

‘Basic’ geometric topology

- A cognitive mode
- An ability to ‘gauge’
- A modelling method
- An aptitude to find ‘basic’ options

foundation of Topologic Ecology

Understanding trends, tendencies, but also gauge and stop drifts

This mode of thinking is able to apprehend simultaneously origins & ends. This makes it particularly apt for:

- 'seeing' situations globally and describing a situation without fragmentation, without system-environment separation or self-world division
- providing different choices of action: what to do about a global-local situation is clearer, not lost in details or impaired by perspectival bias clashes
- dealing with general trends and individual tendencies that are usually considered 'variations from normal' occurring at weak points or by chance: drifts
- *gauging globally* drifts, the *approach* of critical situations, and stopping their deployment

For example: our behaviour with respect to climate change, species extinction or overpopulation; drifts in human health (global and individual) and human or child behaviour; 'climacteric' somato-emotional effects in women; and the workings of low-grade chronic-flaring syndromes that arise from exhausting body resources and survival mechanisms and from dry irritation (osmosis overstretched into water re-distributions) rather than inflammation.

SpiroMorphism: advanced: real, true, imaginary... or a basic 'imaging' mind-modelling



Maxwell's first model, drawn from his published paper.
'At one point Maxwell thought that the vortex model might be true. (p6)
'The imaginary model was necessary for the creation of the theories.'
(Nersessian 2002 p.12)

Not all imagination but a 'thinking in imaging'

An unrecognised cognitive mode: 'thinking in imaging'

- Theorists, abstract thinkers, philosophers manipulate it to create models, particularly mathematical physicists, and this is known,
- but it also exists in a more basic form in some children, women, and fewer men – 'sensitive' individuals;
- It is innate in body or brain sensation but lost through child raising in most people
- not imaginary or 'all in your head' but a 'thinking in imaging' that uses a 'basic' animated geometry
- without naturalistic or realistic imagery (pictorial or 'imagistic'); those who do not use it interpret it as just metaphoric or as analogy
- without *recognisable* narrative (the words are geometric in nature [bouchon [2008](#)])
- hence conventionally considered primitive, obscure, 'not information' or representing the 'non-existent' – and in the case of females, habitually considered 'imaginary' and not real –, and kept hidden

Not all imagination but a 'thinking in imaging'

An ability to ‘gauge’ a deploying situation

A method for global situation modelling

– a topologic ‘*geometria situs*’ [original name of topology] – to

- **apprehend how a situation ‘presents’ directly**, rather than ‘re-presenting’ it in perspective (framed in polar-dual timed-spaces), and this without conventional or expensive high-tech instruments
 - **gauge a situation non-locally or globally**, apprehending simultaneously whence it arises & ‘where’ it ‘goes’ (origins & ends), rather than the initiating causes/triggers/factors, as well as physical & human effects
- **gauging a case that deploys into a survival situation** –

This imaging or mental modelling can

- **describe without fragmentation**
- **reduce intense or uncertain conditions** and the baseline oriented drive (of ‘no choice but to evolve/adapt’ / ‘have to survive’, having to seek, organise the details...)
- **detect drifts** (e.g. in human health-sanity, epigenetic, semantic, planetary)
- **can stop the getting out of hand** of the ‘shaping-up’
- **give access to neglected ‘basic options’** invisible to other explanatory frameworks but obvious in this one

A simple, flexible mind-modelling fitting many situations at human scale

An 'original' modelling method

A mental modelling that produces 'original' descriptions & means by apprehending origins & ends simultaneously:

- can be described as a *generic or undifferentiated* geometric topology; can use computer-modelled animations of *general topology*, viewed independently from maths, visually, to explain and communicate equivalent mental/gestural imaging
not reduced to sensory information or instrumental evidence
not reduced to canonical symbols of theory and fixed images of explanation
- but cannot be described by dual-polar framing, *mathematical topologies*, counting (edges, point/set) or measurement of specific small distortion or large deformation in space, disturbance in time, big-bang beginnings, breakthrough emergence in timed-spaces – Hence Topologic Ecology does not fit naturalistic medical imaging of activations nor systemic framing of general ecology

There is a common domain between conventional and basic models:

First-order critical states

First-order boundary

Domain of validity: what it describes

Basic geometric topology has a domain of validity, like other methods:

Domain specific to basic geometric topology, different from conventional:

- near-critical states
 - *auto-limiting rather than auto-reinforcing*
- non-boundary phenomena: non-oriented spontaneous behaviours (not reacting or adapting to or correcting or orienting anything)
 - *no 'tearing of the fabric' of reality or topologic 'bubbles scattering'*

Domain common to basic and conventional descriptions:

- first-order or low-grade critical behaviour (e.g. 'climacteric'), which can initiate deployment or advancement, *but only for a time*, in the basic domain (not habitually); second-order mathematically built-in self-organised criticality & emergence are not described by basic topology and do not occur in this domain. – *no critical self-organised complexity or high-energy benefit*
- approaching topologic boundary *for a time*, in low-grade critical states (but *not breaching it*) – *no passing the limit, no establishing, stabilising or integrating*

The similarity with the conventionalised frameworks express this common domain. Basic geometric topology models approaching critical limits and not reaching them. It brings to view a difference:

How to not 'get out of hand', but also How 'unable to emerge' occurs.

A neglected aptitude to find ‘basic’ options

‘Basic options’:

- less costly in resources of all kinds, including bodily, energy, & exchange
- save resources and money
- more simple to implement
- not initiating counter-productive effects (later expenses, crises elsewhere)

‘Why explore ‘basic options’ as an alternative for global problems?’

In short, because our ‘advanced’ solutions somehow never seem to catch up to the local / global damage or resorb it without creating more general problems, forcing critical states systematically (for critical self-organised emergence), and increasing demands in resources. Basic options can reduce the counter-productive effects of other frameworks.

A complementary mode of understanding & choice

- to explain what other frameworks leave in the dark
- to take actions other frameworks find practical impossibility
- Complementary to dual-polar formalised, general-specific & emergency methods

Basic Options need to re-enabled by higher organisation

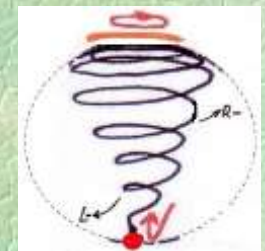
Medical consequences of ignoring this mode of imaging thought

Physiologically sensitive individuals describe an undifferentiated lifeworld, and physical-emotional needs unmet in normal living conditions (i.e. under adaptive-dynamic rules of survival within a complex society).

They formulate this with the gestured-mental imaging that doctors consider ‘mis-(‘matched) explanations by minds uneducated to medical frameworks, by ‘difficult patients’ who won’t accept treatment or, – in the case of females especially– ‘imaginary’ symptoms and ‘non-existent physical findings’ (signs & signals invisible to objective examination of *recognisable symptoms* and instrumental testing). This marginal but spreading case represents many low-grade syndromes of pain, fatigue, stress, and denutrition. It is also increasingly representative of the collective feeling about ‘the state of the world’ and our planet.

A lifeworld

- *wound-up*
- *in periodic crisis*
- *needing to regroup and recover*



Why are we *increasingly* feeling afflicted?

Usefulness of imaging with ‘basic topology’

The mode of ‘thinking in imaging’ can work more easily with logical **orders of criticality** (**similarities and differences**), and with **topologic surfaces** (e.g. reaching edges, bubble as opposed to ‘ball’ – i.e. a swelling volume *without reaching* a spherical surface). This can be applied in many practical situations to understand counter-productive effects. It is also useful to model non-inflammatory swelling in the body.

It is the most accessible means of ‘getting back to basics’ when things get out of hand.

An example: Simple visualisation of redeployment or **counter-productive effects of ‘re-Developments’** as ‘making bubbles within bubbles’

Tourist resorts in national parks

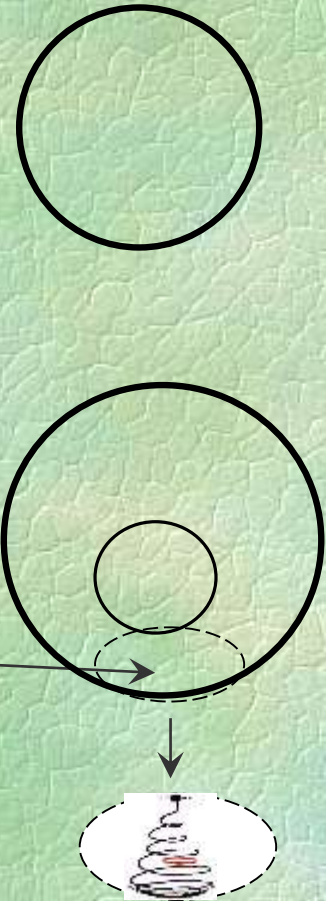
Bubble: barrier within a boundary

National park: protects an ecosystem's integrity by establishing a closed-curve boundary around it as its structural limit. (circle symbolises fence or rule)

Tourist resort inside the national park: a second exclusive barrier inside the boundary, like a circle within a circle. This constitutes a 2-surfaced bubble.

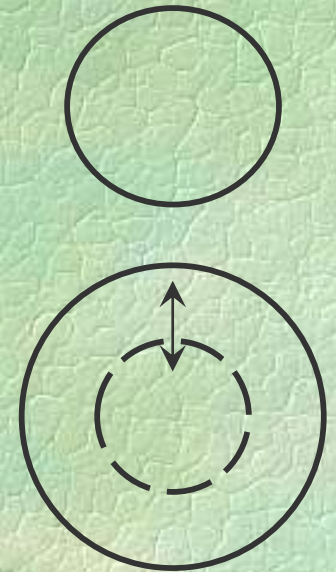
Its properties include the **counter-productive effects** of Breaching Boundary : for example, bringing human diseases to animals, excluding humans who can't keep up with economy from access to nature, or the risk of destructive crises rather than emergent dynamics, eventually spiralling into catastrophic collapse, *even if for a time*, all effects appear positive.

What determines whether emergence occurs or not?



N2dual- thinking affects what we can see: ‘things’, objects, systems

- Early notion: closed system;
- Expanded notion: integrated parts, whole (‘more than the sum of parts’);
- Advanced notion: open, dynamic, adaptive, evolutionary, co-evolutionary with all other factors... Yet, *one* ‘whole’ in dynamic interaction *with* its ‘environment’ (or in response to it) still implies separation (then reconnection) and cannot be gauged globally because of boundary premises.



‘Systems’ include objects, subjects (identities, observers, minds, experiencers, selves), lands, worlds, universes, bodies.... They are ‘things’ we look ‘at’ as separate ‘observers’, in perspective rather than directly. Some situations are not visible as systems-in-environment

Can lives be reduced to bubbles and circles?

Discerning Development & Re-Developments

Basic conditions:

Settled simple life with small scattered shelter & the human genius of improving on natural conditions without interfering. Less strain than being forced to move on or follow seasons, – but no boundary, and critical conditions only occasional.

2 orders of 'development'

Fundamental (baseline) development:

Sedentary life in house, garden or field : fence \Rightarrow Counter-productive effects for physical health of body & land, but benefits of education, living conditions allowing faster work

Re-deployed Development :

'Over-sedentary' indoors lifestyles with little sunshine, fresh air, or walking; *under* societal pressures, *within* constraints of *limited space*: closed walls, inside buildings, crowding \Rightarrow Counter-productive effect: produces self-protective behaviour compounds reduced physical health, increases degrees of mental-social freedom at cost for physical global freedom to roam and settle where more suitable.

Generalisation and globalisation involve the resource-hungry highest re-developments, and thus initiate widespread crises, impairing both fundamental development and basic options.

Can the spreading impairment be halted?



Necessarily complex-dynamic?

Earth at human scale

Neither limited, finite or bound: we can walk around forever and never cover the whole world

Nor unlimited, infinite, endless: we sail and fly around the globe and come back to where we started.

Earth ⇔ We Humans...

- **under Pressure:** our survival behaviours perturb the planet, create our 'dynamic' & agitated 'Human Real World', which induces constant disturbance in us;

...and around it goes

- **within advanced societies:** resource-costly 'change' and the exhausting perpetual 'complex' making, unmaking & remaking (never quite the same as letting be).

Earth is also just the place where we live: Humans are the only animal that no longer has the wildlife 'right' to simply pick a spot on the planet, and make shelter.

Whatever happened to just living free, in mutual proximity, peacefully happy, well hydrated, fed, rested & sheltered, appreciating being alive, safe & sound?

Topologic ecology

Undoing social, economic, biological consequences

One consequence of this collective interpretation of 'imaginary' is that such sensitive individuals, often affected by syndromes 'more common in females than males' are told for years on end that 'It's all in their head', they are '*malade imaginaire*', before they can finally obtain proper medical investigation and treatment [if]. They face constant distress, social ostracism, extreme financial difficulty, and no attention is paid to the role of their living conditions.

The current trend is to consider people with pain & fatigue flaring syndromes as having a defective brain ('hypo-reactive' energetically), displaying a 'lack of' adaptive power (e.g. selecting-out pain signals), and to return to evaluating them as mentally ill or somehow 'maladapted' and useless – biosocially inferior.

The global consequence of not addressing hidden drifts in health is to increase exponentially

the 'economic load' of disease and ageing ('unproductive' people) as well human requirements for resources (including nutritional).

Modelling the global physical-human situation with basic topology

- allows to address them with 'basic' options and
- could reduce the collective and planetary costs.

A 'Basic option' exploring how to be safe & sound

to be field tested in an **Experimental Foraging Station**.

- **'Wild gardens'**: after prehistoric practices, restoring soils, wild food sources, wildlife presence = **'Green-hands-on'** care activity, **not 'green jobs'** (products/energy industry)
- **Foraging** for fresh plant foods (*'Proto-health'*: vegetative ease)
- **Simple outdoors life** (but *not* careless & insalubrious): sunshine, breathing fresh air, walking up straight during daily activity (without load, not exertion, limited spine bending over tasks), opportunity to de-focus vision & mind' ...
- **Scattered small dwellings** to increase movement & reduce physical constraint and population density pressure (sensory, psychosocial, organisational, institutional); not surrounded by fences/walls; some shared facilities, recycling resources, energy sparing... just not wasting
- **Local subsistence economy** yielding small but stable means of exchange (e.g. solar farm, skilled work or knowledge sharing to procure modern equipment; barter & sharing food surplus locally), without counter-productive effects of large-scale global economy & self-organised critical states, physical consequences, and for daily life (not only humans).



A 'real world' of highly complex critical processes actively discourages this approach, and life, soil, food, water restoration... but could re-enable it.

‘Basic’ topologic geometry

gauges globally drifts and the *approach* of critical conditions,
and how *not to* reach boundary.

It gives access to the less resource-costly ‘basic options’.

Topologic Ecology explores and implements these options.

Thank you

Work developed from visual materials in Ph.D. thesis
m. bouchon ([UWS, 2008](#)) and Topologic Ecology
research program developed since.

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