INTER-KINGDOM DISSIMULATION

NON-COMMUNICABLE DISEASE AS CORPOREAL ECOLOGY

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Why Sleep? Language Dreams As Precessional Zeitgeist

2000 BCE | 2000 CE: Greeks To Geeks Or Greens? Desilvering The Mirror of AI

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INTRODUCTION

Our world dismantled the evolutionary barriers to disease in the blink of an eye—

Still, nobody noticed…

Peter Medawar elucidated a problem with the specialisation of knowledge that narrative be consigned to the remit of artists, lest it contaminate the logical purity of the sciences. [1] A simple question posed by a sound artist led to a fruitful artist-scientist collaboration: "What sounds do fungi make as they grow through soil?" [2] That aesthetics be sequestered to pleasure without knowledge and science to knowledge without pleasure [3] is a critique to ensure wisdom is not likewise segmented ('feedback in both directions' [4] becomes here a dismantling of dichotomies, *Oedipus Rex* as revealing as *T. rex*). If Francis Bacon championed induction [5] and Albert Einstein resorted to deduction, [6] while Karl Popper appeared to settle the argument with the logic of falsifiability, [7] one can critique induction with fallibility and deduction with closed-mindedness, and both to the non-falsifiability of null military events (increasingly contaminating society).

We develop an evolutionary-ecological framework for understanding chronic conditions as the result of systemic mismatch between human biology and contemporary environments, and apply this framework across major non-communicable disease categories. These conditions are reconceptualised as multi-stage processes shaped by interactions across evolutionary history, ecological context, and social organisation. For example, carcinogenesis is schematised as the nexus of an ectomycorrhizal discontinuity conferred by sedentism, oxidation reintroduced into the body by ceramics, and tension cushioned by sedentarism; Alzheimer's disease becomes an archaic bilateral escalation between the memory of brood location versus living longer, but alone.

Although philosophy can be categorised in many ways, one may loosely use the division of the Continental (i.e. narrative-based) and Analytic (i.e. logic-based) schools of last century. An extreme version of the former is polemics, whereas safety-critical software design (e.g. nuclear reactor documentation) reifies the latter.

Reverse engineering is a top-down, deductive methodology, whereas the evidence-based, bottom-up, inductive mode is the predominant paradigm of science. Narrative-based medicine that rivals its evidence-based counterpart may be the impetus for a dialectical synthesis that proffers plenitude over contemporary angularity.

One of the problems with a risk factor model of disease is that multimorbidities in causal chains are largely ignored, not least because of the difficulty of attaining accurate diagnoses. Part of the problem is that there are diseases as yet undiscovered that are likely epidemiological confounders. The corpus of the body itself is still in flux, educed by a recent understanding of the appendix (that betrays nomenclatural expiry) and the discovery of an entirely new organ—the interstitium [8]—both within the last few decades.

An unrecognised problem of epidemiology is that the measurement error of medical records is so large that the statistical technique of increasing the sample size to reduce bias is irrelevant because the p-value is meaningless. Mycoses are likely under-reported by many orders of magnitude and by time of diagnosis most patients already have 'multiple organs compromised by the disease' [9].

Another problem is the dubious ethics of the gold-standard epidemiological study design: the randomised-controlled trial. The null hypothesis is defined from the perspective of a so-called disease expert, the epidemiologist, thus biasing the hypothesis towards efficacy of the intervention. When designing a study, it should be kept in mind if one would continue upon gaining the 'impossible' knowledge—assuming it is double-blind—a family member is allocated to the control arm of the trial?

A possibility exists for a narrative-based medicine to extend knowledge by connecting the dots on disease causation, particularly when many can be verified to be coterminous with an atomistic individuality of a parasite under an (electron) microscope. Conversely, challenge is posited to beleaguer such indomitable foundations as tobacco as a nexus of lung cancer—such as ineffable intermediaries (e.g. causing an increase in the proximate infection rate)—or the virus-cervical cancer pathway—perhaps only proximate (e.g. viruses have different microbiological co-infection rates which may implicate an ultimate parasitic cause).

Structured as a spiral document—reflecting the importance of endosymbiosis in the process of natural selection—introduces an element of dissimulation tending towards its cultural selection endgame. But what spirals also unspools, perhaps alluded to in the bidirectionality inherent in the Cretan Hieroglyphic of the Phaistos Disc—one of the first instances of a written language. This appears to be how the Sphinx links its endosymbiotic limestone bedrock to its visual symmetry, its silence a remedial relic of the scene of glottogony—the event horizon of (non)communicability.

In the wake of the COVID-19 pandemic, public understanding of disease has shifted dramatically. Just as social distancing tried to situate medicine within the long arc of evolutionary and ecological processes (reiterating the mantra of gossip already contained in symbolic records), questions once confined to epidemiology entered mainstream consciousness—yet chronic diseases continue to be framed largely through modern language, absent of planetary history. We argue that this framework is increasingly inadequate. As metabolic disease, cancer, autoimmune disorders, and antimicrobial resistance rise globally, there is growing recognition that human health cannot be separated from the ecological systems in which disease evolves.

Beginning with the first chapter on epistemology, particularly as it relates to medicine, we try to get a sense of just how much archaic intelligence—mostly inaccessible to artificial intelligence training sets—needs to be contended with to democratise health, its potential submerging (again) beneath the current unwavering bitwise opacity.

Chapter 2 gives a radical abstraction of evolutionary biology, with attempts to solve some intractable problems along the way—insect and dentition origins, glaciation dynamics, the scene of civilisation, and angiosperm-gymnosperm divergence—the latter contending with the missing 200 million years of flower evolution.

We attempt to show, in the chapter on ethology that follows, how the same problems create an evolutionary déjà vu, preempting the notion of cultural selection. It seems that evolutionary moonlighting has serious implications for ecological recession.

The journey oscillates (back) to ethnology, exploring along the way how different anthropologies may have created alternative bodies. We delve into the body sculpting and ecological consolidation of: nomadism (Aborigines), diet (Hadza), excretion techniques (Asia), and compression (techno-culture).

We subsequently expand upon the microbiome and mycobiome, contrasting with many other corporeal ecosystems (some of which may be skipped by the lay reader with little repercussion to comprehension). Certain of the more explicitly cultural types are also explored, such as human-canine and human-fungal paraspatial exosystems. Just as the Sphinx reminds us, in its aloofness, of the dangers of proximity, distancing, in the human-fungal exosystem, inverts this notion. Completing the picture, the spatiotemporality of 'quarantine' highlights duration as another driving force, as the parachronic and prochronic examples attest.

Chapter 6 associates each of the manifold spheres with its most common ecosystem as a schema to understand the approximate dynamics of our evolutionary (and modern) interaction with those spheres. This exposition leads to a surprising gestalt when these frames of reference are relativised.

Building upon this foundation, the zeitgeist begins to crystallise via ecological, semiotic, and philosophical terms. Although bacterial (planktonic and biofilmic are treated separately), viral, and fungal are the primary ecosystems, a focus is initially placed on the latter—wondering to what extent it is propped up by capitalism (e.g. antibiotics, fluoridation, alcohol). But even once it is realised the wrong question was posed, the picture becomes more complicated still as its punctum emerges: the meta-ecological reading appears to be most apposite.

A brief summation of cancer aetiology and carcinogenic ecology expands upon this notion, with an eye to critiquing Koch's postulates. A new aetiology develops the framework established by Otto Warburg—the glycolytic pathway is paramount—advanced by Thomas Seyfried—highlighting the importance of proteolysis—partially integrating the atavistic model of Paul Davies—our cells rewind more than a billion years because ecologies now resemble the same archaic "toxic" state. Here, we acknowledge certain linguistic contradictions to get a feel for the biases within oncology and clear a path to transcend epistemic constraints.

Moving from the general to the particular, the chapter on the neoplastic cause follows an approximate through line from technological prevalence, by way of corporeal provenance, to the global burden of cancer. Just as hominins becoming an edge species created an ectomycorrhizal gulf, corporeal ecologies, too, had barriers dismantled by certain ecosystem breaches.

An evolutionary approximation of the mycobiome continues this narrative before expanding its scope to incorporate the whole fungal kingdom. This leads to a lichen origin hypothesis to better explain glaciation dynamics. The ultimate aim here is to collate these strands and fashion an incipient schema of mycorrhizae.

A look at the trajectory of behaviours through flapping, fidgeting, decompression, and rhythm and their inter-relatedness (Chapter 11) explores the erosion of barriers against carcinogenic ecosystems over geological timescales.

Next, our critique of nosology investigates to what extent the multi-step pathway of cancer hinders perception of its communicability. We begin by interrogating the most likely aetiologies of the five major cancers by global mortality—lung, breast, colorectal, prostate, and gastric—expanding to include the remaining neoplastic categories. This dovetails into the possibility that all non-communicable diseases are mythically encoded. What follows is a search for the (perhaps communicable) aetiologies of ten non-communicable diseases (approximately ordered by descending global prevalence)—particularly with respect to so much modern evolutionary mismatch.

Following those detailed critiques of non-communicability, we expand upon these inter-ecological readings by consideration through other lenses: odontic (Chapter 14); metabolic (Chapter 15); postural (Chapter 16); allosexual (Chapter 17); social (Chapter 18); and cultural (Chapter 19). The spiral model is approximated in this series of telescoping levels.

The odontic ecology begins by detailing the categorical similarity of dental and plant roots, before investigating to what extent the 'pillar' metaphor covers-up the fundament of tautness. From this wellspring we forge a possible evolution of dentition in the interests of understanding origins to better return ecologies to their incipient state, free of disease. Elaborating upon the prime modes of symbioclasis of the fungal guest—a requisite examination because said collapse has such severe downstream effects on its hosts, us.

Shifting perspective to the metabolic ecology, we propose an approximate evolutionary timeline of the major hominin dietary phases. This exposes some of the implications of appending particular microbes to the microbiome. Certain features, such as the brachydonty of primates, allude to the corporeal ecosystem, in this case, to a low degree of biofilmic coevolution (with implications for successfully adapting to the urban lithosphere). We also find sexual dimorphism (particularly at the microbiological level) appears to have dietary constraints.

We contrast the postural ecologies of therapsids, theropods, and hominins as a means to evaluate what may have been inadvertently lost amidst the deep-time transitions of the latter. This alludes to a more evolutionarily recent cultural involution. Just as Einsteinian relativism had peculiarly biological relevance, here it appears that Newton's Laws of Motion, too, reverberate throughout the life sciences. Evolutionary mismatches in isomorphisms such as somatotopic body maps are deconstructed. Ethological differences of microbes pertain to corporeal ecological consolidation by the degree or form of host manipulation.

Analysis is undertaken of the allosexual ecology from the perspective of dynamic posture and its echoing of ancestral habits. We thereby attempt to locate the origin of cancer which flows into a possibility for the angiosperm-gymnosperm divergence. Despite etymological resonance between wasps and sex, it obscures many more profound relationships—one of which is the fungal basis of metaphor itself. Loss-of-function mutations are compared with behavioural downgrades, as a general trajectory from asymmetries cumulatively balanced leads to greater temporal asymmetries, handedness but one example, with lessening sympathies in time.

Alternative readings of the origins of the Agricultural Revolution—and civilisation itself—are addressed. By linking various monumental artworks through the nexus of corporeal ecology, a novel ontology presents itself—based around the fungal ecology—that unites being with the world. This encourages an evolutionary theory of cancer. By contrasting planned serule with ecological throughput maximisation, we learn—or, as a society, perhaps relearn—how to utilise microbial defences to stabilise the microbiome.

The hominin cultural ecology has obviously evolved: knowledge of its most likely discontinuities, at least as it seems to us, leads to a solution of glottogony. A recursive theory of the kingdoms of life is explored which has repercussions for disease transmission (read: ecological radiation). We reframe the Hanging Gardens of Babylon as a scientific allegory, and, conversely, our solution to the solar-lunar proportionality problem has metaphorical import. This (and the associated lunar origin that we envisage) builds upon the notion of Lagrange points (perhaps better visualised as topological "zones"). If the spiral is just an exceptional form of orbit, and evolutionary moonlighting gives prominence to sequential order for curative tactics—that is, a devolution optimised by reverse phylogenetic order—the moon—crowned amidst a four-dimensional syzygy—brings it all to a brief standstill: perhaps it was our destination all along?

This notwithstanding, lastly the five "pillars" of oncology are extended by incorporating additional ecological and evolutionary dimensions that are typically excluded from reductionist approaches. These twelve "strands" compensate the cytological and compressive bias with an elastic counterpart favouring microbial recession—that which was always occluding the nested ecology.

Along the way, we find evidence that climate change and glottogony intersect—with obvious contemporary relevance—but it is the ensemble itself that underpins a narrative which culminates in a broader theoretical framework for understanding symbolic systems across biological and cultural scales. In this Promethean twilight, the linguicide ensuing from artificial intelligence is germane to astronomy's final reveal (as suspected double agent of mirror neurons). Just as Newtonian physics is uncovered as the biological sine qua non, the purported celestial mechanics equation also revealed its chiasmus: biology is perhaps the aporia of physics.

Given that non-communicable diseases account for approximately 70% of global mortality, this recontextualisation addresses a defining challenge of 21st-century health. The long intellectual tradition of social medicine and epidemiology is thus extended by integrating evolutionary and ecological reasoning into contemporary debates about the environmentally-mediated burden, and by addressing causal architectonics, positions it within urgent global health discourse.

Put a shell to one's ear and in its white noise hearken the benefits of a graceful quietude…