do this is to introduce bindings between the many parts. If these are lines or flows, the image that comes is that of a lattice, or net, with the lines 'crossing' each other. This idea produces

models based on net, mesh, network, braids, knots, etc. This seems directly related to inventions. For example, some myths from the archaic oral traditions mention such words. Archaeological objects from prehistory anywhere in the world (Mithen 2003, Rudgley 1999) also recall these shapes, suggesting that some such model-shapes in the human mind play a role in invention as well. A technical metaphor for unifying diversity is a ‘fabric with crossings’ (an expression from topology). Some such notions in medicine are the knots of ‘chakras’ the networks of our neuro-endocrine biochemistry, the mesh of connective tissues, etc. – these do not make sense of the syndromes of instability studied here.



Figure 20. Spring or ‘passing’ through the ‘eye’

More relevant is another meaning of the word ‘crossing’, as ‘passing’ or ‘jumping through’ (see the long table 9). Medieval and archaic texts are replete with images of jumping through or ‘passing through the Eye’ (figure 20), passing or crossing a ‘gate’ or door. These ancient images are interpreted as metaphors. A common symbol for this in human philosophies is the circle with a point that is a centre of emergence (figures 20 & 21). The image can be sophisticated by using that of figure 16, adding the central point to the circulation, thus representing an ‘origin’ of the expanded FlatLand, or an ‘end’, a ‘completion’ by ‘returning’ to the origin (the point), or both, depending on the tradition. This is the basis for the spiritual models of ‘the native wheel’ (pictured in perspective, in figure 21), which helps the seeker circulate around the 4 cardinal points of the Earth and find the centre, which was their origin. The idea is to ‘undo’ what appeared-occurred, but it is only on that surface. This model (figure 21, a Right-thinking interpretation) also seems to exist in all traditions, with various attached words and meanings. It is still a basis of thought and experience in Eastern cultures (eg in China). If the centre is considered separately as *both* beginning and end, but separately, it effectively adds one point to M5 models, or two points to M4 models, and thus yields M6-models (see <Many perspectives>) that are understood as more ‘complete’ (see <PPT2 Models collected>).



Figure 21.
Native wheel

Order 3: Nexialist quantic jump

Figure 20 suggests also another analogy – that of a ‘spring’ (figure 22a). This is a fundamental idea in pre-archaic frameworks of ‘The East’ (see <Ancient perspectivalism>), and is related directly to water (and later the fountain of ‘Life’). ‘Spring’ is also another way of saying ‘jump’ (a metal spring, for example). From a topologic viewpoint, the sudden ‘passing’ that integrates can be imaged as the reduction, focus, or convergence of a spiral to a point (red dot in figure 22a). Modern terms such as ‘quantic jump’, ‘chaotic emergence’, or ‘sudden shift’ would be adequate to name it, and the colloquial ‘coming to a head’. This particular expression, together with the image, recalls a totemic story of the Dreamtime in Aboriginal Australia, that of Snake who comes out of a water hole (figure 22b). (‘Dreamtime’ or ‘The Dreaming’ is a ‘global notion’



Figure 22a.
‘Jump’ or sudden shift



Figure 22b.
Snake out of water hole

as discussed in <Ancient perspectivalism>, and may be approached as a conventionalised interpretation of an undifferentiated or topologic ‘place’ – see also text extracts in <F9> and <F12>.). Figure 22a, however, poses some difficulty in modelling with flat drawings, because the spiral is inverted, compared to that of figure 15 (circular flow), and yet what it represents is the result of the same ‘activation’ (eg a striking snake) as expressed in figure 15. One simple way to resolve the difficulty is to not differentiate the processes presented in figures 15 and 22a, and represent them with the same spiral, for a single topologic property (figure 23).

The notion of vortex is a common one in daily life (water swirling in the sink), and in ‘advanced’ science. In abstraction, the vertex represents

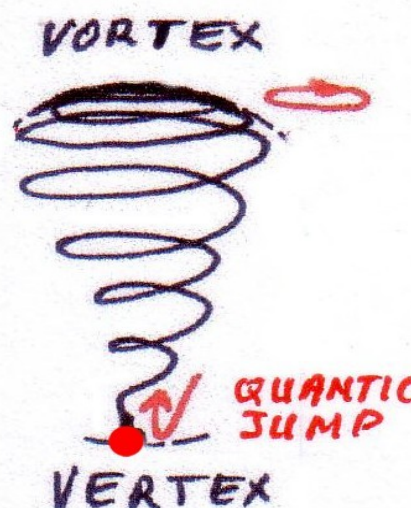


Figure 23. Vortex-Vertex

well another notion common in the human domain, that of focus, convergence, or targeting.

Together they image two of the ways for ‘boundary phenomena’ to happen (circulate – figure 15 –, or hit, invert, and jump – figure 23). The second is of interest next.

Nexial ‘turn upside-down’: critical point of inversion and chirality

The point of inversion of the direction is a discontinuity, a singularity. It represents a critical event, and this is of relevance to daily life and health. For example, we say, ‘I have *hit* rock bottom, but I kicked back up’, and, ‘I am so weakened that the slightest noise makes me *jump* right out of my skin’, we speak of a breakthrough, or hitting a wall or ceiling. (Turn the spiral image to match the analogies.) A number of related iconic concepts are discussed later.

Nexialist¹ derivations: The nexial spiral-cone in figure 24 is turned upside-down, compared to that of figures 20, 22a and 22b. In conventional terms, this, too, is an inversion of the geometrical projection of ‘twisting’ or ‘spinning-up’. Such inversion is found, in particular, in linguistic meanings associated with historical periods that are wide apart, or



Figure 24.
Nexial inversion and chirality

considered different eras (eg from archaic times to antiquity, the gender of ‘wisdom’ changed – see <Extract F13\ San Jiao & inversion>). An etymologic dictionary can show this: if one tracks all the developments of a particular root from Indo-European, at some stage, the positive or negative value (or male-female) is inverted, bringing a new set of meanings. The nexial inversion gives rise to various ideas, such as ‘rise and fall’, ‘dexter and sinister’ characters, (drawn from archaic texts – see <PPT5 Nexial-topologic imaging\ slides 8 & 9) and derives into dyads (see slides 3 & 4) such as ‘rise-and-rise again’, strong and Great, human and ‘Fully Human’ (or ‘Real Human’ in Chinese culture), Earth and Heaven, high mountain and highest mountain (or ‘most high’, in the Bible). In <Appendix A\ Table 9: Nexial-topologic vocabulary>, I have gathered a sampling of quotations, mostly from archaic texts, and a few others, in which key words can be interpreted by using nexial-topologic properties such as those described here. The meaning of such texts is often

¹ ‘Nexialist’ designates conventionalised interpretations of ‘nexial’ changes of shape or activation.

considered ‘obscure’ and subject to many biased interpretations. Nexial-topology gives them a clear and definite meaning, although it is not realistic or naturalistic, nor related to geometric measured precision.

The words ‘sinister’ and ‘dexter’ may be considered derived from the geometry. The shift or inversion in figure 23 can be seen as a change of direction of the spinning. Ignoring the vertical axis (up/down) leads to the nexialist distinction of Left-Right (in 3D, ‘going left’ is different from ‘going right’). One scientific topographic term for this is ‘chirality’ (the inversion of the twisting produces still images that do not coincide). This is differentiating the shift into 2 directions, and laying them out sequentially (‘going’) or spatially (chiral images). The result is a model that can evaluate differently the 2 directions (eg right as better than left – see <Extract F10\ Left-Right>). This produces many different derived models (eg direction of folding in proteins, and the ‘right hand of god’ – see <F10>). Some of the most common related iconic images are imaged in <PPT5\ slides 8 & 9>. In the chronic syndrome studied experimentally, there was chirality of pain: it appeared left or right (this phenomenon is known among physiotherapists) correlated with a degree of activation or stage of vertical projection (I have not read or heard of such observation).

Order 3: Topography: integrative completion

The generic directional parameter (vertical axis) produces a topographic image of this nexial-topologic order 2: The interpretations of both flows of figure 14, as a one-directional line, only works if the plane is considered limited, finite – that is, if it looks like a flat square. If one wants to take into account the bi-directional flows then, automatically, this plane has to be seen as expanding, and the square is not quite flat. Taking this to its conclusion means that the square spreads over the surface of a sphere, since the original ‘spreading’ was bent (figure 12), until it closes in on itself, thus completing the sphere (figure 25). (The sphere, of course is an idealisation – see figure 30 and 31 below.) This ‘completion’ occurs in an integration ‘event’ when the spreading flows meet, and the original vertical axis of deployment is ‘restored’. The completed sphere is the source of a number of models derived from spherical geometry. Some of them are discussed below.

The problem of One and 1

There are two conventionalised interpretations of the completion.

- In the human domain, the sphere can be viewed as the 'One', a name given to non-contained and non-dual global cohesion of the world (including oneself). The name 'One' is not quite adequate, but it is the positive label that

seems to most easily come to mind to say 'not-separated' into many things or aspects, 'undivided', or 'undifferentiated'. This is also a human state (non-deployed), in which there is a sense of 'unbounded' freedom, ease ('effortlessness'), including physical (see <EEs> in Appendix E), no particular pain (or pleasure) or 'need', no 'oriented activity' (targeted 'want'). It occurs spontaneously, or happens as a result of stringent practice, can appear triggered by body, mind, or circumstances. The experience does not last: the experiential literature confirms that it seems to last on average six or eight weeks before a more normal state returns (I could find no formal study of this delay). It would be an ideal state if it were not so unstable (this, however, is known in spiritual circles: the 'EE' has to be stabilised by repeating it). There are, of course, other interpretations of 'The One', but none relevant to modelling: they are either anthropomorphic or physicalised.

- In science (specialised papers in physics), 'one' is the numerical value '1'. In relativity equations it leads to a 'badly behaved' solution that has to be eliminated, or to representations of the world that 'do not make sense', and are 'counter-intuitive' to the 'self-evidence' of the philosopher of science (see 'the Below', further down).

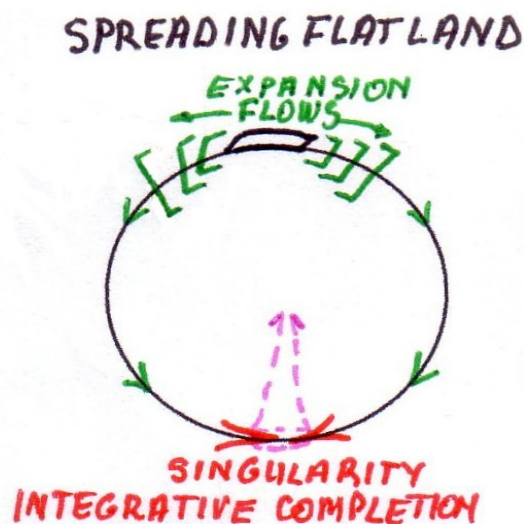


Figure 25.
Completion of the 'spreading'

Topographic reversal: bubble-skin containment, 'bubble-world making'

After the 'completion' in figure 25, the process restarts again. The square (at the top in figure 25) that spreads, and *unfolds*, reaches completion by creating a finished boundary (the spherical surface). The spreading then resumes, restarting a second process of spreading, but this time, of *enfoldment*, from another square that has an inverted bending (bottom left of figure 26).

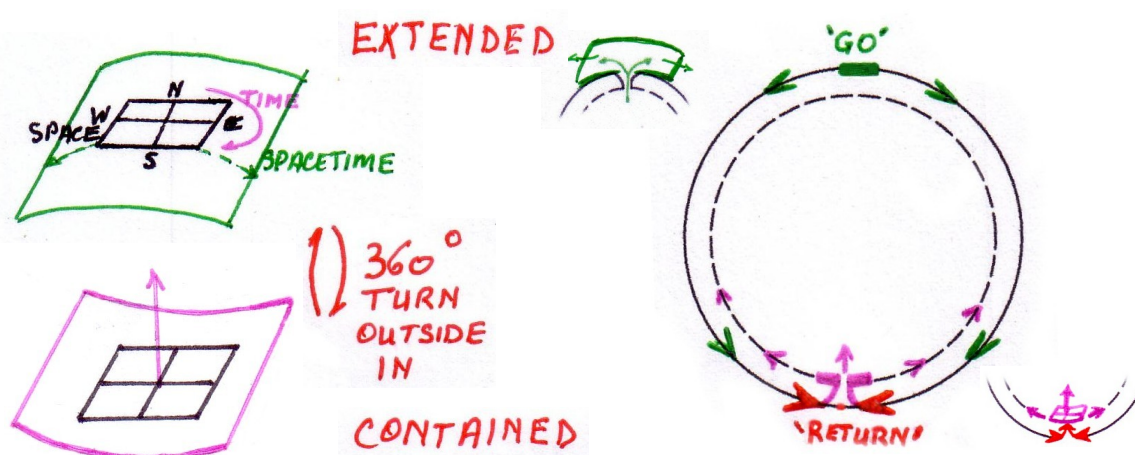


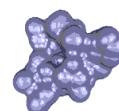
Figure 26: 'Tearing the fabric' and 'bubble-skin' making

The best example of this undoldment-completion-enfoldment is the development of our models of 'the earth'. The first square (unfolding) looks like the archaic model of 'The Earth', which includes a 2D space (of 4 directions) and circular time (green square). The 'completed sphere' looks like our modern geographical 'planet earth' (completed 3D sphere), which is defined as a surface for the purpose of calculating coordinates. (Think also of the spherical models of the cosmos in antiquity). The second square (enfoldment) looks the same as the shape of the '4D curved spacetime' (mauve square, and figure 28 below) of modern physicists, a 3D space that is a flat square, with a perpendicular line, direction or 'arrow of time' (geometric 'normal'). In sequence, these 3 frameworks of 'the earth' are governed respectively by flat, spherical, and hyperbolic geometries. These 3 'possible geometries of the universe' (<PPT3 Geometry of perspective\ slide 6>) appear like a development of *dimensions* (2D, 3D, 4D), yet, they are equivalent for nexial-topology. The

old framework of 'the Earth' develops the outside surface, and the modern framework redevelops, the inside surface of a spherical 'skin' (a word found in some ancient texts). The two frameworks are the outside and the inside of a single spherical 2-sided bubble-skin. The second, enfolding, is 'turned outside-in' with respect to the first unfolding one, in the same way as this first unfolding surface is 'turned inside-out' compared to the undeployed image (figure 31 below). This unfoldment-enfoldment is what I call 'bubble-world making' because the bubble-skin contains an 'inside' surface. This process creates containment. The stages are presented in sequence here, but in some contexts, they are simultaneous. Either way, they are symmetric: one does not occur without the other, if the situation is taken globally.

I understand this 'turn outside-in' of the second square as geometrically like (a likeness of) a 360° turn that does not result in no-folding, because the surface is not just flipped over, it is shifted from the top to the bottom of the spherical surface. It is flipped over, and flipped over again. In the literature, this 'turn outside-in' is understood as a 'reversal'.

I could not find a satisfactory computer-generated animation for this 'bubble-world making'. Those I found are very complex deformations in succession that look nothing like the simple way I 'see' it. One animation (<Bubble up-down>, <PPT5\ slide 16>), based on 'statistics of shape', can represent half the process (part of 'turn inside-out', then part of 'turn outside-in'). (See also <PPT4 Einstein\ slide 5>).



This bubble-making, surface hole ('return' in figure26) and 'turn outside-in', constitutes the limit of nexial-topology, the limit it cannot 'pass' (break or make). It is the end of its relevance and of its capacity for description. It can model no further than order 3 and the other images I use are only different geometric projections (see <PPT5\ slide 2> for examples of such 'projections'). The animated imaging only describes the *approach* of boundary, or *formation of topologic* surfaces. Once *reached*, analytical topology, topography, nexialism, and other conventionalised analytical means such as linguistics and mathematics, take over. This limit corresponds, in figure 30 below, to the green dotted lines reaching back down to form the shape of a drop of water (or an idealised sphere in the

present explanation) – a critical point. Nexial-topology could not deal with a virulent disease, a volcanic eruption, a life-threatening defect, colonisation, etc., but I find it far more effective in understanding *most* situations of daily life, and the syndrome of instability, than any framework I have reviewed and tried.

Inversion – reversal – return

In terms of modelling, this stage (order 3) corresponds to the step in which a theorist or philosopher thinks, “Too many models, the understanding is completely opposite to the original meaning (‘oneness’), we are getting caught up,” An integrative model – a ‘onescape’ – must be created to ‘restore’ the ‘lost’ meaning, subtle enough to account for contemporary complexities. The new model ‘inverts back’ the H-meaning, to ‘reverse’ (retrace) the Sc-effects, and allow to Sc-H-‘return’ to what was not fragmented This translates into philosophically driven experiential practices based on a paradigmatic integration via the new world model. Sc-Reversal and Sc-H-return are cognate, and with the H-inversion mentioned for figure 24, each in different conventionalised terms. In the arcane technical knowledges of core culture (eg alchemy), it is a ‘return to Below’. The world model is a logical abstraction, rooted in *patterns* of geometry. It is therefore derived topographically rather than topologically. The result is that, despite great care to ‘go back to origin’ (which is a ‘trace’), it is *only approximately equivalent* to what was being represented (non-fragmentation). From a topologic viewpoint, its re-integrative role makes it, create a ‘bubble-world’, a *new* containment, as in figure 26. Something important is lost in approximating, which conventionalised representations cannot model (even measured topology): non-fragmentation and non-containment (neither parts nor ‘whole’). I have found this confusing difficulty expressed in both the Bible (Old Testament) and Chinese texts which both use the term ‘return’, as well as medieval and modern literature. Paradoxically, this is how some great ‘new advances in understanding’ have been made, soon corroborated by proofs of existence in our realities (eg particles of physics, DNA, the self), and new real things (inventions). H-Inversion, Sc-reversal and Sac-H-return are conventionalised forms of what I

call (not respectively, and in various conditions) ‘turn around’, ‘turn inside-out’, ‘turn upside-down’.

Onescapes, wholes, and systems (worlds, selves, bodies... ‘things’)

One form of the sphere (spherical geometry) is an integrative ‘onescape’ model (a ‘-scape’ projected as a flat representation), usually involving an origin and an end that can be made to coincide to represent ‘One’ (eg ‘the alpha and the omega’). It takes into account both outside and inside spherical surfaces of figure 26, but only topographically, as separate spheres (eg objective ‘without’ and subjective ‘within’ in the New Paradigm, or H-‘depth’ an Sc-heights [eg skill or power], and in medicine: the mind inside the physical body-machine/temple [both sensory-derived and at the core of the ‘external world’]). Usually, in the human domain this is envisioned iconically as a geometric sphere with an outside-surface (FlatLand of normality), and an ‘inside’ (volume) that is full or empty (valued in spiritual circles, devalued for dominant normality). Such onescapes can be very confusing if they are used to describe the non-deployed state that feels like ‘One’, which is usually the case. A ‘one’ or ‘whole’ is a *self*-contained entity [circularity in definition], far from a sense of no-containment and no-constraint. The difference is similar to that between a surface-sphere (1 or 2 sides) and a mathematical ‘ball’ that has no surface-sphere edge at all. Because of this, such onescapes are not equivalent to the state of no-deployment (inadequately named ‘One’). Instead, they describe critical phenomena (in 2 orders if there are 2 separate sphere-surfaces), which go through a ‘zero-point’. Topologically they describe ‘surface phenomena’ rather than no-surface. Onescape models are inclusive, perspectively self-consistent (symmetry and circularity), and considered ‘complete’² (in H-terms), but technically, they are ‘approximate’ (in Sc-terms). They are only a half-story (of double-surface, of high and low criticality).

² They represent adequately ‘Human’ exPERIENCE (this script is explained in <Ancient perspectivalism>), but not all that our living can be.

Onescapes have a clear tendency to anthropomorphism, to what I call ‘physikemorphism’³, and to be self-fulfilling prophesies (new property of self-organisation). Much of their scientific and human inquiry aims to demonstrate the necessity or inevitability of the properties we ascribe to ‘Nature’, physical and human. I came to understand this self-fulfilling and critical nature of onescape models by observing the effects of the last two years of writing in detailed words and of the related necessity to seek the graphic vocabulary of archaic and core cultures related to onescapes and their derivations. This led to my developing⁴ more *advanced* symptoms of three physical diseases⁵ now diagnosable.

Further derivations and perspectives: In frameworks further derived, the full or empty geometric sphere of the onescape may be drawn as 2 spheres (in alchemy – see <PPT5\slide 11>), or half-spheres (alchemical crucible: container and lid). The numbers 0 (for ‘empty’) and ∞ (for ‘full’) are often used to represent the ‘integrated one’ or ‘un-bounded’ (reversed boundary), and words such as symmetry (for non-dual), harmony (for non-polar), and even (for no L-R- twist), or completion, perfection, and ‘advanced’. As collective paradigms, they prescribe practices that can be beneficial in human terms and yet, result into the Sc-technical disaster of instability and ‘bad behaviour’.

It is these numbered or named frameworks that produce the abstractions of the 2 parameters – N2d-duality and N3p-polarity – that are fundamental for the perspectives and generic for topology (separate and describing critical surface phenomena). They produce the simplest but most generalised perspectives: M2 models of duality (eg creation-destruction, female-male, which denote the vertical axis as a *single direction*: ‘up’ evolution, ‘down’ source, origin to end, below to above, female as < male); M3 models of modal polarity (eg structure-function-operation in the Sc-domain, subject-relation-connection in the H-domain, L-Human/M-Nature/R-Life in daily life and medicine – see <Many perspectives\ Models ‘by

³ Physikemorphism is attributing ‘physical’ form, ‘spatialising’, localising in physical space, one degree remote from a ‘physicalist’ attitude.

⁴ Not willingly: it is a ‘badly behaved 1’ side-effect.

⁵ Chronic Pulmonary Obstruction Disease, Fibrocystic Disease (breast), Spondylosis (spinal growths); others are not yet diagnosable, plus ‘WasteLand’ aspects (see <Conclusions>).

the Number'>)). They produce the topographic mapping 'of everything', 'of all ways' (see <Ancient perspectivalism>), or 'of all perspectives' that left unexplored areas in my research. These are (N2d-, N3p-) or M6 'world-models' (like my perspectival maps: see <PPT1 Body\ slides 3 & 6>). Further derivations transform them into 'stories', as Sc-cosmologies and H-cosmogonies, eschatologies, and views involving a catastrophic doomsday (often characterised as dark, black or red) or a chaotic emergence (yellow, gold, silver, or white: light or energy).

- The onescape model type seems to also be the basis for notions of 'system', which appear only in 'advanced' frameworks, although they are then 'fed down', taught to learners as obvious and 'basic' truths about 'wholes'. The multiplication of real 'systems' and systemic true explanations is related to repeated re-deployments (see section on this, below), which 'return' only to the FlatLand of habit, in which systems, objects and subjects, become the norm. Physical 'bodies', anthropomorphic 'selves', concrete 'worlds' such as the physical planet-home of humans or a 'private world' home, and the integrated 'body-mind', are 'systems', which is a fancy name for complex 'things' and 'bodies'. They are 'bubble-worlds', large or small. A linguistic problem with them is that a 'many' is required to add everything up into a 'whole' in words or experience, and vice versa to multiply a 1 into many in numbers or explanation. Hence an 'undifferentiated' cannot be called a 'whole', a 'system', and the label 'One' produces unnecessary confusion. This multiplication of worlds (and perceived systems) results in all the spaces in which we are 'encultured', such as cities, walled buildings, bordered countries, fenced fields, private room, etc., and into the objects of civilised living, such as the physical object-'human body', which is 'skin-encapsulated' (Watts, undated). Its only 'immunity' operates as an extrinsic 'immune system' of 'self-defence', resulting in intrinsic 'immune' auto-destruction and wasting away to one degree or another. It seems to me that our mechanisms for representing 'the world out there' or 'the self in here' play tricks on us, but also have dire actual consequences. Many of our models, including closed and open systems, are an expression of 'bubble-world making' (and 'tearing the fabric', as we see next). Yet, this is what we teach our young children (eg object-body,

subject-self, and defence against ‘colds’). Is it any wonder we ‘wear and tear’ physically from birth?

Breaking-making boundary: topologic ‘tearing the fabric’

The ‘turning outside-in’ in figure 26 is a singularity. The conical development from the ‘passing’ in figure 25 is contained in the sphere, but that sphere only has one surface-side. There is not really (except in the imperfect picture) an ‘inside’ to ‘contain’. Looking at the more complete imaging of figure 26 (looking from both the inside and the outside), this singularity, or turn outside-in, breaks the boundary (in a nexial process) to restart a new boundary (topographic inside) to create a double-surface skin, a bubble-world. In fact, it makes *and* breaks ‘boundary’ (according to 2 different parameters): it *makes a hole*, and so ‘tears’ the 2-sided surface or bubble-skin. With this imaging, the singularity no longer appears contained. In figure 25, the hole appears to *not* be a tearing only from the viewpoint of either one of the outside *or* inside. It seems to be a coming back together, a return, a mending of fragmentation, or correction (both ‘return’ and ‘correction’ are found in the biblical Old Testament) or an opening, an expansion.

A common image for this hole in physics is the wormhole. A prehistoric image would be puncturing a hole in a 2-sided material object that has a flat thickness, or (with some distortion) the tubular entrance of a cave – an image also common in arcane knowledges (eg a bottleneck). Topographic images of cylindrical tube or tunnel, rod, staff, pole, or line, are limited derivations. My observation is that any perspective (modern theoretical, experiential, and practical) that is a further deployment beyond order 3 is longer *topologic* (although they may use the mathematical geometry developed for Sc-topology), but *topographic* (or *‘nexialist’*). The notion of ‘critical boundary’ can be expressed (among other ways) as ‘crossing’ or ‘passing’ a boundary, ‘reaching’ boundary-surface (rather than ‘approaching’), making a ‘hole’ that is also making a ‘whole’, breaking-and-making boundary or a bubble-skin, ‘bubble-world making’ (and destroying), and ‘tearing the fabric’ of a topologic surface. Judging from the literature concerning the difficulties experienced with models of spatial reality created with modern mathematical topology, it seems that the tearing is a point of

contention among mathematicians and theoretical physicists, as the following statement shows.

‘At present [1933] it appears that two other very general mathematical disciplines will be used increasingly in the future. One of them is the *theory of groups*; the other is *analysis situs*. In the latter we study only these characteristics of figures that are unaffected (invariant) by continuous deformation produced without tearing. Two structural points are relevant for us in this connection: namely that the analysis situs is fundamentally a *differential* and also an *ordinal* discipline, based on asymmetrical relations. In the next chapter, as an illustration of the actional, behaviouristic, functional operational, differential, contact method a short account will be given of the way Einstein structurally treated “simultaneity”.’ (Korzybski 1933 p.658)

Shaping, not shapes: ‘geometria situs’, not ‘analysis situs’

There is a major difference between nexial-topology and complex modelling. Complex models use analytical mathematics, and represent reality as topographic ‘shapes’ that ‘transForm’ according to dual and polar, or statistical and probabilistic principles. Nexial-topology shows a ‘likeness’ to the ‘shaping situation’ as it ‘presents’, and is purely an animated imaging (no measured size or number of named shapes or of their motions). As such it fits better the oldest name from which topology derived, ‘*geometria situs*’, than the later name ‘analysis situs’. Nexial-topology is a global ‘situation modelling’ that does not differentiate analytical parts or *genera*. It just ‘images’, ‘shows’ the situation ‘as it presents’, rather than ‘rePresent’ it. The problem of our deployed, measured and named perspectival deployments is that the shapes they show are those of our own sensory modelling rather than the ‘shaping’ of the situation:

‘The ruler is the bowl; when the bowl is round, the water is round. The ruler is the basin; when the basin is square, the water is square (12 Jun Dao p.162).’ (Allan 1997 p.49)

This ‘shapes’ both the physical and anthropomorphic realities we perceive – and which become our ‘home’ and imprisonment, including the very real unstable ‘health’ of ‘wear and tear. This has a number of implications. In <PPT1 Body>, I gathered intuitively (before I wrote the complicated explanation in this chapter) some pictures to represent the various notions that the medicines have of ‘fluids’ in the body, and of the role of water. The

simplest, and most obvious to me, simply is not there at all. The following sections will justify my empirical observation of the fundamental implication of water with respect to our notions of gravity (in daily life, it is what we feel when not in ‘ease’).

Global covariance versus N2d- / N3p- compensation

In perspectival analysis and geometric mapping (fixed images), generic or H-global parameters are discerned separately. In contrast, to see in this a ‘situation in shaping’, one must remain aware that, not generically separate, the Sc-non-local properties necessarily vary in the *same* way and so *cannot compensate for each other*. Yet, in conventional views, this is the dominant strategy used in many spheres of human existence. Direction is often used to compensate for extremes of activation (eg ‘sublimation’), and activation (eg hormones) is used against lack of brain directive orders to the body (eg to trigger breathing). I represent such compensation as $N2d- \square N3p-$ and $N2d- \square N3p-$ (depending on how it is applied). This is the source of many cycles deemed vicious or virtuous, including addiction and habit. This is not valid in nexial-topology, because it assumes that $N2d-$ and $N3p-$ can be separated and used as counter-variants. They can, in conventional terms, in bubble-worlds, but in nexial-topology, this *creates* the bubble-worlds. Varying and deploying the same way is the general (a)symmetry of *both* that is modelled as Korzybski’s ‘asymmetrical relations’, using topology. The *global* properties are not separable but ‘covariant’, just as the explanations of animation <1 Trefoil> do not split the animation itself. Separating the parameters is the ‘*beginning*’ of the mechanism of ‘deployment’ (‘stirring’ in archaic terminology). I use the 2 generic parameters merely to provide different *ways of looking* at the *same* situation, not to reduce it to parts and systems, and justify the compensations that give rise to the syndromes of instability.

The *covariant* $N2d$ -direction/ $N3p$ -spining-up is an imaging of *orienting-at-boundary* (‘swelling’ and ‘spreading’). A graphic interpretation (figure 27) of this covariance would represent it as the ‘integration of the 2’ general parameters into the idea of an *oriented-at-boundary* (a compaction, limitation, or reduction of ‘swelling’ to ‘spreading’).



Figure 27. Covariant orienting and spinning describe orienting-at-boundary

A number of dyads of general notions are deployed in covariance: unfoldment-enfoldment, N2d-synMetrics and N3p-harMonics, differentiation-integration, degeneration-generation, time-space, exPlanation-exPERIence, left-right, up-down, brain-mind, intellect-psyche, visual-auditory sensory perception. The meanings do not necessarily correspond from dyad to dyad, because they belong to different frameworks, different conventions of framing and represent different contexts. The ‘spreading’ at the top of the image on the right, can be limited further, and ruled by Flat symmetry and circularity.

Deploying again & again: derivation of infinite variations

The deployment can be summarised into a scheme of appearance of perspectives and complex models, by both unfoldment and enfoldment involving quantic jumps in various ways. Further derivation occurs by re-deployment. The latter may be construed as repetition of deployment, or as reversing deployment. Either way, the resulting models are not equivalent to non-deployment or to undifferentiated deployment of the 2 generic properties.

The word ‘quantisation’, used by Saunders (1991), seems adequate, geometrically, to cover nexial ‘jump’ (boundary breaking) and topographic boundary making (or normalisation, establishment, stabilisation), and their repetitions, because ‘quantum’ can be interpreted as a N3p-process (eg electrons jumping orbits in the atom) or a N2d-system (eg a ‘quantum’ of light that is ‘a photon’), and as a N2d-singularity or N3p-discontinuity. The resulting models are governed by flat, spherical, and hyperbolic geometries. All three ways are sources for the basic icons of culture (three different domains of culture).

Repeated quantic jumps: ‘thick’ landscapes

The ‘quantic jump’ effect (nexial: figure 24 or topographic: figure 25) seems to be automatically produced by combinations or permutations of previously derived perspectives.

It is intrinsic, built-in. For example, strategies of stabilising and establishment, are only effective ‘for a time’, and have to be repeated, and eventually the system ‘reset’ (eg thyroid control of body temperature). The complex models, here, describe bound, constrained, entangled systems, with boundary phenomena as a recurrence rather than occurrence. This is the basis of many modern views, and is fast becoming the standard of enculturation in thought and experience, including physical ‘health’. In the chronic syndromes, repeated quantic jumps are far from feeling like a positive emergence. Recurring acute crises and events of metabolic shut-down that force sleep, sometimes almost instantly (one of my correspondents called this ‘pay back’, after activity she found exhausting), are a plague of instability, and make it impossible to predict one’s own behaviour or mood next week or next year (a problem for appointments).

One positive term used by theorists for this is ‘punctuated equilibrium’. This is represented with the image of a ‘landscape’ with a ‘mountain’ (eg epigenetic landscape; Waddington 1975 – see <PPT2\ slide 13> and examples in <Extract F7\ Landscape vocabulary>). I call such models ‘thick landscapes’ to discern them from the FlatLand landscapes of order 2, which describe a baseline (a basis with nothing ‘below’, like a limit-ceiling in coming down). Such deployments describe statistical but approximate normality and probabilist chance or risk (of disease, for example), which require periodical ‘resetting’. The stability is ‘punctuated’, rather than permanent (eg alternative or alternation, oscillation). A mathematical form comes as ‘best fit’ models. A human form of this exists in the complex dreamscapes of the mind or ‘inner eye’ (see <F20\ published EEs>). Thick landscapes are double-sided, have an ‘oriented’ surface (two sides: top & bottom of mountain). Thus, they have a vertical dimension, but it is a one-sided diRection, which manifests as a preference for H-‘up’ or Sc-‘ground’.

The most obvious such ‘thick landscape’ is the quadratic representation of the modern space-time (figure 28). The ‘arrow of time’ is equivalent to the direction bottom-to-top for the mountain, and corresponds to the ‘orienting’ of the ‘bubble-world making’ in figure 26, from ‘outside’

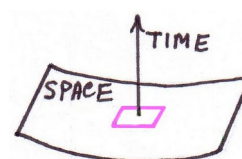
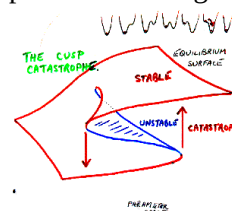


Figure 28.
‘Thick’ landscape

to 'inside'. For nexial-topology, this bent 'space-time' and the other 'thick' landscapes models, are a reformulation of the basic space-and-circular time of 'The Earth', but with a crucial difference: the containment, and the critical jumps. This is more complex, but more limited. In figure 26, it is the bottom square that is contained inside the sphere. One image (<PPT2\ slide 11\ folding into critical>) shows the correlation between *topologic* surfaces and criticality: if they fold to touch (or make a hole), this corresponds to a critical event (a 'catastrophe'). The models of this



stage represent a reality of repeated critical events: patterned stability alternates with nexial instability (in whichever dimensions chosen to formalise). They invert the bending of the surface (refer to the squares in figure 26)

rather than unbend it. Figure 29 is an extension of previous figures. Repeating the process (going from outside to inside to outside, etc.) can be interpreted as an endless cycle, an endless path, endless refinement or fine-tuning, or an 'eternal return'.

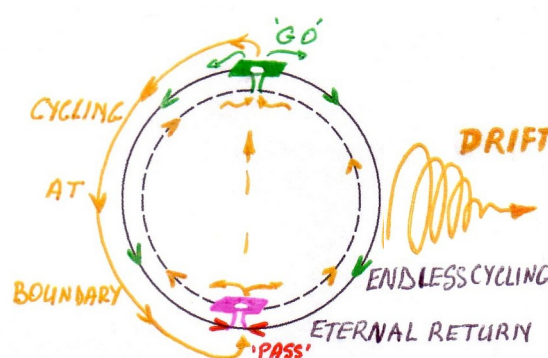


Figure 29. Repeated jumps

Endless fine-tuning & refinement ad infinitum

With repetition and redeployments, thick landscapes become derived into models of fine-tuning and a refinement of detail that never ends. This is often useful in understanding highly specific circumstances or to simplify a problem. Sometimes, however, the endless complication is pointless (eg <PPT2\ slide 22>) and may even confuse the situation as in this study of daily life health. For example, the workings of immune defence are detailed according to which inflammation-promoting substances and killing cells affect which tissues in which organs. These details are of little use to deal with a condition in which the entire body-system hovers between a pre-inflammatory 'swollen' state (congestion) and intermittent localised inflammations (eg boils, or brain infestation), with correlates in the lifeworld (eg all-inclusive urgency). In a textbook, out of 15 pages, of highly detailed

description of the immune system, only one and a half are devoted to inflammation, and the ‘first line of defence’, the non-specific immune response, is awarded twelve lines, less than a quarter of a page (Baynes & Dominiczak 1999 pp.435-449). Water is not even mentioned except as an effect of inflammation. Increasingly small types of ‘attacking bugs’ (viruses, bacteria, mites, parasites, etc., and in the archaic literature: beasts and locusts) are being found, involving increasingly complicated mechanisms of immune aggressive-defence and critical containment. Yet, specifically focused treatments based on this tend to have systemic side effects that produce ageing-like general degeneration related to dehydration. The systemic damage causes *later* focusing of other symptoms *somewhere* else, into worse diseases. Globally, the refinement of our techniques and drugs is correlated with the appearance of new ‘big diseases’. Globally, this endless approach only shifts the problem, even if localised improvements are more obvious. Size reduction and increase – ‘the small’, ‘the large’ – is significant in both the abstract and concrete manifestations of deployment (this is related to seeing ‘outside’ of bubble as big, ‘inside’ as small). For example: larger and smaller systems, more inclusive and more abstract models, miniaturisation and impressive building or machines, small clues and ‘big picture’, smaller ‘causes of disease’ with bigger effects on the body, size of animals and plants after prehistoric domestication and shifts in human size [Mithen 2003], shrinking size of the urban house block in bigger cities, shrinking ageing body that also grows fat, etc.). Endless refinement has the down side of making constant work necessary for fine-tuning, of increasing work and making it inevitable, for little added benefit in most cases. The models of repeated deployments are ruled by an analytical geoGraphy of the inevitable □ necessary that appears well tied together, a representation of the way ‘everything’ is. The consequence, however, is that such models tend to justify that their description ‘best fits’ the way ‘everything’ is (Wigner’s ‘uncanny fit’ 1960, see ‘A simpler view’, below), and circularly, that everything is ‘best’ that way, or even has to be that way. They end up imposed on every ‘body’.

Endless paths, endless cycling

From a geometric viewpoint, endless fine-tuning is an ‘endless path’ (think of the constant small corrections of a plane’s autopilot to stay close to a direction). It never quite reaches the goal, or the target of ‘perfect’, ‘finished’, ‘complete’; it is only ever ‘advancing towards’ them. It is an asymptotic *di*Rection rather than a topologic ‘orienting’, and this is very different from ‘not reaching boundary’). Many human philosophies involve endless paths (eg Romanes 1888, line-ladder of evolution, ‘the important is the journey’ of the ‘spiritual path’, endless series of ‘mountains to climb’, endless ‘stream of thought’ in consciousness). Many technical and practical models involve endless expansion or growth (eg economic growth, expansion of the universe, increase of physical, mental, social, or machine power). This is the basis for the ‘expansionisms’ of our world (eg sprawling cities, swelling wealth and power, overpopulation, expanding empires, globalisation, cultural colonisation...). It also manifests in reality in our endless population growth. This causes problems with infinities: ‘where does the expansion stop?’, ‘how much growth is ‘good’?’, ‘where is the final end?’ and ‘where/when/how did ‘it all’ begin’? In physical health, infinite growth is not necessarily good (cancer). The problem of diversity is replaced by that of having no grounding in reasonable limits, no clear idea of what ‘enough’ looks like, and no means of stopping ‘the race’: ‘increased productivity... knows no limits [and leads] to the degradation of person and planet’ (Hill 1985). Notions of infinite, absolute, ultimate etc, are derived from the iconic H-image of an endless path – that is, of a Sc-approximation, the asymptotic approach, but the full image (a H-‘big picture’) of approximation-probability given by the Sc-models is a cup or bell, mountain, valley or cone with *two* asymptotes (see <PPT2\ slides 8, 10, & 13>). In other words, repeated deployments are ruled by a hyperbolic geoMetry of expansion \square shrinking, or of ‘the large’ \square ‘the small’, whether this is an alternation, oscillation, or concurrent aspects. An endless path can be an overwhelming practical impression: progression from unease to stress and degeneration, illness and disease is such a path. The increase in global struggle and necessity of effort with age is another. Endless cycling, the polar version of the dualist path, is addressed later in the section on ‘The Below’).

Combining the ideas of endless path and cycles produces knots related to the M6 models (eg the Tibetan *shirivasta* ‘endless knot’ – <PPT2\ slide 5>).

ReFormulated perspectives

A major consequence of the endless cycling is that we keep deploying and redeploying our explanations and forms of experience, into endless paths, cycling, and perspectively biased bubble-worlds. When these run their course, we start the whole thing all over again, without ever coming any closer to resolving the most basic of our difficulties or even just doing something about it. (See ‘eternal return’ in section ‘Grav-wave’, below).

Ultimate end of deployment: haze, glue, & endless-scattering-wasting

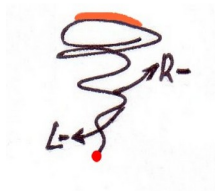
The ultimate end of this deployment of models and perspectives into the oversimplified complications of too many limited perspectives, seems to always be some kind of amorphous or ‘discontinuous continuum’ (imagine many droplets). It comes under various guises, which all have in common that there is no longer any clear shape (eg chaos is ‘formless’): there is scattering. In explanation and experience, it is a haze, mist, cloud (in archaic literature), or vapour (in Chinese inner alchemy: the spirit-body). These remind me of the cognitive dysfunction event, common in CFIDS, that is often called ‘brain fog’ or ‘cotton in the head’, in which one can no longer remember names, find words to speak, make a decision, or think effectively, and feels disoriented. The complex details of human and scientific realities come to look like an impenetrable and unmanageable bag of knots. This can also be a jumble, tangle, or foam of rings, that no longer has any physical reality (see <PPT2\ slide 23>). These can be very concrete experiences: ‘being in a tangle’, a ‘jumble of problems’, a body full of ‘trigger points’ that are ‘knotted’ muscles. In modern terminology is a soup (eg quantum soup, the water soup of the origin of life), or simply a mess. Haze, considered ‘formless’ but material also takes the name of amorphous glue (eg glue of the universe). It is significant that ‘amorphous glue’ (or jelly) is the quality attributed to the most basic, and all pervasive, connective tissue in the body, the ‘ground substance’ (see <PPT1\ slides 27 & 28). It has become non-existent to the ‘physical’ science of medicine to such an extent that it

does not enter into accounts of health at all. It seems to be considered mostly irrelevant, as is water (only an ‘inert carrier’). It is little studied, except in jellyfish, too far from the status of ‘Human’ to be considered. Another form of this stage of scattering is ‘wasting’, which is discussed in <Conclusions>. In health, it manifests in the ‘wasting away’ of the body in a chronic syndrome (most visible in the face), its falling apart after menopause, its ‘melting away’ in profuse sweating. The endless-scattering-wasting is a non-local property, and so its ‘manifestations’ are global, any-‘where’ or ‘when’, not just in the body or any other kind of place. From the local-viewpoint of a person, the ‘wasting’ affects all aspects of the personal ‘lifeworld’, from bodily health to material living conditions (eg what happens next door, wasted money), to human events and behaviour (eg wasting food, wasting time, wasted potential, a wasted life), etc. Even what is ‘seen locally’ of ‘the world’ in general takes on this property: consumerist waste, human lives wasted throughout history in slavery, disease, war, work drudgery, or marginalisation), wasting planetary resources, wilderness wasting away now again as it did ten thousand years ago (Mithen 2003). This is the situation in which we say, “It is all falling apart”. One can no longer manage the scattered waste, and cope with the complications of life, whether physical (health) or material-human, and it becomes impossible, practically, to ‘keep it all together’.

Other problems and implications of deployment

The problem of periodic instability

The concern with establishment and stability (<Extract F8>) mentioned earlier demonstrates a widely spread need to counter instability in many spheres of culture and civilisation, including theoretical modelling and health (see <Extract F4\ Syndromes of instability>, which addresses various related issues). The simplest image to demonstrate this is figure 24, in which there are 2 critical ends to the spiral. This can be experienced as alternation between limits, oscillation between extremes, endless cycles, functional constraints, edges of containment, etc... or endless deployment and redeployment. It ‘looks like’ an orb of universal bouncing chaos. In many



cases, such instability is considered a ‘mystery’ whose origin is unclear, or even ‘The’ origin of all things. This is the case in some cosmologies, and for the ‘illness’ syndromes that have a characteristic of instability. It takes forms that can be classified. For example, according to the scheme used here, as ‘low-grade’ (eg allergy), ‘normal’ (eg invisible ageing), and ‘high-grade’ (eg cancer). In other words, the ‘shaping-up’ of instability can be imaged, as a deployment, although the particular spatio-temporal form it takes cannot be predicted. These 3 orders are related to the ‘stages’ defined by various authors (in <Health and Illness>). They can also be interpreted as 3 orders of ‘gravity’ (see ‘Grav-Wave’ below). The Sc-‘solution 1’ is one of its forms. Nexial resonance, chirality, the ‘Below’ (addressed next) are some of its less known forms. Deployment makes instability a self-fulfilling prophecy, in whichever order it is pushed to. It shows it as built-in the techniques of conventionalisation, and an automatic consequence of the practices regarding the conventionalised body in certain circumstances (eg triggering birth, stimulating food given habitually to children).

The ‘hidden’ – invisible – lost, ‘The Below’, and the sub-‘Human’

The ‘inside’ of the bubble-skin in figure 26 is the object of a large variety of names, in the iconic culture, invented by the many makers of onescape models. They are, however of a few basic types. This ‘inside’ is the ‘source’ of phenomena ‘not well understood’, unclear, ‘mysterious’, or the ‘origin’, ‘lost’ or ‘forgotten’, of global phenomena such as writing, drawing, geometry, language, the contentious localised origin of humans). It is ‘hidden’ or ‘invisible’ to physical and human realities such as the cosmic universe and humans themselves. Physics has its ‘hidden variables’, humanities their arcane ‘forgotten knowledge’ and the elusive universal ‘Mother tongue’, and medicine its invisible ‘unfounded’ illnesses ‘without physical cause’. Physics also has a whole range of names directly related to those found in archaic texts (dark or red, colours, etc. – some shown in the slides.) Physics, archaeology, anthropological studies of the history of religion and spiritual practices, and medicine, are royal routes to understanding such notions. ‘Advancing’ by breaking-making the bubble-world ‘unveils’ all these ‘hidden’ aspects. Related terms are ‘covered’ and

‘uncovered’ (in the OT Bible) [apparently removed ‘cover’ of FlatLand: order 1 deployment is a ‘covering’ surface].

‘The Below’: The form the most relevant here, because it is expressed in image as often as word, is ‘The Below’. In Chinese inner alchemy, there are practices to ‘return’ to ‘Below’ (or a ‘valley’), a process in which men seek in their mind to restore ‘The Female’ in themselves, to undo duality, or turn back time. In myths, the ‘Below’ can be a ‘Beyond’, or a ‘behind’. In the core of spiritual traditions, its characteristic of endless cycling makes it a hell of endless suffering (eg in the cycles of reincarnation that are an imprisonment keeping us from peace, happiness, freedom from suffering). The ‘Below’ is also a reformulation of an archaic notion of the dreaded ‘The Pit’ (both Old Testament and Chinese), or ‘bottomless pit’ (represented as a cone – see <PPT2 \ slide 10>) related to the fear of ‘getting stuck there’. This is a powerful cultural icon that still belongs in modern vernacular (‘pit of depression’, ‘dark hole’ of pain). Mostly, however, it is not conscious in most of us, and is at work in devaluation based on associating a particular person’s behaviour, physical or mental, or of their lifeworld (that is, conventionalised) with this image instead of understanding the phenomenon of instability without distinguishing and ascribing ‘valuings’. The implications are so generalised that the entire person’s life can be invalidated as belonging to a ‘lower order’, a ‘sub-human’ order. This is the case for some behaviours deemed ‘animalistic’ (eg violent reactions, but also instinctively eating mineral substances needed for nutrition) or ‘weak’ (eg having a little nature’, being ‘too sensitive’). This is at work in the hidden cultural association of ‘The Female’ with the ‘Deep’, the ‘Abyss’, the ‘Dark’, or a status of ‘dangerous nature’. Childhood in general is afflicted with this hidden ‘sub-human’ status until education channels it, the body stabilises when ‘hormones kick in’ (Western culture) or ‘kidneys mature’ (Chinese acupuncture), until puberty normalises its brain-central-control and establishes its self-control (see <Extract F17\ Anatomy notes>). The cultural basis of all systematised medicines, it seems, contains, hidden within its system of standards for normality, this assumption that child physiology and psychology is not quite ‘adult’, an unfinished adult-‘Human’, and sub-‘Human’. Another modern example is the exhaustion of

compensatory sexual drive or of brain function with ageing and dread of these losses. Consequently, the head/sensory defined 'physical body' itself is an 'imperfect vehicle' and 'machine' that requires constant repair. It is only 'mammal' or 'animal' (rather than 'human') – and 'below' the head-brain-. It is deemed 'lower' on the evolutionary scale of complexity than the human mind. The female body is affected similarly (weakness in the 'gravid', pregnant woman, 'female problems' of health and mental instability, etc.). These learned attitudes to the body, child, and female (their conventionalised forms), are carried on a daily basis in everyday living. Ultimately, 'The Below' is the 'inside' of the bubble-skin, and is an order 3 approximate formulation of properties of order 1 deployment. This explains the many names in the literature of all times, the confusion regarding these properties, and the built-in manifestation of such feared and even despised qualities. The main difference between order 1 and order 3 is the introduction of N2d-containment-N3p-constraint, and so of 'self'-organising instability, uncontrollable completely. These pattern-based (topographic) and activation-based (nexialist) limitations produce, the iconic sets that are deeply ingrained, 'hidden' in culture, and which affect profoundly medicine, our definitions of 'health', and how the health ecology of low-syndromes is approached (as order 1 'low-grade' and non-local properties, or as order 3 incapacity to 'complete' the bubble-skin of 'defence' and adaptive compensation). Two of these iconic sets are used openly or not, to deal with low-grade syndromes:

Primary and secondary: The 'inside' and 'outside', variously expressed as dyads such as 'within'-'without', 'Above'-'Below' 'small'-'large', also produce 'primary'- 'secondary'. They are used in particular in psychology and psycho-somatic medicine to differentiate types of syndromes (see <Extract F4>), but also other fields (see <PPT5\ slide 11> and <Extract F12\ Mysterious Pass or Place\ primary & secondary>).

Normal, super-normal, sub-normal health: The 3 orders of deployment can also be expressed as 3 ways of being 'not diseased': (a) *Normal or 'natural health'*, the adapted, compensatory state ruled by brain-central-control, self-control, aggressive-self-defence, selective sensory perception (head-based), a chronic state of strain-stress, 'survival' alert

(attention); (b) *Super-health* (or super-body: Murphy 1992), highly brain-mind driven and ‘spirited’ (includes the ‘extremely healthy’ child that only evades bacterial disease); and (c) *Sub-health*, characterised by instability, criticality, and various grades of dysfunction (eg normal childhood illnesses, ‘female problems’, chronic syndromes). Whichever order of topologic deployment, it is taking us to critical defensive containment, with correlate constraints and limitations. All 3 forms have an assumed ‘natural’ baseline of low-grade criticality, and do not model non-deployment, or non-criticality.

The iconic notions just discussed influence treatment, the ‘illness’ label (both validating and invalidating), and through cultural practices regarding the ‘body’ and ‘person’, participate in the ‘causing’ of syndromes of instability. Yet, these non-local expressions are routinely dismissed in psychology as ‘in your mind’, in medicine as ‘birth weakness’, and almost never addressed in H-research on health and Sc-medical research. They remain a conventionalised puzzle to medical anthropology (eg the meaning of ‘embodiment’ and views of the ‘body’).


‘Not from self’ and ‘non-local’

In the human domain, the boundary is a crucial notion in the definition of the ‘self’. It is just as important in defining the ‘not-from-self’ as a source of what happens ‘to’ the self or ‘within’ the self (eg from environmental influence, to involuntary and induced reactions, ‘acting out’ behaviours, and other phenomena, and many religious experiences, such as ‘activating the Goddess’ [in Despeux & Kohn 2003], hearing a voice, or being ‘taught from inside’). Other forms are ‘Exceptional Experiences’ of ‘no-self’ and ‘no-world’. They are more difficult to express because they break down boundaries, and no longer discern scientific and human shapes. Some examples drawn from my observations are: ‘spontaneous yoga’ (or rather Dao Yin – see <C8\ Spontaneous yoga>) that serves no improvement purpose, ‘nexial resonance’ (see <Endnote C9\ Nexial resonance>) in which no cause, mental intent or influence, by contact or at a distance, is involved in material effects, the non-deployed state often called ‘One’, and the nexial-topologic ‘native gauging’ as a lived imaging that involves no ‘system’ of any kind, and apprehends an undifferentiated situation

without conventionalisation. In matters of culture, the ‘source’ of some of the icons of culture (eg shamanic, magic, religious symbols and rituals), and of general inventions (eg the wheel, baskets, fabrics, language, certain stone tools of prehistory) does not seem to be localisable and remains a puzzle. Physics also has a problem with experimental non-local effects. All these are not described adequately by words, numbers, or other conventions, and I designate them under the label of the ‘undifferentiated’ (for theory) and non-deployed (for practical experiment). The Greek, pre-Socratic word ‘*apeiron*’ might have been an attempt at designating it negatively as I do here [*a-peiron*, without boundary], albeit mostly understood as a chaos (of the ‘Below’) that needs ‘taming’; a derived term in philosophy is ‘indeterminate’ – see section ‘Loss of physical grounding’ below).

Hidden implications for health ecology and daily living

‘Drift’: going ‘off track’

The end of redeployment ‘path’ can be viewed differently – as a ‘drift’. Showing this requires a different geometric projection than the yellow spiral in figure 29,  which does not display appropriately the directional and asymptotic element (endless ‘path’). In figure 31, it corresponds to the axis that goes ‘off-track’ [on the left] (see also <PPT5\ slides 15 & 17). The most common name for this is ‘drift’. Some examples are: the ‘semantic drift’, the cosmic ‘red shift’, the statistically drifting age for the onset age of puberty (currently two years early) and its acute power (often resulting in stunted growth and adults forever looking like youngsters), and very slow or invisible progressive degradations such as degeneration of ageing, the deterioration of the planet and of human sanity and health (eg spreading of auto-immune disease), and the progressive complication and oversimplification of our explanations and experience.

This drift is known specifically, separately, but it is not formally described or mapped as a *general* phenomenon across fields. It remains unexplained, justified as a ‘remnant’ of some hidden or mysterious phenomenon, some kind of inevitable ‘end’ for the physical world of humans and its bubble-systems, or simply by notions of chance, or fate:

‘In ancient times the holy sages made the Book of Changes [...] By thinking through the order of the outer world to the end, and by exploring the law of their nature to the deepest core, they arrived at an understanding of fate.’ (Wilhelm 1989, I Ching- Shuo Kua p.262)

‘Drift’ is among the most difficult of phenomena to actively ‘counter’ or understand. Yet, if modelled with nexial-topology, it has a clear meaning – of ‘going off-track’. This can be understood without the complexities of all our models and perspectives, and can simply be ‘undone’, by ‘not going’ off on the tangents of deployment.

‘Grav-Wave’: gravity–graveness and ‘stopping’ critical deployment

Who says ‘*final* end’ says ‘start *all over* again’: at some point the ‘drift’ exhausts itself and stops, only to restart. This happens over a long- period cycle (a meta-cycle), in which the deployment of geometric icons runs its course. Reaching the endless-scattering-wasting breaks the very ability to deploy and endlessly redeploy into ever larger and smaller bubble-worlds. A pause of non-deployment intervenes, before the whole cycle starts again. This occurs in civilisation/culture (millennia of many human generations), and a ‘restarting’ is characterised by the same underlying iconic shapes but completely new conventions. This could be related to the ancient notion of ‘eternal return’ (refer to the notion of ‘Great-Time’ in Eliade 1954, and spiritual notions of ‘Great Cycle’) and modern ‘zero-point’.

This restarting occurs also for the body/mind/lifeworld. The self-exhausting (re)deployment ‘looks like’ a wave of waves, comprising a number of repetitive activation-projection that *reaches* its end in scattering-wasting, before restarting again. It is not just ‘instability’, but a compound wave of instability that occurs at long intervals (at key turns of the lifespan). It is expressed in health and body sensations, and concurrently in the events of the lifeworld. It can affect directly ‘health’ and sanity, but also the living conditions, the ‘whole world’ as apprehended locally, and even safety. It also appears inevitable (it is built-in). Therefore, being subjected to this gives a sense of despair or ‘graveness’, a strong physical sense of weakness (exhausted ‘bodily reserves’) and heaviness (gravity, difficult to stand). For this reason, I have dubbed it the ‘grav-wave’. The reader can gain a sense of the properties of such a wave by viewing the animation <9 Grav-



Wave>. The animation is drawn from a General Relativity website, in which it is called ‘gravity wave’ and is the only formal model I found. On the other hand, there is a sense that it does not *have to be* inevitable, because using ‘native gauging’ to ‘stop’ deployment shows a state in which it does not exist.

The cost of (re)deployments:

‘Drift’ away from ‘ease’, rather than getting closer

Deployments, redeployments, and reformulations give us control over our ‘health’, behaviour, and degrees of specific freedom. They provide us with high specific-general knowledge, human-mental greatness, and creativity in invention and in dealing with emergencies, but there is a cost: the ‘drift’ effect. Whichever the conventionalised interpretations we use, the ‘advanced’ frameworks Sc-‘reverse’ iconic images, by differentiating the 2 generic parameters and putting them in compensative circularity N2d- N3p- (interaction, interconnectedness). The H-‘inversion’ of the effects of this chronic compensation create endless paths of ‘completion’ that are asymptotic *approximations* of the nexial-topologic vertical axis. The lack of ‘gauging’ (that is, observing without discerning the 2 symmetric Sc- and H- domains [Sc- H-]) allows constant transfers between them that reinforce each other and do not take into account the ‘drift’ effect. The Sc-result is not reducing instability, but rather ‘turning it out’ into waves and cycles. The H-result is a semantic drift by reification from undifferentiated ‘ease’ of daily living into specifically ‘easy’ tasks, treatments, compensations, and the ‘easy’ general explaining away of instability by devaluation and unknown causes. In such deployments, the nexial-topologic vertical axis of ‘off track’ orienting is ‘completely turned around’ (360°, topologically) into many deployments of the endless asymptote of assumed ‘getting on track’. This ‘oriented’ asymptote denotes boundary conditions that do not stop, but when their grav-wave exhausts itself and *reaches* its ‘end’, whereas in ‘native gauging’, the *approach* of boundary-surface is a nexial-topologic ‘orienting’ that intrinsically ‘stops’ the deployment (refer to the green dotted lines in figures 30 and 31, below). One is auto-‘pushing’ and increases deployment, the other auto-limiting and stops it. Deployment

yields an ever-increasing requirement for more physical or human work, just to approximately ‘keep on track’ automatically and ‘keep [separate] things together’, just to preserve our living environment and our bodies so they only ‘survive’. It maintains, sustains, and recreates constantly the baseline of critical effort, strain, and stress and its correlate deployments (do we not speak of ‘deploying efforts’?).

In practice, this is taking us *away* from ease rather than *towards* it, and although it remains a potential, it is made a practical impossibility. Instead, it is making certain aspects ‘easier’, but certain others more difficult, and altogether, daily living becomes complicated and uneasy. It took me about 40 years of hard learning and much bodily hidden damage to understand, in far too much detail, what my down-to-earth mother used to say: ‘*Tu te compliques bien la vie!*’ (You so complicate your life!).

Loss of physical grounding and the critical baseline of ‘health’

The ‘grav-wave’, ‘drift’, and ‘endless-scattering-wasting’ are different ways of expressing ‘going off track’, which also means ‘loosing ground’. I will illustrate this loss through modern science. The two images in <PPT2\ slide 23> are models of ‘space’ created by theoretical physicists. They are self-consistent and mathematically valid, but what they predict cannot seem to be found in physical nature.

‘We do not know whether this theory is physically correct or not. Direct or indirect experimental corroboration of the theory is lacking. This is the case, unfortunately, for all present approaches to quantum gravity. The other large research program for a quantum theory of gravity, besides loop quantum gravity, is string theory, which is a tentative theory as well. [...] Nature does not always share our aesthetic judgments, and the history of theoretical physics is full of enthusiasm for strange theories turned into disappointment. The arbiters in science are experiments, and *not a single experimental result supports, not even very indirectly, any of the current theories that go beyond the Standard Model and general relativity.* To the contrary, all the predictions made so far by theories that go beyond the Standard Model and general relativity (proton decay, supersymmetric particles, exotic particles, solar system dynamics) have for the moment been punctually falsified by experiments. Comparing this situation with the astonishing experimental success of the Standard Model and classical general relativity should make

us very cautious, I believe. Lacking experiments, theories can only be compared on completeness and aesthetic criteria.’ (Rovelli 1998a)

Derivations beyond order 3 (especially ‘haze’-like models) have lost even the access to sensory physicality. The basic presumption of containment is challenged, in physics (Hawking’s ‘No Boundary proposal’, Hawking & Penrose 1996 p.79) and, separately, in the ‘advanced’ experiences of spirituality. The presumption of constraint is challenged, again separately, in philosophies of Nature (non-inference, non-action), in the mental realm (intuition of the gauging sort) and the physical realm (non-reactive, non-extreme spontaneity). The baseline of criticality and instability never seems to be considered in research. It is present in a Darwin who has chronic illness, loses a daughter, and produces a theory of the ‘preservation of favoured races in the struggle for life’. It is visible in a Kant whose body is bent, prisoner of gravity, and who finds that freedom is impossibility. I could find no modelling of the physical-human situation that included both without involving some sort of boundary, constraint, baseline critical effort (or choice), diRection or activation to deal with instability, in one form or another. Presenting human physicality as these ‘surface phenomena’ (‘oriented-at-boundary’) is profoundly biased. This does not fit some of the ‘non-deployment’ states I consider as supportive of ‘proto-health’ (see <EEs>). Boundaries and constraint make for hard learning in childhood, which is not necessarily plagued by them and by instability. A well-known image encapsulates a view of the entire ‘deployment’ based on such assumptions.

The caduceus, symbol of medicine, is a series of knots, along a vertical axis with a winding path that returns. Its shape also expresses an idea of beneficial mind-head-brain control. It images what emergency medicine



knows and does with extraordinary success, healing and curing when necessary. It does not, however, image the ‘ease’ of ‘proto-health’, in which there is no necessity or emergency. It cannot ‘gauge ease of health’.

The medical and clinical frameworks derived from such an icon, with their assumptions of necessary mind-head-brain control, and experiential suppositions of constraint-containment-

criticality, are no longer grounded in the physical health of a body-brain that is *not* split (eg by neuro-endocrine activation-projection and immunologic defence), *not* permanently ‘deploying critical efforts’ and ‘drawing on its reserves’ to cope and ‘work at it’, and *not* chronically supported by the stimulants, calmants, diets, and addictive habits that allow this deployed state to be maintained... until exhaustion stops the deployments (in disease). They do not model ‘keeping health on track’ as a ‘ground state’ not requiring work, in a lifestyle that is not a permanent physical or human emergency of some degree, A human-physical interpretation of deployment leads to statements concerning ‘taming’ the instability side effect:

‘It was therefore imperative for them [the Greeks] to tame *apeiron*, [...]. Achieving this end essentially has meant containing what at first appeared uncontainable: the boundless *apeiron*. [...] Merleau-Ponty speaks of “brute” or “wild Being” (1968, p.170) – meaning organically grounded, primally embodied [...] Conventional thinking will need to be turned upside down and inside out. [...] we require, an ...“epistemotherapy” that ... regrounds us in the lived body.’ (Rosen 2004 pp.3 & 6)

Understood as a ‘physical’ grounding of the ‘human’ or the mind in ‘the body’ causes perspectival clashes and the paradigmatic shifts that have been played out for at least five thousand years of our history, and possibly in prehistory. They have not helped. The ‘ground’ could also be understood as a nexial-topologic ‘ground state’ that does not require work or interfering compensation in most non-critical conditions, does not have a ‘baseline’ patterned activation. In this case, the ‘regrounding’ is a ‘gauging’ of the tendency to deployment, which gives the capacity of ‘not going off track’. Gauging the ‘going off track’ is particularly accessible through the local sensing of ‘swelling’ (undifferentiated meaning of this word, as well as physical), as follows.

Cohen (1955) describes a little experiment of Einstein’s in which throwing upwards a tube containing a free-moving ball shows the covariance of motion and weight. This evokes much in my experience of health and body. The feeling of gravity (a precursor to the ‘grav-wave’) is covariant with activation, and with ‘swelling’ – physically and otherwise (see figure 31 below). These are directly related to a degree of physical dehydration, and to sensing

gradients at body surfaces, and in the mass. With these come an existential sense of having to ‘spread thin’, and of *approaching* a critical breaking point. The sense of lightness, like a happy ‘flying’, that one can have in dancing, or hopping up a mountain slope like a goat, is gone, as is the sense of ease, replaced by ‘need’. ‘Feeling unwell’ (physiologically and behaviourally ineffective), ‘down’, tired, and in struggling low-grade pain, is the result of keeping this up (eg internal activation of non-specific and systemic ‘defence’ brings little pains related to histamine, cytokines and other inflammatory substances). ‘Illness’ is its ‘setting’ into the development of fibrous-dry rigidity. If this is deployed further, recognisable (diagnosable) disease occurs. These sensations, and understanding of them, could be used for many aspects of current global problems. They do not appear to be specific to my local-case: some archaic texts mention this ‘problem-making’ (sometimes clearly related to health-sanity and feeding behaviour). Their meaning is also expressed in daily life statements such as, ‘you work too hard, you will make yourself sick’.

A more basic view of deployment

I would have liked to limit my presentation to the images included above, together with this section of the chapter, with only scant comments on the images. The details and implications hide the basic nature of the ‘turn-around’ between deployment and non-deployment. An animated and oral presentation would show that the imaging is much more basic to apprehend and use than it seems.

For example, figure 42, at the end chapter <Methodology> provides a ‘complete’ map, which although integrative, is nevertheless complicated and only approximate. The research process simply followed the nexial-topologic deployment to its conclusion, modelled it, and I lived locally its global effects at the same time, in particular, ‘driving’ constraint, critical instability, and swelling. Most of the long-term historical problems with human nature and nature, and the spreading problems of normal, super-, and sub-living that I tackled, are inherent in representations and action strategies derived from the ‘built-in’ properties described here. It seems to me that this impression is present in the following passage:

‘The definition of the “preferred basis” (the class of projections) at each time, is the business of decoherence theory. [...] Evidently further pursuit of this question will require a much more systematic discussion of the criteria that motivate medium decoherence in the first place; it is clear that on any evolutionary approach to the specification of a decoherent history space, constraints on what is to count as an information processing system are also constraints on what can reasonably be understood as an “epistemic community”. In other words the objection must be ceded, but the epistemological contrast at issue is actually built into theory *ab initio*, as constraints on information transfer and stability; if we are to live in Plato’s cave, at least we can understand how it is that we are confined there.’ (Saunders 1995 p.26)

One of my motivations in writing this thesis is to show that the icons of culture and their conventionalised topology of change affect H-globally (Sc-non-locally) the baseline physical experience of human daily living. Although the researcher’s assumptions and suppositions are now routinely mentioned in published research, I have not seen in the literature the ‘orienting’ of physical experience considered ‘locally’ in the researcher, as a background to the research. Another motivation was to show that being able to see how this 'effect works and orients findings to criticality, does not require very complex or over-simplified ideas such as direction and spatialised movement.

Dual-polar deployments

In the many conventionalised models that I call perspectives, duality and polarisation are developed, in one form or another, separately or in combination, in two basic ways:

- ***Sequential or 2-nodal deployment:*** the animation <4 Linear development> (of a 3-10 torus) can give a sense of how the nexial-topologic deployment can be projected as a three-stage development, followed by an inverted development. Models of unfolding and enfolding are based on this, which is the way of patterns or of the ‘Left-’.



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- ***Simultaneous or 3-modal deployment:*** the animation <5 Rainbow-fountain> can give a sense of how the same nexial-topologic deployment can be projected as a simultaneous development of three modes. From the viewpoint of physical experience, this relates to



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sensations of flowing, movement, activation, increase (etc.), and to archaic notions of 'Life', the medieval 'fountain of life', Neolithic notions of 'the Wet', and the prehistoric notion of 'Wind' (H-'global' and Sc-non-local). On a more abstract note, the animation is suggestive of the models based on colours, which can be multiplied, as can the ways of spatialised motions and of the 'Many' aspects that arise from the 'Right-' perspective.

Their combinations automatically produce acute shifts, localised in one way or another. This is evident in many forms: sudden N3p-impulse, thresholds, no time, zero or point shifts, discontinuity, critical events, singularity, quantum jumps (involving both boundary breaking-&-making), physical catastrophic near-destruction, near-death, emergence, experiences of no space, no existence, no more recognisable N2d-pattern (perceptual), etc. Such 'boundary phenomena', or critical instability, are built into the representational conventions, in most cases, rather than necessarily being inevitable.

'Boundary': a third, hidden parameter of 'oriented-at-surface'

Both sequential and simultaneous views 'deploy' detailed views of 'oriented-at-boundary'. They describe the phenomena observable if boundary conditions are *reached*. The being 'oriented at boundary' constitutes a hidden baseline: of perspective. For example, an emergency focuses senses and attention onto 'outside' or 'inside' and raises adaptive response, and shifts the observing into perspectival mode. Effectively, the 2 parameters produce constraint and containment, or 'orienting', which constitutes a third generic parameter that is hidden (built-in). It can be clarified and given the same status as the other two parameters. It is the basis for the third 'mode' found in modal logics. 'Boundary' can be interpreted as 'boundary conditions', in operational or connective terms, the two most abstract ways of thinking, related to general-systemic or organismic thinking *and* experiencing. This third parameter is governing (driving and directing), most often hidden and widely accepted as a baseline for normal experience (eg stress), or believed inherent in 'nature' (eg survival, limit of light speed). The models thus produced are unduly generalised as explanations of *all* daily life, and give rise to an interest in extremes of experience. From these are derived systematised methods and practices, which are often indiscriminately

recommended. Conversely, their consequences of containment and constraint, *and* lack of limits, constitute an accepted ‘human’ and ‘physical’ reality. ‘Boundary’ is also interpreted as boundaries, functional or structural. All these types of boundaries automatically come with representations derived from icons and words, and from mathematics, as is the case for the *analytical* topology (calculated dimensional geometries) used in natural sciences. Poincaré (1854-1912) thus formalised kinetics into ‘dynamic qualities’, but also recognised that the duality inside-outside, inherent in structural notions of boundary, is a *measure*:

‘Outside and inside are the two different values of a measure called parity’, on which depends on the ‘number of boundaries crossed’, thus ‘changing the connectedness changes the parity’. ‘By fixing the starting-parity as *outside*, you can easily, by "evens-and-odds", tell "where you're at".’ (Britton, 2006)

These means of rePresentation leave no room for states not ruled by ‘Boundary’ (not governed by critical states), in which boundary is not *reached*, established (structural, connective) or stabilised (functional, operational), states that are not ‘*at*’ boundary surface [topologic], but only *approach* it, and this not permanently. Nexial-topology describes, instead, a gradual ‘orienting-at-boundary’ that may yield deployment but may also result in ‘*un-orienting*’ (stopping deployment) and ‘non-deployment’. Since orders 1, 2 and 3, are only a sequential analysis of the animated imaging, all 3 describe, in different ways, the *same* approaching boundary (I could have explained them as 3 modes, or 3 phases of criticality). The *approach* of boundary or surface phenomena is ‘gauged’ by an apprehension that does not use measured or calculated geometry, or conventionalised ‘valuings’. For the purpose of the exposé, the images used here are limited reConstructions derived from perspectival framing, and so are related to the senses (five or more). Not separating the parameters to recombine them (not reConstructing in computer animation) leaves the animated imaging, for which the fixed images and ‘boundary’ are, rather than a baseline, an *extreme* of deployment, and therefore a ‘state’ rarely reached in daily living. There is a ‘turn upside-down’. For visual and practical sense of what this ‘upside-down’ means, see <PPT1\slide 7>, ‘Female mountains and valleys’. I will now attempt to show this in other ways.

All the perspectives and models deployed beyond order 1 (starting with FlatLand) have overall characteristics that correspond to (are ‘like’, operate the same way as) those of post-modernist relative truths for the human domain, of special relativity for the scientific domain, and of general system theory for their integration into ‘advanced’ models (similar fundamental rules) They are well described by perspectival framing, both explanatory and experiential, and by our symbolic languages (including codes, geometry, and icons). The connection between these expressions, as well as symmetry and circularity, ensure the logical consistency of our practical paradigms. This also explains the ‘uncanny’ fit of mathematics to describe ‘Nature’ (Wigner 1960) and what we call ‘natural’ and ‘human’, which baffles philosophers of science. The correlate ‘hidden’ or ‘mysterious’ domain and its related questions (see <Extract F9\ Deep confusing questions>) are explained by using the same conventions (eg space and time), separately in terms of origins or ends, of ‘Where this is going’ (development) and ‘Whence from’ (source). These are usually characterised as catastrophic, chaotic, or ‘endless’ – all boundary phenomena. ‘Boundary’ in general, and the ‘spreading’ (eg ‘the earth’ and spacetime) in particular, are either simply assumed, or are modelled by perspectival unfolding and/or enfolding, as an inherent or immanent, *hidden* third aspect of our realities that somehow causes arising or directing, occurrence or appearance. There is, a global asymmetry: nothing models the plain non-existence of ‘boundary’.

Nexial-topology models this situation as it ‘presents’: as an asymmetric, covariant ‘deployment’, a one-sided ‘swelling’ that keeps deploying into unfolded and enfolded perspectives, and never ‘stops’: perspectives remain ‘oriented-at-boundary’ and deal only with the topologic ‘surface’ of critical phenomena. Portrayed this way, what is not modelled by our conventional topologies is that the deployment does not have to ‘come to’ a ‘boundary’ state, and also *can* ‘stop’ to ‘unfold-enfold’. With it, boundary phenomena and critical instability disappear. The animated imaging that can model this seems to have similarities with general relativity *if* the animations are not interpreted in physicalist or

spatial terms or as realistic rePresentations, and are not divided analytically or reconstructed wholistically, but understood as the *undifferentiated* ‘shaping’ of ‘Perspective’ and ‘Boundary’. The mathematical form of general relativity applied to spacetime is an ‘advanced’ framework, and judging by the relevant literature, it seems to have little grounding in the ‘physical world of humans’. The covariant deployment, however, can be considered as a ‘*global* notion’ (see <Ancient perspectivalism\ Global notions>) that does not discern the many exPLANnations, exPERIences, and other sensory-framed exPRESSions, all derived from the 2 basic parameters and their hidden counterpart of ‘boundary’. If the covariant deployment is apprehended as an undifferentiated ‘shaping’ of the above situation ‘as it presents’, then a similarity exists between the animated or lived imaging and the general relativity.

I will now present nexial-topology in terms of basic geometry, in order to highlight (a) the fundamental difference between deployment with its resulting asymptotic ‘drift’, and ‘gauging’ with its ‘ground’ that is ‘on track’, and (b) what ‘stopping’ deployment may look like.

3 simple geometric rules: 90°, 180°, and 360° turns

In manipulating concepts, and comparing them to my benchmark ‘native gauging’, I found what I express as ‘turn-around’, or as ‘turn inside-out’, ‘turn outside-in’, and ‘turn upside-down’, depending on the situation being imaged. In playing with scribbles drawn from the analogies and metaphors in texts, and developing the sequential explanation for this chapter, it appeared that these could also be expressed as 3 basic rules of thumb based on changes of graphic orientation in shapes (icons). The easiest way I could find to formulate them in geometric terms, is as the ‘rules of 90°, of 180°, and of 360°’. They are summarised in images in the slides of <PPT7 Three geometric rules of Nexial-topology>. It seems to me that these imaging rules are, in a way, known to the thinkers in whom I recognise some sort of ‘thinking in images’ or ‘gauging’ (see <Extract F5\ Gauging thinkers>). I have gathered from their works some text extracts that seem to be attempts as formulating these geometric rules in words (<Extract F18\ Rules of localisation/extension in the literature>).

Following, are three ways to detect the difference between conventionalised perspectives or geometries and nexial-topology.

As basic as inside-out

The difficulties of perspectives derived by dualising and synthesising can be resolved by simply noticing (1) that our representations are *under operation of conventionalised* observations (sensory, sensate, psychic, or with the senses shut-down), and (2) that the ‘turning outside-in’ and ‘turning inside-out’ into topographic surfaces are modelled as FlatLands, whether externalised or internalised.

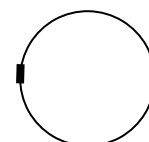
As basic as upside-down

The difficulties of perspectives derived by polarising can be resolved by simply noticing (1) that the activations we observe occur or are represented as being *inside systemic frames*, and (2) that the perspectives are a ‘turned upside-down’, or inverted modelling of nexial limit conditions that are ‘downside-up’ geometrically.

As basic as intervals

The difficulties of perspectives derived by conventionalising (dualising and polarising, combination or ‘powering’ of one of the two parameters, and other ‘valuings’) to model deployment, can be resolved simply. One can notice (1) the mental *or* physical nature we ascribe to N3p- ‘activation’, ‘Life’, and our concerns for survival or unease (what ‘saves’), and (2) the generic ‘orienting’ (see <Validty and valuing\ Researcher ‘orienting’>) of our interpretation of the notion of boundary. This is also detectable in the preference in what a viewer ‘sees’ in a drawing of intervals:

- a ‘one’, ‘whole’, or ‘1’,
- a dual left-right (or up/down), or beginning/end,
- a ternary one-side/inside or middle/other-side,



[Compare this to <PPT4 Einstein\ Slide 2 and 8>]

- a topologic containment, a ‘bubble-world’ [nexial-topology] (eg a notion of ‘island’).

The notion of ‘boundary’, just as the global notion of ‘water’, can be interpreted according to *any* of the (many) perspectives. Attached to them, are completely opposite evaluations in the Sc- and H-domains, and yet another in the combined or integrated Sc-H-domain. All of these are often ‘turned around’ in the daily living domain (what some of us actually do).

Figures 30 and 31, discussed next, are geometric projections (fixed) of the *animated* imaging. Their aim is to show the difference in another way. The properties of these images are topologic, not geometric: how *exactly* I draw the changing shape of a drop does not matter. In some conditions, it may be *almost* a round bubble, or *close to* a flattened ellipse. The terms ‘*almost*’, ‘*near*’ and ‘*close*’ are crucial, but they do not imply approximation: they mean never *reaching* a fully formed bubble or ellipse, and only ever *approaching* criticality. The axis never becomes a disconnected asymptote, or an arrow drilling a hole in the surface. The bubble-drop never tears off the ground line, which never rises to a sharp point. Nexial-topologic images take on their meaning only in *animation*, so details of fixed images have only limited significance and cannot fully render what the gauging shows. This is a downside to presenting nexial-topology in the form of a written work:

‘Rendering the concepts sensibly intuitable by means of drawn figures is substituted for the actual production of the primal idealities.’ (Husserl 1939 p.169)

Global view of dual-polar deployment (figure 30):

In figure 30, the 2 global parameters (vertical axis of orienting, and spiral of ‘spinning up’ or ‘increase’), and the (no longer hidden) are integrated with that of *boundary* (topologic orienting-at-surface) in a form that suggests ‘swelling’ (imagine a bubble welling up in the pond). The ‘spreading at boundary’ modelled in this deployment (a welling-up bubble) only describes the extreme of a nexial-topologic ‘swelling’. In the physical realm, this images a low-level criticality with undesirable (valued) signs and signals more obvious than mere (unvalued) sensations. It is characteristic of vertically entraining the brain and the ‘alert mode’ (in mind and immune ‘defence’). The top of the axis images the separation of the parameters. The outcome of conventional topologies and modelling is an endless, approximate or probabilistic, risk or hope phenomenon, which has an asymptotic axis and a

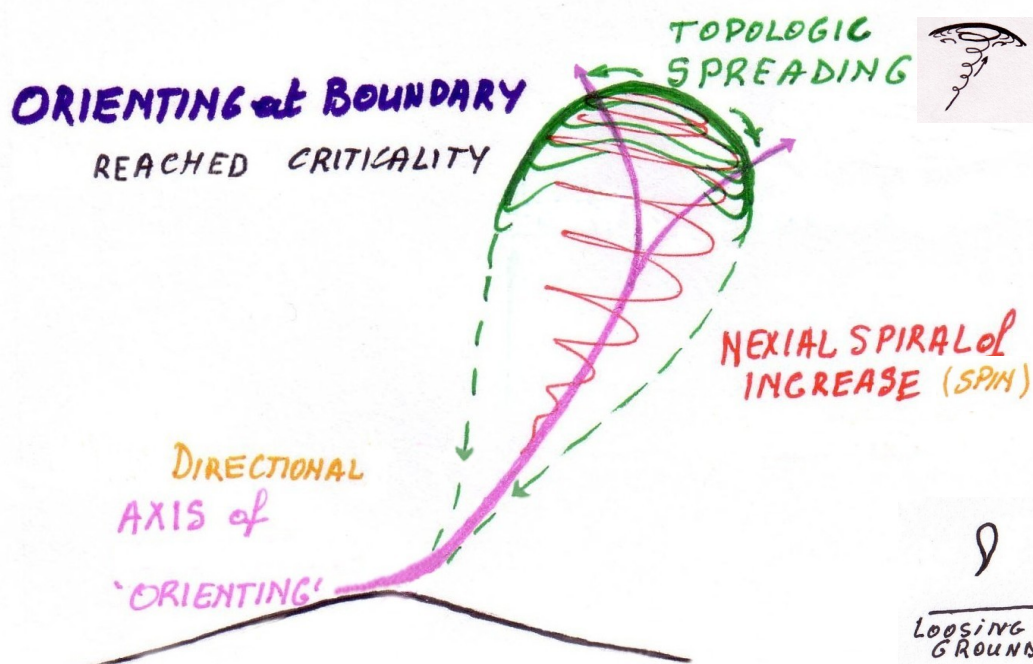


Figure 30. Global view of dual-polar deployment

direction, ie an oriented axis. After deployment (up) and redeployment (down, or 'back to Below'), the split axis is reintegrated, but it is asymptotic, and invariably manifests in scattering and wasting (reduced here to spreading along the bottom line). That is, on its 'way back down', the directed axis is asymptotic to what is a 'raised ground' (figure 31 below). The twisting spiral of deployment ('drop' outline in figure 30), and the bottom of its vertical axis, never quite 'comes back down' to a non-raised groundline. 'Health' is never quite stable without keeping the body-brain-mind on alert, repairing, or 'working at it'. This is the permanent 'baseline' of work that is critical to maintain health, and which we generally consider 'natural' and necessary to 'survive'.

Global view of 'gauging' the deployment (figure 31):

Figure 31 is a fixed image, a flat projection of 'native gauging'. The 'oriented activity' of 'swelling' that creates heaviness and dehydration is best visualised not as a directional increase, but rather as a 'starting to twist'.

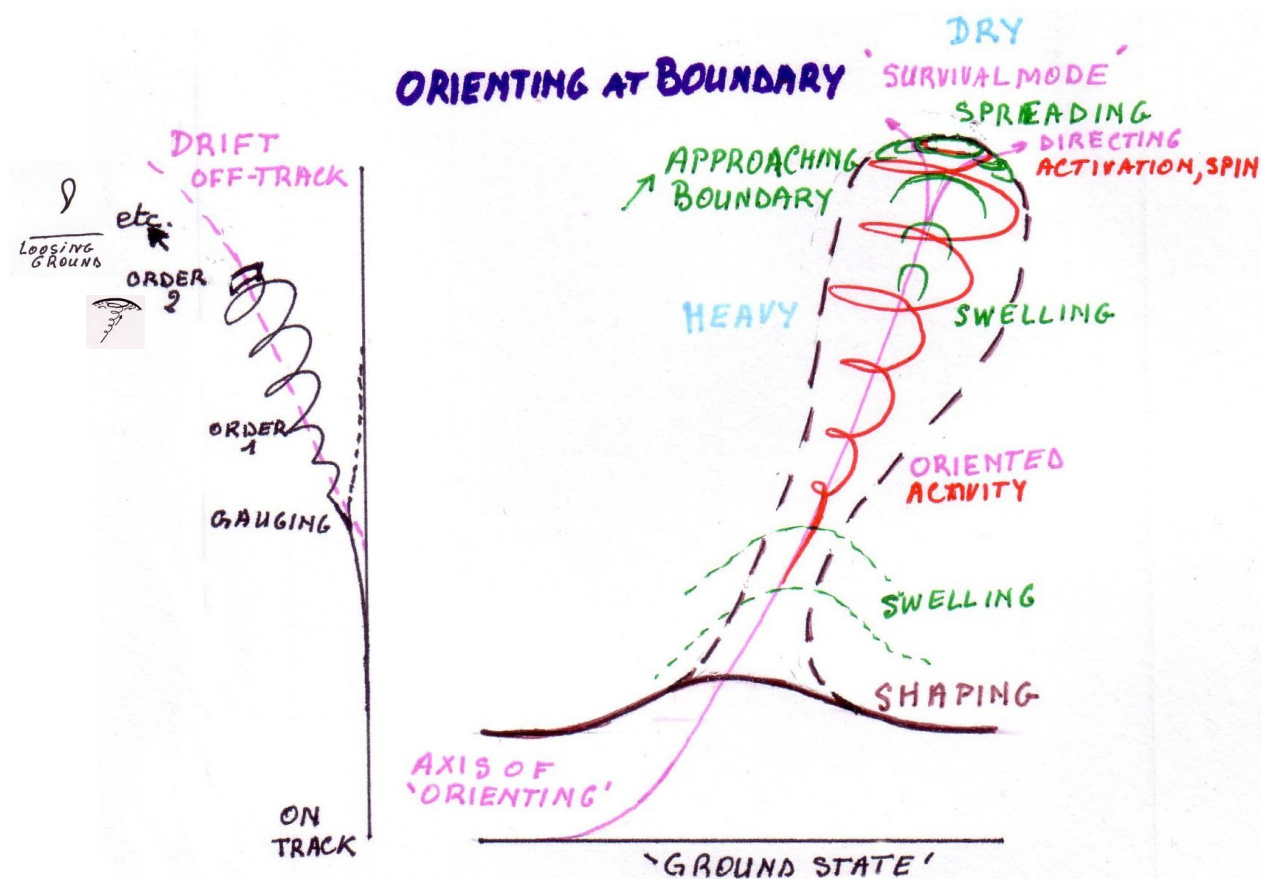


Figure 31. Flat view of non-deployed nexial-topology ('native gauging')

The spinning-up and axis (at an angle in the image) are beginning to separate, and are starting to 'deploy'. This does not exist in *deployed* perspectives that are conventionally framed (figure 30). The 'swelling' comes 'off the ground', and goes 'off track': it rises, bends, tends to twist and spread-at-boundary (or as boundaries). Viewed in directional terms figure 31 would represent a 'coming back on track'. Seen this way, it would be almost equivalent to figure 30, with only a 'pre-deployment phase', and the axis would 'eventually' be a 'drift'. Thus, to oversimplify the meaning of figure 31, we could split the image roughly in two, and consider it to display two conditions simultaneously: deployment (top) and non-deployment (bottom) (see icons in <PPT5\slide 28\simplified comparison of 'early' and non-deployment>, and in <PPT5\slide 29\orienting and notions of fluidity>). The deployed section in slide 29 (right) could then be interpreted in terms of *degrees or phases* of deployment of the gravity of the critical state. Although this could be useful in decision

making, it would miss my point. Without visual diRection to interpret the image, the swelling simply is a 'raised ground' that *is also* on track (remember the exact fixed shape, straight, curved line, or almost a drop, is irrelevant because this is *not* a timed series of shapes). In figure 31, the bottom of the axis is not asymptotic, and it images *both* 'going off track' and 'coming back on track', *without* inversion, reversal or 'returning to normal'. Words fail, here, as does the flat geometry of my images, to explain that this is because there is no diRection in the line, and so no logical sequence. As a double-timed series (2-directional), this would rather be like a self-limiting process: at the *approach* of Boundary, the nearer to the boundary state, the closer to 'being back on track'. I prefer the less differentiated expression 'auto-shaping', which does not involve any direction or orienting

Gauging 'turn-around':

Deployments do not quite 'turn back' to no-deployment

The notion of 'turn around', and the difference between the 'on track' ground and the asymptotic 'global drift' is the most difficult to explain or show with images; I realise that my pictures for it are not quite adequate. Neither is the use of capital letters, hyphen and quotes truly effective in denoting what I call 'global notions' (explained in <Ancient perspectivalism>: neither definite nor indefinite) and their non-local properties:

Figure 30 images the deployment *at* boundary and is *not* equivalent to figure 31, which images '*near* boundary'. The bottom of the axis, in figure 30, is asymptotic to a *raised* ground, and can be read as directional or bi-directional. Its lowest order is only an *approximation* of the nexial-topologic 'ground'. It appears to approach a 'track', *after* a modelling inversion (eg reversing a direction), but it is also never quite 'on track' (as in endless fine-tuning). The track, as an end of deployment, remains raised or bent (at an angle). In <PPT5\ slide 29> I separated the 2 directions of the line to reintegrate them into a single line that is directed 'up' (on the right side of the slide) to show 'deployment and redeployment'. The end track is an asymptote and not 'like the ground'. Being an asymptote, and having an inverted curve, it constitutes a 'drift', a going 'way off track', and the curving has undergone a 'turn-around'.

‘Turn-around’ between deployment and non-deployment (figure 32):

This ‘turn around’ is shown in yet another way in figure 32, in which some details are eliminated to compare the orienting of the deployed track and non-deployed ‘ground’. In this

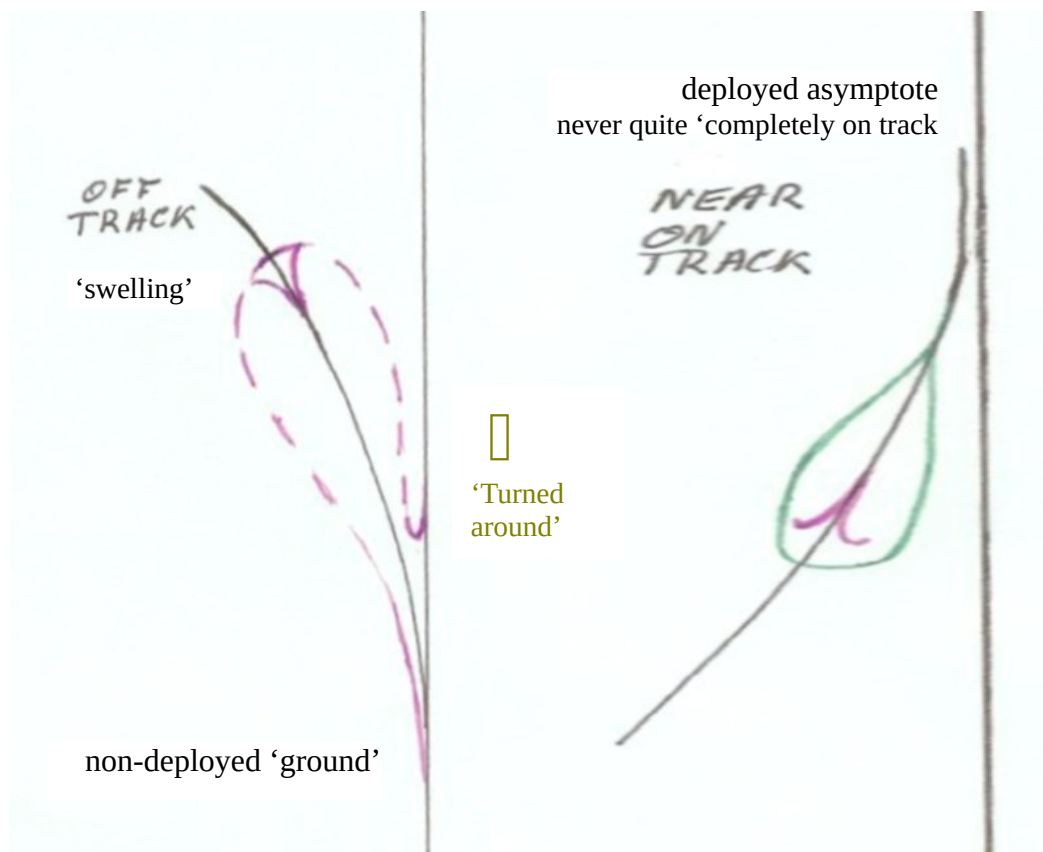


Figure 32: ‘Turn around’ in orienting

Deployments do not quite ‘turn back’ to no-deployment.

‘Orienting is a crucial question: deployment can lead to the critical and going off track.

image, the ‘ground’ of figure 31 and the ‘almost on track’ of figure 30 are both shown, in parallel, to highlight the changing shape that approaches them. On the left, the (nexial-topologic) ‘ground state’ images the non-deployed state of health, ‘unaffected ease’, or ‘proto-health’. This state is *not* a ‘baseline’ (established standard, stabilised normal to ‘return’ to, or ideal ‘responsivity’ or ‘inter-connectivity’), but a *non-deployment* that stays close ‘on track’, flexibly ‘shaping’, while keeping ‘integrity under operation’. The ‘swelling’ (the drop to the left of the ground) describes a ‘twisting’ related to dealing ‘locally’ with the

situation and its global (non-local) properties. This twisting ‘turns left’ because this corresponds to the empirical observations I made locally (the vertical axis entrains the physical left-brain). The right of figure 32 images ‘deployment’, in which, experimentally, I found that the right-brain is first entrained (before a unified down-projected redeployment occurs). With deployment and redeployments, come the endless small corrections of ‘fine-tuning’ in the many aspects, orchestrated like a plane’s autopilot that controls staying close to a *diRection* (as the brain-head-mind does). It never reaches the target and is only ever ‘advancing towards it’. It is also subject to critical instability (failure of this automatic directing by the brain-mind can be catastrophic, as medicine and psychology tell us). This is very different from the nexial-topologic ‘being on track’, which is non-oriented, and it is a poor rePresentation (topographic) of the nexial-topologic situation that ‘presents’ as ‘not reaching boundary’. The latter does not need to be ‘directed’ because conditions are rarely critical enough to require deployment (unfolded-enfolded) and the differentiated rePresentations of ‘reaching boundary’. The most practical way to express the ‘turn-around’ is this: In allowing the refining and many redeployments necessary to produce this written thesis, I learned many vocabularies and sophisticated definitions, to discern new generalisations and to represent topographically the very ‘small’ and ‘large’ (or ‘above’-‘below’, or inside-outside, etc.), in particular in sensation – in other words, I increased my mental capacity for manipulating ‘∞-details’. This corresponds to the most commonly sought benefit of ‘pushing’ deployment: an increase in sensate refinement and mind power(s). Nevertheless, this has also been accompanied with a dire physical loss for daily life: my once better than normal eyes can no longer see detail (blurred sight), cannot distinguish colours (especially night vision), cannot read near, or discern clearly very far. Both of these are expressions of ‘fine tuning’ (the ‘endless’ and ‘scattering’), and both make living difficult. As a whole, they are ‘turned around’ compared to the ‘ease’ of the non-deployed ‘ground’.

As basic as 'stop': stop deployment

Ultimately, 'gauging' is a simple 'apprehending' or 'sensing' that is not based on iconic fixed images conventionalised according to senses. It does not make all the formalised distinctions, especially not the normal evaluations of 'health' and complex defining of boundaries in various forms. It is understood through basic 'global notions' (conventionally simple or primitive). In the clinical encounter, the patient's listing of 'bad' and 'good' symptoms (pains and improvements), and the clinician's valuing, filters, perspective, and differentiate vocabulary, as well as his/her own baseline state of health (regarding the normality of criticality, immune activation, and orientation of the brain), lead to biased evaluation and a drift that prevents a 'gauged' understanding of the global health state. A visit to ask questions and discuss 'where this is going' can lead to treatments that may alleviate pointedly some pain, compensate for dysfunctions, or improve subjective well being. They may, at the same time, be deeply counter-productive for the physical 'integrity under operations' (eg promoting water swelling and hidden wasting), and even disastrous in other places of the body or lifeworld, or in the long term. The fate of the average patient 'without diseases' is witness to that; examples include the medicated elderly fed with 'easy' foods, children under brain-activating diet, chronic patients, etc. Moreover, the gauging can only be done 'locally', by the patient whose situation is under scrutiny. An 'external' observer cannot do this gauging because such observing goes through the senses. Neither can an 'internal self' whose representations are 'sensate' (derived from sensory images). Sensory specialisation produces narrowed, limited, perspectival representations (whether divided or divided-reintegrated) that are indirect. They are also dual-polar and can only produce reconstructed motion, rather than a topologic animated imaging. For 'gauging' the topologic properties of a nexial 'health situation', therefore, sensory information and the valuing derived from them must be *given up while* observing (ignored, not attended mentally, constructed, or interpreted) because they interfere with an undifferentiated apprehension.

— *One cannot 'gauge' if engaged in any sort of 'valuing' —*

The best known way of doing this is to be ‘non-judgemental’, or to ‘not put a number value on things’. These limited ways do not prevent the anthropomorphic attributions and ‘physikemorphic’ projections, materialism, and other discerning specifications using general conventions. A more generic and more basic way to do it without these is to:

‘Stop what you are doing, take a deep breath, stop the mind’...
and sense what ‘the world’ is like from ‘here’.

Ancient perspectivalism, ‘The Earth’, and ‘The East’

In reviewing the literature concerning health, medicine, healing practices, and the body, medical theory cannot be considered a single entity; as many theories and models of the body have been developed. Understanding the oldest requires turning to ancient texts, some of which are difficult to understand.

Reading ancient works: Words, syntax, repetition, and semantics

The problem of rendering in modern language the meaning of archaic texts is common to both Western and Eastern cultures. It is often difficult to make even basic sense of some sections of text, or of the widespread habit of repeating a story with slight differences. For example, there are five versions of the same story in the oracles of Bil'am (*NUMBERS*¹: 23,24), and many reformulations in *AMOS* (eg 1-5:7, 5, 4:2-3, written circa 760-750BC). This scholarly problem is not limited to mere translation, nor is it only a modern problem. Many reasons are invoked. For example, such works are often edited composites (eg *GENESIS*), collated from several different authors who are often unidentified, and who came from different periods of history:

‘It may be impossible to separate what is old from what is more recent – to distinguish what the compilers added of their own’...’ (Waltham 1971 p.xiv).

The rewriting of lost texts by new authors also causes controversy about authenticity. The loss is attributed to various events such as a burning of books (eg in the Ch'in dynasty [221-207BC] or the library of Alexandria). After such episodes ‘scholars who had memorized... rewrote the documents from memory or dictated them to recorders’ in an ‘atmosphere of restoring the learning of antiquity’ (Waltham 1971p.xv; about philosophers and scribes restoring archaic compositions). Dating each part of compound documents to determine a chronological order of production can be done on literary and historical grounds, but

¹ References styled with italic small capitals relate to the books of the Bible.

sometimes chronologies have been deliberately altered by ancient editors, and even inverted. Such an inversion is usually ascribed to a need to fit a mental organising model or an abstract theoretical framework, whether implicit or explicitly stated, in order to produce a new synthetic compilation. The ancient compilers often also added introductions or (later) commentaries, in an effort to clarify the new understanding of the then already obsolete language of bygone eras. The lack of syntactic separation, in such ancient works, makes it often difficult to know how to attribute these added pieces, or even differentiate them from the original text (for example adding 'he said'). Such texts may also be considered part history and part exposition of views, and they can be read with a wide range of interpretations. This is reflected in both ancient editing and modern translation, multiplying the sources of shifted meaning and of misunderstanding. This idea of 'misunderstanding' is also rampant in philosophical discussions of previous authors, since antiquity. It is directly related to historical 'tracing to origins' (see chapter <Methodology>) of a unitary 'original' meaning:

'An analysis of the early forms of a Chinese character may reveal the history and semantic associations of the word for which it stands. Furthermore, the imagery contained in a written character continued to influence the manner in which people thought about a word in later times. This was true even though the imagery was sometimes misinterpreted by later writers who no longer understood its origin.' (Allen, p.33)

Since antiquity the original meaning is attributed to an author, and the distortions to the mental 'filters' of a reader, translator, or compiler: '... it is because we intellectually distort or misinterpret...' (Braud 1998 p.216). This explanation involves evaluation: a wrong understanding of original meaning. Considering 'filters' of 'mis-'interpretation as expressions of a perspective makes evaluation and judgement unnecessary. It removes the value of 'truth' in the 'original' meaning, which is also a perspective. If a perspective denotes a 'way of looking' at things, a geometric interpretation of it explains easily the related biases in both original and interpretations. There simply is a different a centre of projection for 'looking' (see <Perspectival observation>). For archaic myths, however, this is not a sufficient explanation. Archaic myths are collectively carried stories so the 'original

meaning' reflects a global 'culture', including attitudes, but also behaviours (eg burial). It expresses a practical worldview or paradigm, using a certain vocabulary, and this does not fit an idea of mere 'mental' *individual* meaning. Other texts appear to not be composite and so the above reasons for the puzzling repetitions with slight differences give little clarification. In such cases, the common rationalisation ascribing an intent to re-express the same message with added detail for better reader comprehension involves an individual writer and so is not useful. Another explanation is that the repetitions correspond to subtle layers of meaning in a single story that is retold (eg the 'codes' found by some in religious writings). Often, the problem is even simply ignored: the several versions of the same story are interpreted as a series of entirely different stories, or as developments of the same story. For example: in *The oracles of Bil'am* (R. Abbott 2006b), the text uses several different 'divine names' (R. Abbott 2006a), and:

'The text describes a series of visions received by Balaam son of Beor' (R. Abbott, 17 June 2005, personal communication)

Language: meaning shifts and archaic expression

These various kinds of explanations do not always take away the puzzle. In some cases, it is the archaism of the language itself (little differentiated), and the vocabulary, that are problematic:

'The vowels [used in the translation] here are conventional, since the dialect, like the original Biblical Hebrew, only shows consonants.' (R. Abbott, 17 June 2005, personal communication)

'In addition to the fact that the genuineness of certain documents has been challenged, there is the inherent difficulty of the text. As Karlgren states, the *Shu* "...through its lapidary style and archaic language, is often exceedingly obscure and frequently offers passages which, from the point of view of grammar, allow several widely divergent interpretations...". Here and there in the text are Chinese characters that even the great native commentators have found inexplicable and have passed over – even though their lives' work had been writing commentaries on the classics [...]. Chronologic sequence is mixed here and there.' (*Shu Ching*, Waltham 1971 p.xvi)

Translation from archaic to modern languages is greatly complicated by the increased complexity of modern grammars and the increased limitation of the meaning of words

(obvious in definitions in specialised knowledge). The meaning loses something in the rendering of archaic text in complex modern forms. Often, the little-differentiated meanings of archaic expression seem to hold little meaning for the modern thinker, who is dependent on the refined, separative distinctions we make (eg the distinctions body-mind-behaviour, or individual-collective). Adding syntax to create fully formed modern sentences comes, in particular, in the form of little words: conjunctions (eg 'on', 'in', 'at...'), pronouns (eg 'it', 'he'), expressions containing small words or verbs (eg 'person', 'and he', 'that... did'). It also comes in the form of quotes for speech (non-existent in the oldest texts, hence, uncertainty about who said what). Often this is deemed necessary just to make sense of the text. These linguistic elements can be helpful, but they can sometimes fundamentally change the meaning, and not do justice to the 'undifferentiated' thinking that produced it. Of course, there are also semantic shifts of meaning resulting from 'natural' linguistic development or growth (Romanes 1888 pp.238-245 – this can be seen in the several meanings of a word in a dictionary). There are even outright reversals of meaning (visible in an etymological dictionary; see also <Extract F13\ San Jiao & inversion>).

The diversity of interpretation may also be partly due to the transfer of oral tradition between orator and listener, and into written texts: deformations in spelling (in lettered languages), or in calligraphic copy of characters (in Chinese in particular), and regional sound variations (in Chinese). It seems to me also that, in listening to oral teachings, in Chinese, a very small sound variation (alteration of intonation), rooted in a general meaning interpretation with a different bias, can result in an entirely different specific meaning that is rendered by an entirely different character. Meaning changes also happen in shifting from a naturalist to a mentalist or anthropomorphic interpretation. For example, Wilhelm (1989) and Jung have been criticised for having psychologised the *I Ching*. Such changes can reflect an interpreter's limited understanding (eg: 'Water of purification [lit. of impurity]', *NUMBERS* 19:9). A different way of approaching some of these ancient texts is proposed here, related to a writing style called 'syncretic'.

Syncretic writing

Time evolution or developmental schemes of perspectival classification are well known, but have their problems (eg elitism, and origins). Modal schemes (eg multiple intelligences), also have their problems (eg paralysis of action due to post-modernist relative truths and incapacity to evaluate). They are also less well known or understood, as a theoretical structure. Integrating the diversity of views (perspectives) is often either glorified as 'wholistic' (all-inclusive 'theories of everything') or afflicted with the terms 'bricolage' or 'syncretic'. We leave bricolage aside because it is applied to pragmatic or experiential spheres, which are not the focus, here. Syncretism, however, affects generalist texts whose views affect attitudes to the body and health. The term 'syncretic' is applied to certain texts that appear 'confused' and susceptible to just about any perspectivally biased interpretation. If such texts are approached without a relevant classification technique, or analysed according to the above schemes, they appear to have no logic and, by extension, are assimilated to confused thinking. This judgement is inadequate in the cases considered.

The term 'syncretist' has various definitions, depending on sources and fields of application, but they all relate to some form of integration or unification that is considered too partial or biased. The term is used, in particular by Graham (2001), to qualify certain Chinese texts that are 'multiple but rooted in the oneness' of the ancient tradition of Taoism, and whose purpose is 'to sort out the... five major schools, in order to recover the integrity of the complete tradition.' (Note that the words 'five' and 'complete' are consistent in representing a stage of nexial-topologic 'deployment' by integration. The 'oneness' and 'integrity' constitute assumptions, consistent with this stage.) This writing style reviews the [claimed complete] range of schools of thought by quoting from them certain fragments that are most significant to represent each a school. This produces a multi-school or multi-perspectival account reminiscent of a modern philosophical review of cultural history. Le Blanc (1985) describes a similar format in the *Huai-Nan Tzu*, where the connection between chapters and parts of chapters is not obvious. Such a connective review describes multiple perspectives by sampling the way they work in the culture in general, or in a particular area (eg spiritual

practices). This is similar to the ‘circumnavigation’ of perspectives (explained in chapter <Methodology>), and can be used for perspectival analysis (for a meta-analysis of many perspectives).

Tedlock (2000) describes a similar writing style in the accounts of female ethnographers, feminists authors, and critics, which are neither chronological nor progressive, but seem disjointed, fragmentary. They are

‘organized in self-sustained units rather than connecting chapters, [...] constructing their texts of fragments: letters from the field, diary extracts, musings, poems, dreams, drawings, and stories.’ (Tedlock 2000, p.468)

This multi-contextual approach using ‘separate vocal registers’ presents various views on the same field observed, ‘by contrast to masculine ethnographic and autobiographical narratives’, which are ‘unidirectional’ and ‘have harmony and orderliness’. This female approach allows one to circumnavigate various aspects of an issue to bring to light a core of human experience.

Syncretism as multi-perspectivalist circumnavigation

The female ‘vocal registers’ might be organised or derived in the same way as the several voices of the prophet Bil’am (R. Abbott 2006b), and as the changes in vocabulary found in certain archaic texts such as the *Shu Ching*. The two approaches, the Western ‘female style’ for human, experiential purposes [a Right-style], and the Chinese style of antiquity for analytical, explanatory purposes [a Left-style], both do the same thing: they circumnavigate various perspectives. This ‘looking at all aspects’ can be construed as general (explanation and interpreted general ideas), or specific (experiences in various spheres of existence). The archaic texts do that at a lower order of differentiation or specification, and this translates into more global descriptions (eg not differentiating personal behaviour from bodily patterns of activity, or scientific health from human sanity, or the individual from the collective). They seem to deal with general world-models of the ‘physical world of humans’ that have specific applications in various aspects of living. I explored this style of writing by practicing it (a paper studying views on water throughout world history and from different viewpoints). I did this partly to test its suitability for communicating my generalist review of perspectives,

and partly to explore the idea of water as an undifferentiated ‘global notion’ (see below) that can be explored through any perspective of the entire possible range (one of only two notions allowing this, the other being ‘gravity’).

All the above ways of interpreting, changing, and shifting meaning are not so surprising: we operate such shifts constantly when we ‘colour’ what someone else says, rephrase a story heard from someone else, or reformulate according to an abstract framework of understanding. Doctors do this systematically with a patient’s ‘illness talk’, for the professional purpose of naming medical elements such as symptoms and diseases. Sometimes, in the process, the meaning is distorted or even completely inverted. This can be the result of introducing a causal link, an inside-outside relation, or a physicalist or mentalist interpretation into an account that does not differentiate these aspects. For example, a stressed-sensitive-allergic ‘state’ can be shifted to ‘stressors and reactions’; a ‘general sense of ‘strain’, ‘damage’, and ‘feeling not well’, ‘something wrong with the patient’. It can be shifted into a psycho-behavioural ‘maladaptation’ or a physical failure of the brain’s central control. Furth (1999) notes this problem of specification in the clinical encounter communication:

‘Cheng’s stories [physician practicing in the 1610’s and 1620’s]... exposed a gulf between one expert’s readings... and sufferers experiencing these in terms of a [learned] phenomenology... or sensations. [...] Illness, as experienced and described by the sufferer in the language of symptoms, had to be renamed – converted through pattern analysis into “disease”, a medical diagnosis that unlocked the key to a therapeutic strategy.’ [Note ¹⁴ by Furth:] ‘Here I am applying the medical anthropologist’s distinction between “illness” as a subjective-experiential perspective and “disease” as an expert’s explanatory model of a disorder. See Good 1994: 53.’ (Furth 1999 pp.238-239)

‘She [Tan Yunxian, a female physician] addressed symptoms directly, and her explanations of etiology avoided pattern diagnosis. [...] In prescribing she followed no school but selected eclectically from both Song and Ming models. [...] Cheng’s cases show male learned medicine as focused on crisis management and on internal medicine, especially epidemic disease and acute fevers.’ (op. cit. p.296) (‘internal medicine’ specialises in diseases, as opposed to the GP who treats persons in their life).

Patterns of activity are ruled by the N2-dual and N3-polar (or 3-modal) parameters, which I derived from language, through the study of words and vocabularies for explanation and

experience (see chapters <Many Perspectives> and <Nexial-topologic deployment>). It is fitting to use perspectival analysis to understand ‘illness talk’ and ancient texts as well. Classifying sets of vocabularies found in different sections of text according to a taxonomy of perspectives helps detect logical consistency within each section. It also allows one to discern shifts of perspective between sections, and so to find a logic in syncretic texts. The shifts appear through the vocabulary rather than being named as a philosophy or theory or separate aspects of experience (the word represents a generalisation). Thus, one can also distinguish the biases introduced by later compilers, from those added by commentators, those of translators (and of interpretive exegesis, but I did not study these). I worked on the texts directly with this method, in parallel to taking into account the scholarly dating of texts because chronology is a sequential projection, one more way of mapping.

In archaic texts such as the *Shu Ching*, and the (historically) oldest texts of the biblical Old Testament, this unrecognised form of syncretism is habitually interpreted as prophetic or kingly views on the history of the world (*Shu Ching* is translated as ‘Book of History’). Already in the past they were thus interpreted and reformulated. This prompted most modern interpreters to consider them, most conventionally, as mythologised interpretations of ‘real’ history (temporal, sequential developments of humans, validated by physical archaeology), or as religious prophecy (temporally projected to the future, predictions). This does not clarify why such texts are nearly always anthropomorphised, psychologised, or spiritualised – ‘the world’ is that of ‘humans’ –. More recently, ecological interpretations have been proposed (related to climate change), based on a material (eg economic) and physically external view. Yet interpretation by using a grid of convention related to the physical body is extremely rare, relates only to named diseases, and never, as far as I know, to internal sensations and health changes. Such a physical interpretation was intuitive in me because the words used in some texts correspond to some of my experimental observations. Moreover, I was not yet aware of the accepted approaches to interpretation and exegesis. The resulting physical meaning is surprisingly useful for the study of the syndromes of instability.

Confusion about the Elements and 'correspondences'

These habitual interpretations leave unexplained the difficulty or 'obscure' vocabulary and of the expression in some of the texts that even specialised scholars find 'difficult to understand', as well as the confusion among all the models of medicine. This is not a new problem: Hippocrates himself had to contend with the latter:

'As for the doctors, some of them claim that man consists of blood, others that the consists of bile, while other claim that he consists of phlegm.' (Mattock, & Lyons 1968 p.2) [...] For they say of the thing which they each call by a (different) name that it is one and that it necessarily changes its form and its power as a result of what is hot and what is cold, and that it also becomes sweet, sour, white, black and whatever else is like that.... In fact, though, we now find in the body many things which act as causes of disease when they heat, chill, dry or moisten one another unnaturally and, as a result, there must be many types of pain and many methods of treatment.' (op.cit.p.3)

'It must inevitably be that the generation of what comes into being does not come from what is single.' (Mattock, & Lyons 1968 p.4)

'Hippocrates' Book On the Nature of Man – He said: In discussions on the nature of man there are those who [...] All of them make use of one and the same notion without making the same claim; but the proof that they advance for their notion is, in fact the same. Their assertion is that what exists is a single thing, which is "the one" and "the whole", but they disagree with one another about the names (to be used). For, according to some of them, this thing that is "the one" and "the whole" is air, while others claim it to be fire, others water and others earth. [...] their claims differ while their notion is the same... My own view of these people is that they confuse their own theories by the words they use because of their ignorance, and they approve the doctrine of Melissus.' (Mattock, & Lyons 1968 pp.1-2)

Many modern alternative views of health make claims about 'the origin of all disease', placing the problem in lifestyles and food, or in impaired internal functions. The first advocate healing practices inspired by tradition. The second use the medical views from antiquity. These *physical* explanations, external or internal, (there are also the mental ones, not our focus here) all appeal, at some stage, to descriptions according to 'the Elements'. For example, the solution or cause is in breathing (Air) (eg from exercise), in thyroid, temperature and digestion (Fire), in posture and nutrition (Earth), or in fluids such as blood and drinking water (Water). Understanding these explanations requires one to understand

‘correspondences’ between them and items such as body types, seasons, plant types, colours, smells, tastes, (ignoring here the psycho-spiritual aspects: planets of astrology, musical notes, numerology, stones and crystals, animals, etc.). The diversity of models and associations is overwhelming, as in other areas of knowledge. Most people, it seems just choose a particular system of correspondence and learn its interpretations according to a particular tradition and school (a perspective). A more wholistic approach is to collate the specific correspondences, meanings, and interpretations into an integral meta-map of ‘The Elements’ across cultures. I tried this, but there can be 3 Elements (Earth, Water, Wind or Fire), 4 (Earth, Air, Fire, Water), or 5 (with a mysterious ‘fifth Element’ or ‘centre of the world’ or, Wood, in China – see *Suwen* in Ni, Maoshing, 1995 p.16), or even more. The countless ways to organise correspondence details do not match (recall the experiment <B2\ 3-stars experiment>), and the interpretations are inconsistent, and even sometimes contradictory. White can be yellow in a system that does not have the colour white; and another system that has both colours may associate white and yellow correspondences that are different or opposite from those of other systems. To the question, ‘why 3, 4 or 5 Elements?’, I only found answers that sent me back to tradition and to the framework of ‘The Earth’. Each general model can be represented as a square or a circle, and the explanations, as in linguistics, are most often psychologised, mentalised, or spiritualised (eg the ‘medicine wheel’ of traditional education, which is still taught: Livingstone 2005, National Adult Literacy Database and *e-Learning Design*).

The Elements are also associated with the 4 directions or cardinal points of ‘The Earth’, East, West, South, North (and intermediaries in the Chinese system). This causes some organisational problems and many questions. How is ‘the body’ related to ‘The Earth’? What do these ‘directions’ mean for the body? ‘The Earth’ always has 4 directions (or 8, with intermediaries). Why is there preferentially 4 directions, not 3, 5, or 6? (The number of Elements has no such preference). How do 4 directions of the space of ‘The Earth’ relate to the 6 directions of the senses, up, down, left, right, front, back? (See <PPT3 Geometry of perspectives>.)

Tracing the origin of the 4 directions: East, West, South, North

The diversity of the Elements and correspondences makes them good candidates for perspectival analysis of the associated words. The universally preferred number of directions of 'The Earth' (4) could not. It is these questions on the numbers of dimensions, directions, and Elements, that forced a study of 'models by the Number' (see <Many Perspectives> and more detail below). The usual explanation for the '4 directions' is that 4 directions is how our body relates to the planetary geography (right-left, front-back, up-down)... but one needs an existing physical world, a globe surface, to define both body and land geography. This superficial technical explanation is circular, in the same way as Human-based explanations involving a self and creation are. How did we invent the 4 directions? I turned to the most ancient texts, the archaic myths that explain how 'the world' came to be, and the later texts that discuss them, to trace the origin of the directions.

Beyond the wholistic, anthropomorphic explanations of modern thought, or of antiquity, before about 500BC, the descriptions of the directions become partial, containing only 2 or at best 3 of the directions (South is often missing). Often, even the term 'The Earth' disappears, replaced by the creation of 'the world' (later interpreted as 'Nature'), and the apparition of 'Humans' or the occurrence of 'Life' (both of which are later interpreted as 'temporal existence' or 'when Time began'). The notion of correspondence disappears as well, replaced by certain properties, and methods (see below, the 'conveyances' in the quotation from the *Shu Shing* [Waltham 1971 p.31]), which the archaic texts already present in sequence, as a history. It soon became clear that 'The Earth' is a super-framework, a meta-model. The origin of this framework considered as a reality is often attributed to the writer's own culture (or mind, these days), or located in his country or its capital city. Viewed as a perspectively integrative framework, each 'direction' becomes a sub-model, a perspective that takes on a theory-name: 'the East', 'the West', 'the South', and 'the North'. These sub-models can be viewed sequentially as 'previous' models, developed in previous history. Each is preferentially related to women (East and South) or men (West and North), and has a focus more on body and health (female), or behaviour and sanity (male) – this is consistent

with modern interpretations and habits. Historically, they can therefore be construed to arise in women or men, or in matriarchal and patriarchal cultures. This is the source of a controversy in archaeology, concerning Neolithic cultures construed as governed by a ‘Mother Goddess’ religion. For example:

‘The record of contributions of women to Chinese civilization goes back... to the legend of a certain female tribal leader of high antiquity who is said to have “patched the sky with five-coloured stones” at some remote time when the pristine completeness of human life and harmony with nature had been lost. [...] The use of traditional keys to Chinese symbolism, according to which the sky stands for the mind and the number five stands for the center, suggests that the origin of the doctrine of the “five forces” or “five elements”... is mythically associated with a prehistoric shamaness.’ (Cleary 2000 p.380)

It seems reasonable to infer that these frameworks developed over a long period before archaic history. There seems to be no logical or structural reason to consider that one precedes the other, historically, except our current biases may favour one over the other. They could be construed as arising concurrently in social groups, but each ascribing different properties as ‘fundamental’ to ‘reality’ and to either males or females. Cultural location and shifts can account for one or the other realm becoming more dominant in society at different period or in different places. Such a double-arising (covariant) is consistent with certain archeological hypotheses related to the symbols of snake and antlers (assimilated to horns):

‘John O’Shea.. and Marck Zvelebil... claimed that the society [of the Oleneostrovski Moginik people] had been divided into two lineages, one marked by the use of elk effigies and the other by those of snakes.’ (Mithen 2003 p.170)

(These symbols seem respectively associated with East and West frameworks – see section ‘Wind as topologic notion’, below.) ‘The Earth’, then, appears as a collective, cross-cultural paradigm that integrates genders in various ways. It flourishes in texts from the time of the appearance of reason and logic (around 5-600BC) in both Western and Eastern cultures (Greece, China, and India). Each of the 4 sub-models (East, West, South, North) is a ‘previous’ model (less developed or deployed) to that of ‘The Earth’. Each is a practical paradigm and a perspectival world-model in itself. It has its own biased developmental story for the appearance of ‘Humans’ (the name is language bound) and of ‘the world’ (with

various names for it, now 'reality', 'spacetime' and 'nature'). The name 'The Earth', on the other hand, seems to always be the same, in any culture of the archaic period. The corresponding perspective is a wholistic or integrative 'FlatLand' (flows) and correlates with human experiences that did not occur in the earlier stories. The Bible mentions several times 'falling on his face' and in 'deep sleep' (a 'mystic brain' triggered experience), and a Chinese text does.² This suggests that the new model of 'The Earth' spreading (or the more primitive form of a 5-point flow to 'patch' a 'sky' surface) is symptomatic of a global increase in criticality of daily living. This increase, the experiential symptoms, and the ideas of flow, arise recurrently in long periods in human development. (There could be several thousand years between the Chinese shamaness and the later 5 Elements.)

As far as I could gather from the most ancient myths, the female 'wisdom' is derived from 'Naming', a cognitive capacity ascribed to women in the ancient texts, and not described in modern psychology, but related to alliteration (see some of mine in <EE9\ Alliteration>). It is also related to dancing and movement, which are involved in inventive craft and ceremony, but also in healing (see <Endnote C8\ Spontaneous yoga>). The ancients ascribed male 'knowledge' to 'Number', measure, sound and song, which are related to pattern, and are involved in creative imagination and improvement (material, personal, and cure). All these develop culturally into patterns of ritual and practices, and collective notions of fixing or improving human behaviour and condition.

One way to construe the 'origin' of 'the world' is encapsulated in the Western (male) spiritual notion of 'the Word', equivalent to the Indian notion of 'seed sound' (as used in *mantras* for example). Scanning, as a whole, the cultural history and records of health-sanity since late prehistory necessarily involves understanding overt cosmologies and world-models implied in human practices and technologies, which change with epochs. The notions of 'the world, 'the earth', 'the universe' or 'nature' seem to be always *directly* related to definitions of ourselves (eg 'human', 'man', 'intelligent', 'not animal'). Their characteristics are similar

² I recognise this as a more critical form of the CFIDS related bodily 'shut-down' that brings on suddenly an imperious and irresistible need to lay down and sleep, wherever one is.

in any epoch and suggest that the framework of ‘The Earth’ is also a recurrent development, periodically reformulated (for example, currently, ‘globalisation’ is related to trade between humans over the entire ‘face of the Earth’). Mostly, in the health systems, the ‘physical body’ is treated through the meta-model of ‘The Earth’ (even now), with its rationalisations about ‘not-human’ behaviours. The actual sensations are approached through similarities, analogies and metaphors (which are also correspondences) rather than as a ‘likeness in shaping’, which is the approach proposed in this work.

‘Obscure’ vocabularies

This perspectival understanding of the many medical theories and models of the body and its behaviour still do not give clear meaning to the ‘obscure’ vocabulary used in some of the oldest archaic texts, in the ‘dark sayings’ that puzzled ‘antiquity’ writers. This too, Hippocrates had to tackle, and his own work contains such obscurity, which may have been interpreted in the process of reporting his views (notice the ‘Hippocrates said’, and the reformulation in the following quotation):

‘Both works [Book on Humours & Book on Nutriment] are among the most obscure and difficult of the Hippocratic corpus. (Mattock, 1971 p.ii) [...] The English translations of the two works presented here will... frequently appear nonsensical. It seemed better, however, faithfully to represent the Arabic... than to attempt to produce a more comprehensible and less literal paraphrase.’ (op.cit. p.vi)

‘The first chapter of Hippocrates’ Book on the Humours – Hippocrates said: The colour that the humours have, when there is no state of ebb of the humours, is like the colours of the flowers. They must be sent in whichever of the suitable directions in which they tend, except for those of them that are not concocted. Concoction takes place only in the course of a period. [...] That which occurs spontaneously from above and from below, and that which is beneficial of this and that which is harmful. You must investigate the generic type, the country, the habit, the age, the time of year, [...] Deviation, cessation of the flow to the head, to the sides, where the thing especially tends. Drawing in the opposite direction what goes upwards and downwards; or drying these things; or with [1.scribal error] that with which washing is done, from below and from above; or that with which soothing is effected. Do not imprison inside, ..., what runs from the seat, from whatever thing it flows, ... from some humour that has coalesced, ..., from wind, ..., from inflammation or from some other cause.

‘You must look at and investigate these things: what ceases spontaneously, what things are harmful or beneficial after what things, shapes, movement, rising and settling down afterwards, sleep and waking or getting up. What things must be done or prevented. Winds, ..., an easy life, body, intellect, learning, memory, voice, silence. [...] what flows from the sides, when you investigate the ease or difficulty of bearing it before the onset of danger. What does not proceed as it should must be prevented.

‘Concoction, the flowing of what tends downwards, the ascent of what tends upwards; that which comes from the womb; [...] it must be changed to the opposite.

That which is evacuated by excretion, where it tends; foamy, concocted or cold, crude, mixed with winds, diffusing an evil odour. Thirst that was not there before, no burning or any other ailment, urine, moisture of the nose.’ (Mattock 1971 pp.1-6)

‘The second chapter of the Book of Humours of Hippocrates. Falling down [1.the sense of this word is uncertain], emaciation, swelling, fresh breath, hypochondrium, extremities, injured eye, change of skin, ..., ease and difficulty of bearing; smells of flesh, mouth, ear, excrement, lower wind, urine, sores, sweat, sputum, nose; salt flesh or sputum or nose or tears or another humour. That which is beneficial and that which is harmful are similar in everything.’ (p.8). (Mattock 1971 p.8)

‘Number ’ analysis: 2, 3, & 6, and systemic thinking

To understand ‘whence from’ come all the frameworks used in medicine (and other fields) and their relevance to non-sensory sensation deemed ‘internal’, and to the syndromes studied, I analysed more particularly the three ‘Numbers’ 2, 3, and 6, which are directly implicated in sensory-based, perspectival description.

The dual and modal (or polarising) parameters (see <Many perspectives>) are not new, although I could find no academic works using them both, *together* for meta-analysis. The most complex or inclusive perspectival style of typology related to Number is found in ancient literature, and is based on combinations of the numbers 2 (dual, binary, or nodal) and 3 (polar, ternary, or modal). This is used to describe the fundamentals of reality. Combinations produce up to 6 nodes integrated into ‘M6’ models that are meta-‘maps’ (the imagery of the models is flat). The most obvious example of an ‘M6 model’ is found in the *I Ching* trigram: a set of 3 lines (ternary), broken or unbroken (binary). Each of the trigrams is associated with a meta-correspondence (a correspondence to a correspondence of the directions in the Earth model – See endnote <C14\ Study of Trigrams and Elements>: The 4

of directions in the Earth model is here doubled by *mathematical* combination of 2 and 3, producing 8 trigrams that can be matched to sets of correspondences through a complex reasoning). Such M6 maps may describe 6 different forms, perspectives, types, stages, or styles, on an equal par (eg the 6 lines or ‘positions’ of change in the trigram). Sometimes there is a clear desire similar to the post-modern aim of modelling great diversity and to offset the devaluation of some styles or stages to the benefit of others. Sometimes there seems to be an aim of integrating both the ‘advanced’ and the ‘primitive’ together with a diversity of other intermediary ‘forms’, into an integrated whole, or to simplify. Such a whole is often viewed as still having a beginning and end, but where these are placed in the model depend on perspectival bias (eg individual type, or general conditions as in the *I Ching*). Sometimes, the ‘6’ appears to be a later addition. The following example is a modern rendering of a myth probably derived from oral tradition. It includes a vocabulary that is not so ancient (eg ‘small’, ‘bottom’):

'We will have to have land.' Then he called k'uik'ui, a small duck. He said to it: 'Dive down and bring up earth.' The duck dived, but did not reach the bottom. It died. The eagle called another kind of duck. He told it to dive. This duck went far down. It finally reached the bottom. Just as it touched the mud there it died. Then it came up again. Then the eagle and the other six....' (Myth from the Yauelmani Yokuts in Eliade 1996 – full text in <Appendix F1>)

Frameworks including the 6 (symbolised here as ‘M6’ models) appear to be of more recent vintage than those not involving 6. They are ‘advanced’ models that allow complex structuring or functionalising, integration or unification, and conventional logical reasoning. M6 models do not seem present in texts written before about 500-650 BC. Frameworks based on *only* 2 and 3 (without 6), are more widespread in the oldest archaic records of then current thinking, and in texts related to what was already ‘ancient’ in archaic times:

‘1. In ancient times the holy sages made the Book of Changes thus: [...] To Heaven they assigned the number three and to earth the number two [...] By thinking through the order of the outer world to the end, and by exploring the law of their nature to the deepest core, they arrived at an understanding of fate.’ (*I Ching*, *Shuo Kua*, Wilhelm 1989 p.262)

The geometric source of my notation ‘N2d-‘ and ‘N3p-‘ (see <Many perspectives>), compared to the graphism of the *I Ching*, can help to understand the value of imaging in such models. The ‘2’ that I modelled with 2 dots and a line (geometric orientation) can also be represented as a line that is broken or not (a logic viewpoint of the *I Ching*). The ‘3’ that I modelled with 3 dots and a circle (geometric circular motion), can be represented as 3 lines ‘read’ in sequence to denote stages (*I Ching*: the 3 lines represent ‘Moving’). These are abstract representations (eg point, line, arrow, or line and sequence), more sophisticated than the animated imaging of nexial-topology. The latter is immediate, although it can be translated into geometry. Such abstraction also produced, in ancient times, a kind of thinking that may be recognised as ‘systemic’ thinking, as did Lin (2000) in the *Tao Te Ching*:

‘Related to the concept of layers of systems, if one ignores the parts of [sic] members of the systems, then the structure of relations can be seen as stratifiable. This idea is contained in chapter 62: "When the great Way was forsaken, there was humaneness and righteousness; when cunning and wit appeared, there was great falsity; when the six family relationship[s] lacked harmony, there were filial piety and parental kindness; when the state and royal house were in disarray, there were upright ministers." ’ (Lin 2000)

Despite their inclusiveness, the M2 (a duality or parity), M3 (a modal trinity), and M6 models bring many deeply confusing questions (see <Extract F9\ Deep confusing questions>), and much explanatory difficulty of phenomena deemed ‘low’. The origin of these questions lies in the translation of the simpler type of model, the M4 maps, which do not include both origin or end, into the complex models that do, and in the translation of nexial-topologic imaging into the Sc-naturalistic and H-realistic terms of perspectival models.

In texts from antiquity, relating to health, the Western mainstream M4 framework is that of 4 Elements and corresponding qualities (eg hot-cold-wet-dry). In China, the equivalent framework is an M5 model (5 Elements and 5 stages of change). These usually describe how to ‘establish’ or ‘stabilise’, but have no model for instability (see <Extract F4\ Syndromes of instability> and <Health and illness>), of which they offer either a negative evaluation for normal living (‘unstable’ person), or a positive one for spiritual living (strong ‘spirit’). Both are attributed to a random nature of instability (chance, fate, or destiny). The M4 and M5

maps, and M6 ‘complete models’ (or models of ‘perfection’), produce ideas such as the ‘Fall’ from Heaven, ‘The Pit’, the ‘Below’, and the ‘curse’ by the gods, all related to instability. These include, in archaic texts, the problems of the spreading of disease, increase of damage to children, ageing degeneration, and increase in needs and pain/suffering, despite more food and material safety. Also included is the ‘normal’ female health damage from pregnancy. Most of these are considered inevitable aspects of ‘being human’, and often ignored in modern medicines. To tackle these universal problems and evaluations, another approach to the universal model of ‘The Earth’ is needed – that of ‘global’ images.

Vocabulary: imaginal words of The Earth

The ancient but sophisticated M4, M5, and M6 models are confusing if understanding is mediated only by words, because of linguistic shifts in meaning and lack of match in correspondences. Yet, the words they use also have an imaginal value. The symbols refer to characteristics that do correspond and belong to the same basis, that of ‘The Earth’ –, whether it be projected into flat, spherical or hyperbolic geometry, a ‘Land’ that is bent or not. These can be treated as ‘generic’ maps, as H-‘meta-model’, or could be called Sc-‘theoretic’ in the same way as in the following:

‘The quantum Turing machine and the quantum cellular automata models are equivalent to the [common quantum] circuit model and, therefore, face the same difficulties. These models, inspired by the philosophically extravagant many worlds interpretation of quantum mechanics, assign specific information to the qubits, postulating gates that implement the unitary transformation representing the solution to the computational problem. The quantum circuit model converts the physical problem to a circuit theoretic form but it does not map all the physical constraints required by the laws of quantum mechanics. ‘ (Kak 2006 p.2)

The symbols still found in secret, sacred, hidden, spiritual, and arcane traditions are part of a common core of culture (see <Endnote C6\ Core culture>). They are nowadays considered to be (in the human domain) realistic metaphors and (in the scientific domain) naturalistic analogies (eg ‘copied from nature’, said already the *I Ching*), but there is more to them than this. This language leads to developing the topographies of ‘advanced’ models, geoMetrics of experience, and geoGraphies of explanation, as well as arcane knowledges. This

development of symbolic explanation or description exists also, is still active in modern culture: in our linguistic metaphors and dreams, but also in ‘advanced’ sciences (as in the sciences of complexity, threshold, chaotic emergence, quantum jump) and in theoretical models. The texts of this dominant culture appear to newly create this sort of imaginal language, but strikingly similar images and words exist in medieval texts on Chinese ‘inner alchemy’, and in archaic texts dated around 850BC, particularly biblical prophetic language as well as in the oldest Chinese texts. The ‘apocalyptic language’ is said to have progressively become extinct (by about 100AD) in Western philosophical, medical, religious, and scientific awareness, reappearing only occasionally in medieval religious visions. The archaic language became, in both East and West, the exclusive ‘secret’ language of the core of spiritual traditions, whose teachings are traced to those archaic times through teacher lineage. This type of vocabulary is rare and much altered semantically in texts from after about 500BC. The vocabulary that is most similar to modern science is found in the oldest records of prehistoric myths of the old oral tradition. The words used have an uncanny characteristic of evoking exactly the same imagery in the mind as those found in contemporary papers in the journal *Nature*. Most notably, those reporting findings related to topology-based modelling, use words such as the branes, braids, strings and bending of the fabric of space-time in physics, the twists of DNA, and projections of embryology, etc., which are very similar to the old words. The following example combines topographic words (blanket, land, bent, shield) with words characteristic of ‘complete’ models derived in later antiquity (beauty, form, gather, return, above and below – for primary and secondary –, unroll – for unfold–, six). Thus, it expresses at least two orders of nexial-topologic deployment:

‘Many strange thoughts are forming in my mind, beautiful forms of birds to float in the Above...’, Tawa intoned. One by one Spider Woman [magic of Below] shaped his Thoughts and made them take form. They laid a white woven woollen blanket over them, and made a mighty incantation over it, and soon the figures stirred and breathed. Spider Woman gathered ...while Tawa bent his glowing eyes onto them. And now I shall turn my blazing shield upon the Endless Waters, so that the Dry Land may appear. And this day will be the first day upon Earth. And there shall be no new things made by us. Those

things we have made shall multiply. I will make a journey across the Above each day ... and return each night, said Tawa. Now I shall lead all these created beings to the land that you cause to appear above the waters, said Spider Woman. As time unrolled there followed [the] Ancient of Six.’ (summarised from an Indian Hopi creation myth, in Leeming 1992)

Such stories tend to be interpreted in terms of general development of the world, a time sequence, or of spirit activation. Nexial-topology gives them a different meaning, more global (undifferentiated) and less localised (non-local’).

Nexial-topologic vocabulary (<Appendix A\ table 9>): textile, texture

Such stories and texts led me to collecting vocabulary, to imaging the ideas that are usually considered metaphorical or analogical into graphic drawings, to find some kind of order... only to find that Newton had done a similar study. Table 9 (<Appendix A\ Nexial-topologic vocabulary>) is a short selection drawn from some 28 pages of classified words, introduced by a discussion of the vocabulary. The words were found in over 20 translated ancient Chinese works, including two versions of the I Ching, several works on Chinese inner alchemy, some books of mythology, four different Bibles. Some came from my many small etymology studies. The sampling of vocabulary is aimed at demonstrating the possible topologic turn of mind behind many ancient frameworks and myths of the ‘emergence of man’ and ‘creation of the world’, and at the source of the distinctions of ‘human’, ‘life’ and ‘natural’. Such stories are mostly ruled by thresholds and quantic appearance or occurrence, and contain much topographic vocabulary that can be derived from them. I also collected, but less formally, vocabulary that relates to modern ideas of networks, webs, ‘fabric of space’, building-up, transport, interaction or feedback, etc. These ideas (and practices) are derived from an overarching topologic notion of ‘texture’, a word still used in Chinese acupuncture, and of ‘textile’, which can be traced through etymology. For example:

‘The term *jie*³ recalls the idea that the *qi* is comparable to a twisted thread, forming in the body a real net of vertical and horizontal threads. This is why it is said that the *qi*... can

³ [‘Le terme *jie* renvoie à l’idée selon laquelle le *qi* est comparable à un fil torsadé, formant dans le corps un véritable filet de fils verticaux et horizontaux. C’est pourquoi l’on dit que le *qi*... peut se nouer (*jie*), en général sous l’effet d’une lutte entre deux éléments. *Yunjie* caractérise le processus de formation du pus.’ (Despeux & Obringer 1997 p.100)]

turn into knots, generally as the effect of a battle between two elements. *Yunjie* characterises the process of formation of pus.’ (Despeux & Obringer 1997 p.100 – my translation, French text in footnote).

‘The term *ching* is of textile origin, and signifies the warp threads of a web and their adjustment. An easy application of it is to denote what is regular and insures regularity.... The term *shu* simply means writings or books: the pencil speaking.’ (*Shu Shing*, Waltham 1971 p 249)

‘The classic problem of the sanjiao’ meridian’ (Zito & Barlow p.86 – see <F13\ San Jiao & inversion>) is linked to notions of unfolding, penetration and dispersion, skin and texture, surfaces and openings, etc. (Zito & Barlow pp.103-130).

The texture-textile notion is also present in the archaeological record from prehistory. An exhaustive and unconventional source I found on this is by Rudgley (1999).

Testing a nexial-topologic interpretation: ‘swelling’

Another sector of vocabulary that is more directly relevant to my study of chronic illness is concerned with inflammation and ‘swelling’. Re-using a previous example, in the following passage, I recognised descriptions of bodily sensations: up, down, (in-)’dying’, ‘coming up again’, water, swell, spread:

‘Dive down and bring up earth.’ The duck dived, but did not reach the bottom. It died. The eagle called another kind of duck. He told it to dive. This duck went far down. It finally reached the bottom, just as it touched the mud there it died. Then it came up again. [...] Then he set it in the water and it swelled and spread everywhere, going out from the middle.’ (Myth from the Yauelmani Yokuts in Eliade 1996 – full text in <Appendix F1>)

From a philosophical-theoretical viewpoint, such stories can be interpreted as topologic deployments, usually interpreted as general modelling of ‘the world’ as humans see it (‘the physical world of humans’). The modalities, quantic jumps of spirit-activation, and projective appearance of Man, Nature, and Life, as interpreted classically (modern way), represent a modelling of the *development* of self, mind, psyche, and spirituality. I used this to test a topologic interpretation of the developmental and time-historical sequences. One passage makes the topologic nature of the thinking particularly visible:

‘It shelters the heavens and supports the earth,’
Extends beyond the four points of the compass,

And opens up the eight points of the compass [...]
 Flowing from its source it becomes a gushing spring,
 What was empty slowly becomes full;
 First turbid and then surging forward,
 What was murky slowly becomes clear.
 Hence, stand it up vertically, and it stuffs up the heavens and the earth;
 Lay it horizontally on its side, and it fills the four seas.
 Dealing it out it becomes endless, yet is without morning or evening.
 Unroll it, and it blankets the six directions;
 Roll it up, and it is less than a handful.
 Compact, it can stretch out;
 Dark, it can be bright. [...]

It is the thinnest of gruels, the finest and most subtle texture. (p.61)

By virtue of it, mountains are high;
 By virtue of it, abysses are deep;
 By virtue of it, animals run;
 By virtue of it, birds fly;
 By virtue of it, the phoenix soars. (p.63) [...]

Thus, with the heavens as his canopy, there is nothing that is unsheltered;
 With the earth as his boxframe, there is nothing that has no conveyance; (p.71) [...]
 He knows the lay and the boundaries of the various divisions and quadrants of the
 cosmos. [...]

Hence, there is nothing you can do about the world.

You can only follow what is natural in pushing the myriad things ahead. [...]

The likeness of the sound and shape is attained without fuss.' (p.73)

Observe what is being accumulated, and you will know which direction it is heading for:
 fortune or calamity. (p.97)

[Water] is without private likes (p.103) [...]

Following the water gauge and adhering to the plumb line,

He does in every way what is fitting to the circumstances. (p.111)

'Vaguely they feel as if something is missing

Or as if pining after something lost. [...] (p.119)

If we seek for the cause behind this, we cannot get a hold of it,

Yet this is doing injury daily to one's vitality. (p.121) (*Yuan Dao*, in Lau & Ames 1998)

If this modelling represents *globally* the reality that humans experience, including the 'physical world', then it must also be able to represent the specifics of the body-brain and health – the 'history of the body'; it is the symmetry human \square scientific that leads to opposed

directions. This is exactly what I intuitively read in all these texts: reference to bodily sensations, signs and signals. This was the case because I lack any education in exegesis and was not aware of the accepted cosmological implications, which I discovered later but did not explore in depth. To me, these stories tell of the degeneration of human health, sanity, behaviour, even of the sense of safety, and of sensations in the body. This is perfectly consistent with my theoretical framework: these stories are a ‘negative development’ that translates in conventional perspectival terms, into negative value of degeneration (my reading); it is combined with a ‘historical’ sequence of cultural and mental generation and positive development (others’ reading) – that is, they rePresent a topologic ‘deployment’. I interpreted this in terms of the physicality of body and environment because this was my current concern. The ‘deployment’ appears positive for the mind, psyche, creativity, civilisation, culture – a generative development –, but it appears negative for the body and ‘humane’ behaviour – a degeneration of health, sanity, and physical environment. In the following extract, a number of words recall nexial-topologic imaging, and the vertical axis of brain-mind activation:

‘Before the World was, we were all within the Earth... Mother Corn caused movement. She gave life.... we moved towards the surface. The being is become human! ... Mother Corn commands that the people ascend to the surface... Mother Corn has gathered them together, they move half way to the surface... They have emerged to the waist.... Mother Corn leads them from the East towards the West. Mother Corn leads them to the place of their habitation... All is completed All is perfect!’ (*Mother Corn* in Eliade, Mircea, 1996 – full text in <Appendix F2>)

In myths, what is, topologically a ‘creation of the World’ corresponds to what is, from an objective viewpoint, new appearance of ‘Nature’ or the ‘physical world’, and corresponds to what is, from a subjective viewpoint, new ‘existence’ of the ‘Human’, or occurrence of ‘Life’. Brain activation gives the ‘life’ of the head and the capacity to ‘SurVive’ physically (thanks to the ‘drive’). It makes us creative problem solvers and goal seekers out of us, inventive, intelligent, ‘human’ – it gives us specific-general thinking ability. A first-stage activation also partially protects the body from disease by enlisting brain central control of the body (see <Extract F6\ Brain central control>) and its compensatory capacity, but does

not prevent low-grade ‘damage’. In my empirical observations, brain activation, also triggers immune system-related signs and signals such as a violent sneezing, a histamine flush, localising eruptions, and various kinds of secretions. The latter is consistent with the widespread mention of mud, wet, or floods in many primitive myths of the ‘Creation of the world’, and the culture-independent warning about a ‘dying’ that correlates with activation, violent or sustained. (Low-grade damage feels like ‘in-dying’ – see <EEs>.) These factors only find metaphorical explanations, in modern or ancient exegesis, remote from actual human experience, or physical rationalisations related to climate change, external to the body. My study of all perspectives on water showed that these approaches ignore what is called ‘internal’ to the ‘body’ in modern parlance, particularly related to flows and circulations of water, fluids and secretions, (see <PPT1 Body>). This is unlike factors of dry and hot, wind and burning, which are known to have direct correlation with illness and disease (eg ancient notion of ‘wind disease’). Sensations are also used as indicators in healing systems, especially those evaluated and named pains (see for example Kundalini in <C6\ Core culture>, <EE17>, <EE16>, <Extract F11\ Red> and EE15>) [but not the un-evaluated ones, for example related to gravity or ‘shrinking’]. A nexial-topologic interpretation of the pre-archaic stories could shed light, in particular, on the association of water and secretions with the San Jiao meridian, and its connection to immune system ‘defence’ or lower-grade activation.

Among the stories and archaic philosophies I reviewed, the oldest are the closest to a nexial-topologic vocabulary and have meaning that is more global (less differentiated, non-local). Their formulations are closest to what can be interpreted as topologic ‘small deformation’ or distortion, and approaching limits. Later texts (later than about 650BC) tend to be fully conventionalised, perspectival and biased, either topographic or nexialist, and without topologic modelling. They require the oversimplified-complexified notions based on a general-specific, or systemic conventions of framing (eg self-world or nation-others). They use dual-polar notions (eg unity or union, harmonics or harmony), or ‘generic’ notions of

type or category that are generalisations from ‘encultured’ experience (especially the established-stability called ‘peace’, and being morally ‘well-behaved’ or ‘upright’).

Analysis of an example: The Yi and the Chi

Earlier texts do not use these frames, vocabularies, and ideas. For example, in the *Shu Ching* (Part II *Documents of Yü*, section *The Yi and Ch’i*. in Waltham 1971 – the text is available on line: Legge 1879), the text is normally interpreted as history and politics because of statements like this one: ‘Think, O Sovereign. It is yours to lead on and originate things.’ (Waltham 1971 p.35) It is considered a dialogue, involving a king who seeks counsel from several interlocutors, which ends, according to Waltham, with ‘Shun and Kao Yao sing[ing] to each other on the mutual relation of the sovereign and his ministers’ (op.cit. p.30). Each speaker uses a different vocabulary set, in a progressive shift. This political interpretation appears satisfying, but it leaves one confusing question:

‘This document takes its title from the names of two worthies, Yi, who was [king] Shun’s Forester, [...and] Ch’i [who] was minister of Agriculture. Neither Yi nor Ch’i appear as interlocutors in this section, and it is difficult for us to understand why the document bears their names.’ (op. cit. p.30)

Introductions such as ‘X said’, ‘Y replied’, etc., often added by ancient compilers, compel the interpretation of the text as a dialogue. Without this anthropomorphism, the title can now be read as an abstract title, or a descriptive theoretical title – “the Yi and the Ch’i” – concerning two conceptual stances of explanation, two frameworks. With this approach, the presumed dialogue and counsel to the sovereign now looks more like a series of *different* explanations of the same undifferentiated human situation, according to different developments of perspective. Without the historical, politico-moral background, anthropomorphism has little place. As a whole, then, the text can be interpreted in terms of a deployed history of health, without distinguishing the individual from the collective or body from mind:

‘ “The inundating waters seemed to assail the heavens and in their vast extent embraced the hills and overtopped the great mounds, so that the people were bewildered and overwhelmed.

I mounted my four conveyances and all along the hills hewed down the trees; at the same time, along with Yi, showing the multitudes how to get flesh to eat. I also opened passages for the streams throughout the nine provinces and conducted them to the seas.

I deepened the channels and canals and conducted them to the streams; at the same time, along with Ch'i, sowing grain and showing the multitudes how to procure the food of toil in addition to the flesh meat.

I urged them further to exchange what they had for what they had not, and to dispose of their accumulated stores. In this way all the people got grain to eat and the different states began to come under good rule.” (*Shu Shing*, Waltham 1971 p.31)

Edition author's note on 'conveyances': Legge [author of the original translation] quotes from the *Shih Chi*, Historical Records of Ssu-ma Ch'ien, about these four conveyances.

Yü says:

“To travel along the dry land I used a carriage;

to travel along the water, I used a boat;

to travel through miry places, I used a sledge;

to travel along the hills, I used spikes.”

‘The sledge is thought to have been like a sieve, made to slide easily over marshes;

Spikes were thought to have been shoes fitted with awls underneath to prevent the feet from slipping.’ (*Shu Shing*, Waltham 1971 p.31)

The beginning of this passage fits a staged description of methods to meet needs and ways of coping with flood and overwhelm, including Yi method and Ch'i method, ‘passing’ (a threshold), and ‘pushing’ further. Diverse perspective correlate with different methods. The result is that everyone eats grain and human life is regulated. This result would be a rather fit description of modern normal living, and of dominant medical advice (eg the bread fibre that ‘keeps you regular’). Compare this to the last line of this passage:

‘Louis Pasteur introduced the concept of molecular chirality in 1848, when he observed that crystals of the chemical sodium ammonium tartrate tetrahydrate can form left-handed and right-handed structures. Since then, chirality has been the cornerstone of several scientific advances, from the deduction that carbon atoms possess a tetrahedral arrangement of bonds, to the realisation that terrestrial life-forms have evolved to make use of right-handed sugars and left-handed aminoacids.’ (Raval 2003)

Modern advances and discoveries have the same shape as the ancient ones, and the same conclusions. The beginning of the *Shu Ching* story (start the cycling again) would fit ‘advanced’ manifestations in either human or scientific realm, and the story would be a

‘monitoring of demise’. In particular, it could describe the epidemics of becoming fat and bodily wasting, thanks to a diet of processed carbohydrates and denatured meat, the bewildered overwhelm of those afflicted (who follow cultural enticement on feeding, especially children), and the secretions that go with head colds or other diseases. (The head, tree, and mountain are equivalent to the ‘heavens’ in terms of nexial-topology). These topographic observations suggest a third way of looking at this story. The above have respectively presented “the Yi and the Ch’i” conceptual or theoretical stances of explanation and related perspectival developments, and as practical methods, evaluated by monitoring results. They can also, in a nexial-topologic interpretation, be associated with the vertical *Axis Mundi* and *Primus Movens* (see chapter <Nexial-topologic deployment>), and considered to express them. The “Ch’i”, now often interpreted in term of ‘life spirit’, could be a name for *Primus Movens* or activation. The “Yi” would then be a name for vertical *Axis Mundi* or projection or direction. This particular story does not explain what they mean, or where they come from; therefore such meaning is as valid as any perspectively derived meaning, if the story makes sense. It is in this way that I read the text, obviously differently from the translator’s ways, and that it made sense to me. “Yi” and “Ch’i” are very ancient notions, although these specific names are not.

‘Wind (*Feng*) was the conceptual ancestor of Qi (Ch’i).’ (Zito & Barlow p.34) The ‘imagination of winds’ (op. cit. p.23) is considered a major instrument in the development of concepts of the ‘body’ as a system that has a boundary’ (op. cit. p.131)

The image of ‘wind’ is addressed below. On this nexial-topologic basis, the story is consistent with another one that is closer to modern thinking in medicine. I read it as relating to the role of exercise, brain and mind in health and to the idea of pushing for human performance:

‘When the members work joyfully, The head rises grandly;
 And the duties of all the offices are discharged [...]
 When the head is intelligent, The members are good;
 And all affairs will be happily performed [...]
 When the head is vexatious, The members are idle;
 And all affairs will go to ruin!’ (*Shu Shing*, Waltham 1971 p.35)

We are told that physical work-out sustains the brain, and then the body parts can do their job, that the mind 's attention keeps the body working well and the self performs; and that failure of brain-mind-self control 'causes' fatigue, ill health, and the working capacity and social life are ruined. Yet, using the interpretive basis of practical health and body appears completely absent in modern interpretation of texts such as the *Shu Ching* or the Bible. These song stanzas and other aspects of the story, so physically meaningful to my uneducated reading, and those related to music, seem mysterious to the modern mind:

'And then abruptly, K'uei, Shun's director of Music appears... If the Yo Chi, Book of Music, had not been lost, we could understand a great deal more about this.' (Waltham 1971 p.30)

Song and religious praise, it seems to me, represent a widespread framework, characteristic of the early archaic period (Bible, Indian yoga, China). They correlate with notions of resonance or harmonics (the 'Word of God' in the Old Testament, seed sounds for mantras in India, harmony and 'the idea of resonance' in Chinese antiquity [Le Blanc 1985]). All three cultures seem to have determined that rising and rising again, and topographic channels, canals, tunnels, staffs, rods, spikes, land, building-up, etc, (see table 9) were apt to bring 'harmony' or 'peace', health, and performance 'to all'. This collective determination also seems to be a cultural 'choice' repeated periodically throughout history. Nowadays, we reformulate this in various, perspectival ways: as waiting for the hormones of puberty to kick in and resolve childhood illnesses, as relying on the hypothalamus-thyroid-adrenal axis and brain-central-control, as reactivating the 'healthy sex drive' or 'survival drive' for health (or 'will to live'), as voluntary 'choice' to 'work at' health (lifestyle choices and fitness training, mental choices to not react and to learn about health' (intellectual education, especially about stress), psychological or spiritual self-development or evolution, and as 'self'-stimulation, sometimes even using brain stimulating technology, and often simply using unconsciously addictive food stuffs ('self-medication'). The above and other text passages are consistent with an inversion I observed during my experimentations. Activating the brain (up to head) for intellectual work, using stimulating foods to sustain this activity, triggered immunological effects of damage (down) along the spine (as well as other metabolic, and

cognitive/emotional, effects). The results are not positive developments for health, despite apparent short-term and limited amelioration. In the local-case studied in this research, these effects do not resolve illness, bring ‘good members’, or result in ‘happily performing’. Instead, they promote temporarily extreme high-working and high-focus capacity, that quickly becomes uncontrollable, resulting in pain, low-grade but long-term damage, exhaustion, as well as deleterious ‘nexial resonance’ that has global effects in the ‘lifeworld’ (see <Endnote C9\ Nexial resonance>). It is worth noting that a ‘physikemorphic’ interpretation of this part of the *Shu Ching* that would be limited to *physicalist* health and body, would be too limited a projection, just as the one offered with the text (they are symmetric) The nexial-topologic reading uses the health & body basis, but is not limited to the ‘physical’. It can bring out certain knowledge of consequences (physical, as well as global), contained in such ancient texts, that is currently ignored.

Another ‘physikemorphic’ projection consists in translating the ‘dry land’ image mentioned in this Chinese text into naturalistic analogies (eg climate or geography). This expression and image is widespread in the Bible, as well as many Creation myths. Taking account of its meaning, extended to health and body, as well as nexial-topology, would extend current interpretations. Compare this with the following extract, in which systemic physical ‘damage’, which I formulate as an ‘in-dying’ (see <D3\ Signs of dying>), is reified into a staged ‘process’ of physical ‘death’:

‘After lapsing into unconsciousness, the four gross elements in the body begin to disintegrate, one by one. First, the earth element loses its cohesion as organic matter, resulting in the loss of inner body-consciousness. Then the water element begins to dissipate, causing the mucous membranes to lose moisture and the throat to become dry. When the fire element begins to disintegrate, the body becomes cold, losing its natural warmth. Finally, as the air element dissolves with the final exhalation of breath, the soul leaves the gross body and is carried away in the ethereal body, concluding the death process.’ (Rajarshi, 1993 p.91)

In this passage, the correspondences are consistent with my observations of internal sensations of ‘feeling not well’, and with the conventional explanations I attached to them (eg Element ‘earth’ associated with integrity and physical ‘substance’ in the body). The

stages described correspond to four aspects of a single 'state' I know well, because I spend much of my life that way. I have reproduced many times, during this project, the process of activating brain central control that creates it, and stopping it. I observed many concomitant sensations and symptoms such as swelling (systemic, and all along breathing passages, starting from sphenoid sinuses in the head, and nostrils – see <PPT1 Body>). The characteristic result is low-grade systemic damage (including to the brain) – a loss of 'systemic integrity' (in the 'substance', but also operationality under stress), loss of internal bodily sensation, and a low general mood linked to a sense of 'in-dying' (see <D3\ Sign of 'dying' and 'in-dying'>). Notions of dry and wet (or water, flood, etc), as found in archaic texts, are less differentiated, than the more varied and specific modern meanings of these words. They are global notions, and form the core of the archaic frameworks and of the Elements.

Global notions

Notions such as 'rising', 'swelling', 'dry', 'land', 'sky', 'water', 'weaving', 'mountain', 'pole', 'movement', 'spinning', 'flowing', stone, etc, are often considered abstract (and some as concrete). For instance, water, sky, and the Elements can be construed as generalities (eg water as 'fluid aspect' of 'reality', sky as an 'ultimate', as in heaven or 'the sky is the limit'). Few authors study them. Some, concerned with archaic origins of cultural symbolics, find them in religious traditions and cultural forms (eg Eliade 1954, 1961, 1974, 1978 and Feuerstein 1995). Others detect them in the artefacts of culture themselves (eg Rudgley 1999, in the Stone Age archaeological record), or in language (eg Allen 1997 analyses one, water, in Chinese language and spiritual culture). They are often also construed as analogies 'taken from nature', analogous to concrete realities (eg 'wind' as a weather item, or the Elements as material substance making up the physical world). They exist also in 'visionary seeing', and in intellectual development of the model-making capacity. In the colloquial expression of daily life (eg 'the pressure is rising', 'getting into a spin', the 'shape of things', the 'flow' of what is happening, 'this is my turf', how a situation 'shapes up', 'it is spiralling up out of control', 'the "too hard" basket", etc.), it is difficult to interpret them as

‘abstract’ because they correspond to very practical experiences, or as concrete because they do not involve physical objects. This is actually where I first studied these notions – in my own and others’ speech.

Piaget, and the hidden learning of conventionalised topology

These unclear notions can also be considered, more simply, as ‘undifferentiated’, or global. Piaget (1951) studied some of them, by asking children questions. Just as topology and the imagery that accompanies global notions appear inherent in collective culture, they also seem inherent in the individual. For instance, a seven-year old self-reported to me a sudden insight about ‘the world’ (not heard from an adult, I believe, but arising from enculturation): ‘It’s all inter-woven’. Piaget offered a developmental view of this kind of vernacular in children. Although his analysis of the children’s answers to questions about the sky is in the same terms of magical and religious symbolism that other psychologists or anthropologists use, he follows the *shifting* symbols during cognitive development:

‘The youngest children (3-4) usually say that the sky is made “of blue”; the blue then later becomes either of stone or earth or glass or of air or clouds. But during the first stage, the sky is almost always conceived as solid. [...] The sky at first gives the child the impression of being a ceiling or *a solid arch* and likewise of having been made either by women or by God. [...] During the second stage the child makes an effort to find a physical explanation for the origin of the sky. The “*efficient cause*” of the form of the sky thus ceases to be artificialist. But the matter of which the sky is made remains dependent on human activity; the sky is of clouds and the clouds have been produced by the chimneys of houses, boats, etc.’ (Piaget 1951, p.288, my italics)

Stone and earth also take, in other contexts, the name of wood (eg the Chinese Wood Element). ‘The Blue’, considered here as a ‘substance’ like the Elements, is less differentiated than ‘matter’, in the same way as I do not differentiate structure from function when I speak of the ‘wasting’ of body ‘substance’ in what science calls systemic degeneration. The ‘efficient cause’, a humanities notion, is called ‘efficacy at a distance’ (Piaget 1951 p.392) – a nineteenth century scientific idea, related to the ‘ether’. The children do not yet discern matter from the human realm, and they often consider animals as ‘people’ just as much as human persons. The ‘efficient cause of the form’ can be understood as a

‘whence from’ or a ‘what originates’ it, what ‘makes’ it ‘appear’, how it is derived. Hence, it can be related to topologic modelling. In terms of imaging, a ‘solid arch’ or ceiling (or sky) is a topographic image, like a half-sphere, an inverted cup, or a rounded cone, which are also common images. Together, these fit a ‘similarity’ or ‘likeness’ to a forming boundary (another image is the curved shield), as much as it does a *naturalistic* analogy for a ‘rising’ non-closed container. Common *realistic* images for this half-container are the crucible and the bottle (in Chinese inner alchemy), which also exists in modern scientific topology: the Klein bottle; the inversion is typical of the symmetry-inversion of the scientific \square human domains.

Explanations such as Piaget found given by the 3-4 year old child, come in the form of language and number, and become established through learning:

‘During the third stage the child succeeds in freeing himself from all artificialism. The sky is made up of air or of clouds. It has come into being of its own accord. The clouds of which it is made are *of natural origin*. During this stage, moreover, the idea of a solid arch is in course of disappearance.’ (Piaget 1951 p.289, my italics)

What would the understanding be like in a younger child? For obvious reasons, we know less about this than about later development, but could observing gestures and body language help? Perhaps, this ‘freeing from artificialism’ could be seen, in reverse, as learning to construct realistic meaning for humans, and naturalistic imagery from undifferentiated notions such as ‘substances’ that can be ‘Blue’, or ‘sky’ as a 3D arch-boundary that is still open. The development of the imagery found in these children can be viewed in terms of topologic deployment of ‘normal’ notions (physical, objective, or based on the human self, anthropomorphic, etc) — of *learning how to conventionalise* for perspectival framing. Piaget quotes a question and a child’s response:

‘—Why doesn’t the sky [made of big stones] fall? — *Because if it fell, it would tumble on the houses and people would be killed.* — What prevents it falling? — *It is well stuck* — Why? — *Because the slabs of stone are fastened to something.* But it also happens that the sky is regarded as a crust of hard clouds which prepares the way for the explanations of the second stage.’ (Piaget 1951, p.288, Piaget’s italics)

A logic or reason-based question such as ‘why’ (involving causality) brings automatically the problem of what it is that glues or of what is the ‘something’ that the sky is fastened ‘to’ (and definition). With it also come topographic notions such as the thick surface (crust), which reduces a 3D ‘arch’ to a 2D surface with sides. The sky is a primitive notion related to eschatology (it is a limit, an ‘end’). In French, there is a saying: ‘the sky is falling on my head’. It expresses such overwhelm that ‘the entire world’ seems to break down and fall apart, crushing the person. It is attributed to the Gauls of late antiquity. This is neither naturalistic, nor artificialist, but involves a ‘lifeworld’ and a global phenomenon (similar to ‘in-dying’) that they feared. With nexial-topologic modelling, such strange statements become clear. Britton (2006) teaches topology to children, and considers it inherent in experience:

‘We grapple with *topology* from the very beginning of our lives! [...like the] Molière character ...who discovers that he's been talking "prose" all his life and didn't know it, since no one taught him the word and its meaning. [...] Edward Kasner, American mathematician and grandfather of the five-year-old boy who named "The Googol", once said that he found it easier to teach *topology* to tots than to grownups, because they "haven't been brain-washed by geometry"!'; ‘Small children, armed with pencil and paper, often execute what adults call "scrawling" but the topologist calls "a tangle". (Britton 2006)

The notions of entanglement, or binding, are of import in modern theories. They are also part of a very common kind of experience, in both adults and older children. They correspond to a sense of being bound, constrained, limited, imprisoned, ‘stuck’. By contrast, undoing that sense is at the core of the widespread and multi-form quest for freedom, independence, liberation, enlightenment, or immortality, for the perfected body or completed soul, as well as the scientific dream of the perpetual machine or the free system. Entanglement is *not* the first stage of topologic derivation, in nexial-topology, nor necessarily the essence of or inherent in all living conditions. Entanglement, or binding, is produced by deployment.

Using nexial-topology: properties

Whichever way the particular description based on the 4 directions are split (sequence or corresponding aspects), the frameworks of the East, West, South, North, play an important

role in pointing out the different effects of ‘activation’ or ‘projection’ on males, females, and children. That of ‘The Earth’ points to equivalent effects of normalisation, but not the same (either establishment or stabilisation). Further deployments, often considered spiritual, reinstate the difference, with extremes being the same. The undeployed nexial-topology appears to be the same irrespective of which type of ‘human’ (or non-human). Access to this ‘native gauging’ and to the ‘powers’ of primitive 'Naming', 'Number', and imaging symbol, or advanced intellectual and psychic ‘powers’, is governed by the order of deployment.

My understanding of the independent four frameworks and of the fourfold ‘The Earth’ is more detailed for aspects concerning the body and health. I derived it (dry-hot-wet-cold) from experimentation and physical sensations. It is only after I discovered (recently) the scholarly exegeses of the Bible and of the oldest Chinese texts that are considered puzzling, that I realised the vastly divergent interpretations given to ‘wind’ and other such notions. Using the basis of anthropomorphic interpretations and naturalistic imagery (eg in the *I Ching*), produces nothing like what I saw in them. Over the course of two years, my studies of the many frameworks based on the Elements, tastes, colours, etc., and ancient texts, was encouraged by my success in obtaining confirmation from etymological roots, particularly of medical terms. I sought to investigate the generalisability of the sensations I observed (did anyone ever relate them to illness and ‘state’ as I did?). This practical basis helped me to ascribe meaning to the texts without relying on modern interpretations. The experimental observations also corroborated certain descriptions in archaic texts that are not found in modern literature on health. I have gathered some of them in <Extract F10\ Left-Right>, <Extract F11\ Red>. The sensation of ‘rib pain’ (see <Extract F17\ Anatomy notes> and <Extract F4\ Syndromes of instability>) is particularly fascinating in its implications for ‘male-based’ Western culture and heart disease. Many of these observations appear to baffle modern medical thinking, although some are known in practice. For example, physiotherapists know of pain shifting sides, but medical science does not provide them with an explanation; a widespread pain of ‘burning’ is described in Kundalini literature, and the

word ‘burning’ is common in the Bible⁴. Spontaneous bodily motions (in extreme forms) have an extremely rare description as ‘spontaneous yoga’ (<Endnote C8\ Spontaneous yoga>), and in medieval weird sicknesses or madness. The fast ‘wasting’ of the female body without obvious cause, but related to some form of activation, which English medieval women called ‘white fever’, is now described as various psychosomatic diseases or being ‘hypochondriac’. The medical puzzle about it does not seem recent (King 2004 discusses it in the context of ‘Chlorosis’ or ‘Green sickness’– see <Extract F4\ Syndromes of instability>).

A more general view of the dire effects of fast activation or chronic re-activation is given in the story ‘Chameleon and the Hare’ (Hull, R. 1992 pp.14-15 – in <Appendix F3>) and relates to the ‘first-order’ sensation (nexial-topologic order 1) of ‘in-dying’ (see <Appendix D3\ Signs of ‘in-dying’>), and its second-order form, sometimes called ‘second dying’ in the archaic texts, and their reification into ‘Die’ and ‘death’. There is also an inversion of the message (see <Extract F13\ San Jiao & inversion>). Many such stories contain aspects of nexial-topology (eg ‘return’ in this one), and such a reading of primitive myths taught me a few things about how to manage health. In this story, one notion is of particular interest: speed, because it is related to the notion of ‘Wind’, through the idea-image of spinning.

‘Wind’ as a topologic notion

The framework of the East is what evoked the strongest sense of recognition in me. I will attempt to show why. One phrase struck me because its was so clear to me, thanks to the medical notion of ‘wind disease’ or wind attack, in traditional medicines (Chinese, yogic, and Western). Yet it appeared so puzzling to translators with an anthropomorphic bend, that combining, in a statement, the added determining words from two Bibles produces a completely obscure sentence:

‘(Their) face(s[?]) (are) set (assembled) (like the/like/by) east wind.’ *HABAKKUK* 1:1-10

Taking away the added syntactic elements leaves a statement that uses global notions:

⁴ See <EE17 \ Burning>, <PPT6 Research notes>. This may be connected to two other conditions I experience, which are common in children: ‘burning feet’ (usually explained away) and ‘hot ears’ (not a recognised symptom).

‘face set by east wind’. Using a less complex grammar – the active form – gives us:

‘East Wind. Sets Face’

This makes sense to me, in the same way as an aphorism. ‘Wind’ is the main Element associated, in ancient perspectivalism, with the East framework, with a meaning of fast swirling. The capitals emphasise the low-order of linking grammar; the words are used like a maths equation: twist up-left [east wind] equals establishing-stabilising [set] into boundary [face]. This is a rule of thumb (how ‘it’ works); it describes a global operation on an undetermined field or space (undifferentiated rather than generalised). Even more ancient female stories of Creation in ‘the East’ do not call it thus, but use concrete images for it, related to a spiral shape (eg the snake) and explanations that suggest a nexial meaning of activation and ‘rising’ up to a ‘sky’, which can be interpreted in topologic terms. In later texts, this ‘sky’ is replaced with topographic denominations such as the ‘face’ of the Earth, a surface ‘boundary’ that is the other side of the ‘sky’ (seen from above instead of below – this is a ‘turn inside-out’). In my observation of health behaviour, an activation is an ‘increase’ (another common word), which can have damaging effects if too fast or too powerful (like an agitation that ‘gets into a spin’, worsening until it reaches an extreme). If gentle enough, and re-initiated repeatedly, the ‘increase’ then shifts into a ‘flat calm’ in which the activity becomes patterned – ‘set’: the entire lifeworld is now like the

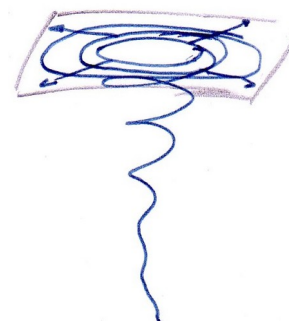


Figure 33: scribble for ‘East Wind Sets Face’

FlatLand of normal reality (the Bible calls his ‘peace’). The non-specific statement ‘East wind sets face’ expresses this, as does a simple scribble (figure 33). [Note that the inversion of the order of words is ruled by nexial-topologic deployment, and related to the passive instead of active voice (adding the word ‘by’, and this expresses linguistically the ‘turn inside-out’.)] At different orders or speeds of activation (and twisting), in the later texts using the integrative framework of ‘The Earth’, this image takes other names: wind, soft breeze, whirlwind, storm, cyclone (and now vortex). The frameworks of the East and West tend to choose, instead, more concrete, naturalistic images, such as the

snake (East) or horns, antlers (West), which suggest more directly the Left-&-Right shifts, through the ideas of ‘winding’ or bifurcation, respectively. In the South-North framework, it is developed into other concrete images, such as mountain and valley, or rock and pit, and abstract notions such as water flows and overflows. These arise from global notions of ‘wind’ and ‘directed arrow’ (the two generic parameters) and deploy ‘natural’ and ‘human’ meanings and objects:

‘Wind (*Feng*) was the conceptual ancestor of Qi (Ch’i).’ (Zito & Barlow p.34) The ‘imagination of winds’ (op. cit. p.23) is considered a major instrument in the development of concepts of the ‘body’ as a system that has a boundary, and from it, of the ‘politicised body’ (op. cit. p.131)

Another form of ‘human body’ is the traditional ‘body politik’ (see introduction to table 9). How the ‘body’ – and for that matter ‘The Earth’, ‘Humans’, ‘Life’, ‘The Land’, ‘Nature’, etc. – appeared is the object of modern perspectival controversy, and of traditional myth.

‘According to Chinese legend, winds arose when the *feng* bird emerged from the wind cavern (*fengzue*) in which it lived and subsided when it returned to the cavern (Huainanzi, juan 6).’ (op. cit. p 37)

The imaging vocabulary used here, as well as the problem-solving story line, pervade Chinese inner alchemy, and the bird is a typical image associated with the East. The cave is a widespread image too, from yogic practice (in the centre of the head) to Plato. All this suggests that such images, considered ‘obscure’, might be more usefully approached in terms of topologic imaging of ‘spaces’, including the physical space we call ‘body and environment’, than as imaginative metaphors and analogies without precision. The ‘Creation myths’ might have something practical to teach regarding the concretions and wasting of the ‘body and natural environment’ rather than only philosophical understanding of the human world and mind. Nexial-topology could help bring some useful understanding of how we shape both our world and ourselves by ‘increase’, or ‘pushing’, and to ‘read’ the lessons of the human past about that, which are imaged in the stories. For example, the biblical story of Jonah and the whale has become a children’s’ story, but it mentions both the nexial Left-hand and Right-hand, water, dying, and contains 3 orders of intensity or layers of projection ‘up’ characteristic of the language of the East framework. Another example of an ‘obscure’

notion is ‘crossing the Great water’ and ‘it furthers’ in the *I Ching*; the ‘Great Time’ in myths (studied in Eliade 1954; see also ‘time, times, and a half’ in *DANIEL* 1:7). Some semantic shifts in mythological names, such as woman-Mother-Goddess, man-god-Great God (or god of Life or of great power), or sky-earth-heaven, are assimilated into a single chosen name, the others being considered ‘metaphors’ or just different names for the same thing. They may represent orders of deployment. The ‘powering’ of ‘increase’ can be very useful pointedly for a particular purpose, but as a philosophy of life, it causes instability and health damage, and it would seem that:

‘Better is a handful with quietness, than two handfuls with labor and chasing after wind.’
(*ECCLESIASTES* 4:6)

Etymology shows traces of nexial-topologic understanding

The following table summarises an etymologic root of the words East, West, and Space.

Table 8: Some correspondences for the 4 directions		
east	west	space
etymology: aus-, to shine (dawn) shiny, bright	etymology: wed-, water (wet) wet	etymology: spe-1, to thrive, prosper spe-2, long, flat piece of wood

The etymology of ‘space’ correlates human aspects of prospering (‘shine’) and a prosaic long or flat piece of wood, no more clear to conventionalised thinking than the origin of the 4 directions or cardinal points. Yet this ‘flat’ would be consistent with a topologic interpretation of ‘Flatland’, in the ancient form of the flat ‘The Earth’, or of the modern space-&-linear time. The thriving is related to the shining of health (eg the glowing skin of a pregnant woman by the end of the first trimester of growth activation), a typical concern of the East. Wood, on the other hand, can be related to the rigidity of a body chronically activated to tension (suggesting the Element Wood in Chinese culture, usually associated with the inverted meaning of strength, and the Western idea of turning to stone. This can also be related to immune system-driven symptoms activity (eg chronic common colds, or sweating) – ‘the Wet’ of the framework of the West. I made such connections between the observations of my state and what I read.

To answer my own questions, the frame of ‘The Earth’ can be viewed as a general landscape of explanation and experience. The 4 directions as specific models describing the effects of increase and vertical projection, in a global way, on different spheres (eg body, behaviour, lifeworld, and the ‘physical world of humans’). Each direction models effects on women or men, in two orders of successive deployment, East and West a first one, South and North a second one. This can also be viewed as simultaneous unfolding-enfolding in different spheres or modes, or the effects on 4 types of human states. The idea of using 2 parameters to describe topologic compaction does not seem new:

‘If the universal frame had been created a surface only and having no depth, a single mean would have sufficed to bind together itself and the other terms; but now, as the world must be solid, and solid bodies are always compacted not by one mean but by two, God placed water and air in the mean between fire and earth, [...] it was indissoluble by the hand of any other than the framer.’ (Plato, ca. 360BC, *Timaeus*)

The rules for living derived from these frameworks still operate in modern living in the ‘physical world of humans’. They affect drastically what happens during pregnancy and infancy. They govern the way children are fed, treated, and educated into learning to replace internal body sensations by sensory ‘information about’ the ‘body’. We all learn to ignore the ‘native gauging’ that cannot be explained in terms of perspective, described as experience of the self, and seems to ‘not make sense’. Instead of knowing what is adequate to keep a situation on track, we become confused about what is ‘right or wrong’, – according to one perspective or another, good or bad for ‘us’ or ‘others’. These ways lead to curtailing the simple behaviours that could make the ‘ease’ I call ‘proto-health’ the most common rather than rarest state of health-sanity and life deployment. Perspectival framing is useful pointedly, sometimes necessary, but as a collective way of life and of understanding, it is globally damaging. Much more could be told about the experiences and explanations that arose from this research work, but etymology (to Indo-European roots – see <Endnote C13\ Etymology>) and a drawing can encapsulate a major overall nexial-topologic understanding of our perspectives on health (figure 34):

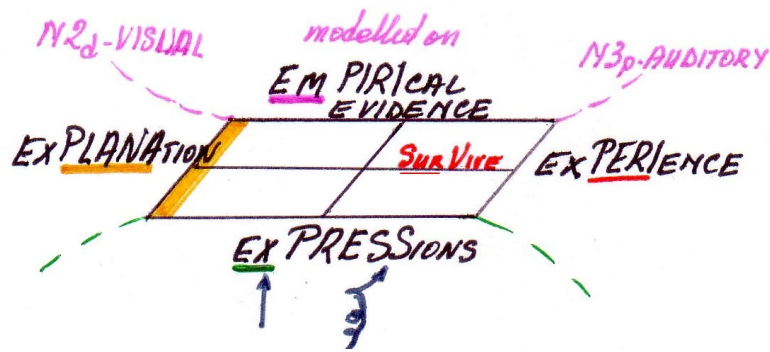


Figure 34. Geometry of explanation and experience

The word 'ExPERIENCE' names our acute, chronic, or vague sense of peril, emergency, need, or problem;

The word 'ExPRESSions' names the unfolding (directed) nexial activity of our creativity;

The word 'ExPLANation' images our understanding as a geography of perspectival models;

The expression 'EmPIRical evidence' images the enfolding topography of our physikemorphed realities, including the 'body' and 'environment' we control and drive.

Perspective is developed under peril, and describes health as various orders of 'immune' defence and activation, in critical states in which the head, brain, mind, intellect, psyche, and sensory perception, focused or opened attention, etc. rule. The most ancient stories contain remnants of understanding of the global implications of this for human daily living. Nexial-topology could help 'read' them.

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 politics’. 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 infinites, 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 infinites 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.