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# Re-Envisioning Embeddedness: dialogue between Technological Salvation and Ecological Horror

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## Abstract

This paper analyzes the proliferation of apocalyptic narratives surrounding Climate Anxiety within an epistemological framework, contextualizing them within the broader epistemological reframing of human existence within its ecological embeddedness. It argues that resistance to climate awareness stems from a psychological need to maintain anthropocentric beliefs that reinforce a sense of detachment from the planetary destiny. The first chapter examines AI Apocalypticism within the Transhumanist discourse, proposing technology to sever ties with biological embeddedness. The second section incorporates Technology in the ecological-psychoanalytical dialogue, emphasizing the connections between intimacy with the Ecological Continuum and notions of Horror and Dissolution. The third and last section will propose a way by which the notion of embeddedness can play a crucial role in this redefinition

## Keywords

Anthropocene | Extinction | Apocalyptic AI | Eco Psychology | Biosphere



This world, the same for all, no god nor man did create, but it ever was and is and will be: ever-living fire, kindling in measures and being quenched in measures."

Heraclitus

## 1. The Way of all Flesh: Apocalyptic AI and the Digital Exodus

**P**sychoanalyst Joseph Dodds in his book *Psychoanalysis and Ecology at the edge of Chaos* (Dodds, 2011) discusses how the shattering of a long-held paradigm in front of a threat inevitably creates a deep sense of uncertainty and fragility. The waves of desperate and disheartened denial that paralyzes most of the discourses needed to find actual solutions have been empirically connected by Terror Management Theory to the psychological mechanism of Displacement and Rejection (ivi: 53). Thus, in face of a threat, individuals and social groups holding to a belief system, react by defensively strengthening their adhesion to it and violently deflect the anxiety on those who menace it. Both the rise of Climate Denials movements, which coincide with groups that also oppose to let down other traditional worldviews threatened by the growing ecological awareness<sup>1</sup>, and the renewed bloom of apocalyptic narratives can be viewed as emblematic *exempla* of this dynamic. In this context, the rise of a new kind of apocalyptic narratives is particularly interesting for the analysis ahead.

As already hinted, one of the main difficulties in finding a referential framework able to sustain the psychological stress of the actual situation, lies in the perceived inability of the main western scientific worldview to rely on the coping mechanisms traditionally held by spiritual belief systems. Notwithstanding the growing amount of literature dealing with this supposed conflict and trying to recompose the fracture between tradition and science, the cardinal problem remains that many of the proposed solutions emerging from ecological thought, such as the variants of animism analyzed by Eco-Psychologist Theodor Roszak (Roszak, 1997), impose the same renegotiation of human agency that triggers this strenuous psychological resistance. Thus, amongst the many scientifically inclined forms of modern spirituality, those who seem to gain more adherents and impose themselves in both scientific and public discourses are the ones which avoid directly facing this problem, granting instead a perspective where the essential anthropocentric tenets are retained or just slightly reframed. Amongst these, we find of particular interest the rising movement of AI Apocalypticism, a particular stance that emblematically shows the interwoven thematic complexity at work in this social dialogue.

<sup>1</sup> In most cases these movements adopt the dialectical strategy of comparing themselves to minorities and accuse the "ecological messenger" of acting as oppressors, often relating ecological movements to Nazism, Stalinism or propagators of the "cultural marxist" agenda (Dodds, 2011: 52).



Following the work of Robert Geraci, AI Apocalypticism can be defined as the umbrella term which comprehends the complex and multifaceted spiritual movements that emerged at the forefront of what has become known as the Transhumanist discourse. Transhumanism is an intermingling of different philosophical and epistemological approaches revolving around the conception that thanks to the advent of technology, humankind has definitely left the natural boundaries of evolution. This results in the achievement of an unparalleled extent of freedom which allows humankind to modify itself and its environment.

Thus, according to Geraci, the main tenet of Apocalyptic AI may be synthesized as follows: “in the very near future technological progress will allow us to build supremely intelligent machines and to copy our own minds into machines so that we can live forever in a virtual realm of cyberspace” (Geraci, 2012: 10). In this sense, many proponents of the Apocalyptic AI intend cyberspace as a future, redeemed state wherein the human becomes able to shed like old flesh its physical limitations. The messianic wait for its advent stands in almost perfect resonance with the traditional definition of Apocalyptic movements, generally described as belief systems whose adherents seek to solve periods of historical stagnation and social alienation through total yet destructive renovation. In this perspective, global warming and its impelling call for social and epistemological redefinition tends to be dismissed as just a decadent moment, almost a sorting of the righteous of Judeo-Christian memory, where the “believers” and designers of this new digital reality will be saved from the catastrophic grip of nature, transformed and redeemed into new beings for a new reality. This view follows the tenets of Richard Rorty (Rorty, 2004), for which the belief in redemptive truth was well as any given set of beliefs able to shape human imagination indicating a life worth living, have passed historically from religion to philosophy to literature and now “pop culture” and new media. Amongst those, science fiction in particular can be viewed as a way to envision and shape the future to come while the growing concerns for the environmental crisis seems to loom over the realization of this hoped-for future.

This movement, in fact, traces its common origins with the Gaia Theory and the second wave of Cybernetics in the communalist movements of technology enthusiasts in the 1960s, particularly those espoused in the Whole Earth Catalog, published by Stewart Brand, that envisioned the rise of the digital realm as an antidote to the escalating alienation resulting from the mechanization and urbanization of social life.

But a pivotal distinction exists between the ethos of the Whole Earth Catalog and AI Apocalypticism. Whereas the Whole Earth was more prominently influenced by the new age philosophy of the hippie movement, AI Apocalypticism retains an almost Calvinistic perspective on salvation that resonates more with the contemporary capitalist ethos. This characteristic aligns with the intrinsic nature of apocalyptic movements, where the acknowledgment and belief in the revealed truth regarding the impending world state are integral to participate in the eschatological process.



But it is also important to note that one of the main catalysts for the consolidation of the movement can be traced in the rise of the first MMORPG<sup>2</sup>, for instance *Eve Online*, *Second Life* and *World of Warcraft*. The worlds and sometimes the whole narratives of these video games are collectively and directly shaped by the massive interaction between players that would later become characteristic of social media.

In these virtual places, often based in Fantasy or Sci-Fi settings, people found unique opportunities to build new and more fulfilling identities, and explore their personality in an unrestrained setting where they are able to share and become protagonists in adventures, wars and dramas unbound by the weight of reality. Also, as noted in an article by Forbes, aptly titled *From MMO to CEO* (2008), economic and political systems in which many of these games are set is almost entirely-and often ruthlessly - directed by players, resulting in "a sneak preview of tomorrow's business world" as "these games exhibit leadership abilities crucial to the future of business."<sup>3</sup>

This statement enlightens the subtle yet radical shift that characterizes these new ventures of Apocalyptic narratives from their historical counterparts. As in the Judeo-Christian tradition salvation stems from a strictly moral and communitarian standpoint, here the way to redemption is mostly entwined with personal success, in a framework more directly derived from the traditional view of Natural Selection as the law of the survival of the fittest. Whereas traditional salvation is mostly delegated to some kind of redemptive higher power to be conjured or awaited, each and every participant adherent to AI Apocalypticism can potentially be an active agent in developing the technological tools needed to build the digital utopia.

It is noteworthy, then, that many proponents of digital eschatologies such as apocalyptic AI, like Raymond Kurzweil, find themselves occupying the highest hierarchies in technological industries. In the emblematic words of Richard Bartle "deities create virtual worlds; designers are those deities [...] should those lacking a god's motivation assume a god's powers?" (Geraci, 2015: 76).

These aspects of entitlement are particularly clear when examining one the foundational works of narrative that shaped the concept of the Cyberworld, like the novel *Neuromancer* by William Gibson (1984), wherein access to a brave new world of possibilities is only granted to able hackers, while the rest of the dilapidated urban jungle of the earth, the Meatworld, is left to the powerless masses. These lead to an essential problem of AI Apocalypticism, the tendency of most of its adherents to forget that technology does not exist in a vacuum and is not neutral to the existing power structure and ideology. Thus, it would be quite disingenuous to not point out that many proponents and theorists of Transhumanism do so as to create an almost eschatological hype to the technology they produce. To sell a new world to avoid fixing the dying one, or a new, unbound and perfected identity to avoid reasoning on the existent one are good marketing strategies at apocalypse's edge.

Therefore as the physical space is tinged in its foreboding promise of annihilation, compelling a reevaluation of our epistemological and sociological categories, the



<sup>2</sup> Massively Multiplayer Online Role-Playing Game.

<sup>3</sup>[https://www.forbes.com/2008/07/16/leadership-online-videogames-lead-cx\\_mk\\_0716ceo.html?sh=5ea09374f10a](https://www.forbes.com/2008/07/16/leadership-online-videogames-lead-cx_mk_0716ceo.html?sh=5ea09374f10a)

quest for a new digital utopia acts simultaneously as a liberating escapism and a repository for the more traditional worldview nested in the narratives that shapes the human social imaginary.

In particular the transhumanist approach of AI Apocalypticism strengthens its position by leaving untouched the fundamental tenets of religious traditions, such as the individual soul – conceptualized as an Avatar – and the depiction of cyberspace as a corollary to the conventional notion of heaven, while also proposing an hygienic view of salvation that transposes the Judeo-Christian contempt for embodiment and physicality in the new digital milieu. The embodied world of flesh is thus regarded as a burden doomed to dissolution, opposed to a consciousness whose limitations are therefore only dependent on its physical medium. The notion of “original sin” is then reframed into a dichotomy where the inefficient bodies inherited by natural selection become corrected, perfected, and then completely left behind by the progresses of technological and artificial selection. This narrative can thus be viewed as a new transcendental answer to the materialism prevalent in contemporary western world; according to the insights of Margaret Wertheim, it grows from a need to restore a place for the sacred: “as modern science increasingly viewed the world physically, banishing the realm of the spiritual from ontological necessity, it left a void in the Western worldview; cyberspace—the digital world—takes on a sacred aura precisely because people need to locate spiritual realities somewhere” (Geraci, 2012: 76).

Although an epistemologically vague concept, it may be useful to note, following the work of evolutionary psychologist Scott Atran, that the sacred can be psychologically considered as a system of acts and practices by which humankind tries to integrate its environmental conditions to its social practices, thus gaining a feeling of agency by binding them into the same social contract that characterizes inter-group dynamics. In this view, to know the sacred things means to be able to negotiate the authority that the environment imposes over the social group, to create connection with which is, etymologically, separated, or external to the human laws.

In this sense, the dislocation of the sacred into a completely different - although tangible - realm can be viewed as an emblematic symptom of the disquieting psychological consequences of global warming. As nature becomes ever more unpredictable, unrecognizable, and hostile, to ostracize it from this kind of social pact acts to restore the same feeling of agency that led to its original sacralization. Against this perspective, at the opposite side of the spectrum many proponents of Deep Ecology have opposed to transhumanism a view that can be synthesized as “the re-enchantment of nature” aiming to rebuild our social practices around a restoration of this communion. Ecologist philosopher Timothy Norton has strongly criticized both these perspectives. In its first work, *Nature Without Nature*, the author argues how the idea of rebuilding a sacred community with nature is as essentialistic and dichotomizing - and probably even less realistic as a perspective - as the eschatological escapism of AI Apocalypticism. Despite the great importance of this critique, we will return to it in the following sections.



Considering this perspective, the phenomenon defined by Ed Castronova as “the contemporary digital exodus” (In Geraci, 2015: 72), wherein individuals increasingly migrate from the physical world to the digital realm despite being destined to become, as supposed by the author “a way more impactful phenomenon than climate change” (ivi) is, instead, just one of its more potent effects. But it is also important to consider how Apocalyptic AI’s direct continuity with Western spiritual traditions, while facilitating its dissemination, paradoxically impedes the requisite epistemological reconfiguration that is essential to find new perspectives able to face the historical challenge required to the new epoch.

If, in a sense, it is then true that Apocalyptic AI and Transhumanism more generally, must be considered fundamental building blocks for the philosophy of the future, and to aid the reconceptualization of the human frame, it is anyway essential for its further development to come to term with its burdensome heredity. In fact, AI Apocalypticism, despite its continuously growing status among technological enthusiasts yearning for salvation against modern alienation and future extinction into the digital nirvana, risks to become, at its core, a conservative epistemological instance that iterates the stale identification of the human with an abstract concept of consciousness. Its theoretical lure is the age-old essentialistic relief of the immortal soul able to survive the dangers and corruption of embodiment, complete with the Pascalian bet on the possibility that technology and human endeavor will be sufficient to survive and surpass the actual limitation, reframed as a mere technical difficulty to update. In this way the Transhumanist agenda aims to confront the crippling fear and sense of disempowerment and guilt that emerges from the growing acknowledgment of the anthropogenic causes of global warming and offering a sanitized vision of detachment from the human body and the human responsibility as an umbilical cord that needs to be cut before it can strangle the infant. In this way, the difficult yet pressing need for practical and epistemological solutions to get out of the climate crisis risks being ignored more than solved.



## **2. Humanity and its Discontents: From Technological Heaven to Ecological Horror**

Global warming, acting like the pressing, almost irritating questioning of Socrates, has melted “along with glaciers, our ideas of world and worlding” (Morton, 2013: 101). This world eroded by Climate Crisis as by an alchemical solvent is nothing but the aesthetic conception of Nature as just a scenic background for the spectacle of the human to take place (ivi). Taken into this sense, the world has already ended a long time ago or, more precisely, the needed attunement with the notion of global warming is just the last step in accepting that it never existed. The concept of worlding can be viewed as the sense-making cognitive process through which we articulate our social narrative with the ecological niche we are in. The Nature Narrative, criticized by Morton as amongst the most problematic facets of ecological discourse stems exactly from this process, as it solidifies the array of systemic

dynamics of which we are an indissoluble part into something akin to an individual, a god, a thing, an organism. The Tolkien-like pagan agricultural paradise praised by many ecologists is, at its core, as anthropocentric and nonexistent as the digital nirvana. The romanticized Nature that needs to be defended, respected, or restored exists only in nostalgia; it was precisely invented, the author argues (ibidem: 104), as an aesthetic, dream-like paint to oppose the industrial revolution. Yet, dreams and paintings – as organisms and natural systems – seen too close, lose their soothing unity and reveal themselves as an entangled mess. Climate Crisis acts exactly as the shortening of this aesthetic distance that blurs the Individuality of the picture into an anamorphic arabesque of complex in-out relationship, where concepts such as identity, substance, environment, and organism dissolve. Thus, the tragedy is not that this picture has been dissolved, but the difficulty in accepting that it has been a picture all along, that most of what was taken for substance, most of our ontology, was just a mere accident, a momentary cloud formation soon to be dispersed as the weather.

But the erosion of our worldview is not some natural catastrophe or the punishment for our Hybris. Despite the name nothing really changed in the climate. The only change that happened is the development of our own epistemologies, and the unavoidable effects that this “upgrade” in our models of the world reflects on our perspective on ourselves. But being these upgrades hardly ever pleasant, it is quite easier to violently oppose a menacing new paradigm than redefining our own system of beliefs, as Socrate’s death teaches. Like the Athenians, we can kill a man to stop his questions. Yet even though we may try, the voice of the planet cannot be so easily silenced. Thus, the only possibility for an ecological discourse, observes Morton, is the one that embraces the essential *Unheimliche* of this transformation.

But the difficulties of this process are deeply ingrained in our narrative. Consider the Freudian discussion on anxiety: In his famous work *Civilization and its discontent* (Freud [1930] 2010), the father of psychoanalysis hints at three main causes for human suffering. The first one is the human body itself, as it is feeble, weak, bound to die and often unable to correspond to personal and societal expectations. The second one is the World or Nature that continuously humble the human striving for domination and control, destroying its achievement and humbling its expectations. And the third one are social relations both between society, social legislation, and other human beings as well as with other beings and environment in general (ivi: 80 - 86). Thus, in the pessimistic vision of Freud, the main purpose of civilization is to prevent humans from falling back into the “dreamstate” of the organic. But, as this line of defense is always porous – and its hardening is characteristic, in Freudian symptomatology, of pathological paranoia – the human-centric space of consciousness ends up being the prison where the subject is caged with its own unhappiness.

As the Freudian notion of the human emerged exactly in a similar moment of epistemological attunement between the human and its environmental *milieu*, it can be useful to highlight the direct connection between the ecological shift brought by global warming and the one that came from evolution theory. In a sense, we could



more precisely say that Global Warming acts as the full realization of the lesson of evolution: the idea that species are exactly like the weather, a dynamic system of change subjected to a complex mix of chaotic and rule-bound behavior. It is probably not strange that the two traditional forefathers of Ecology, philosopher and painter Ernst Haeckel and explorer and science *prodigee* Alexander von Humboldt were both essential figures in inspiring Charles Darwin and, in turn, Sigmund Freud. As argued by Andrea Wulf in her book *The Invention of Nature* (Wulf, 2016), it is through this epistemological axis that we can follow the line of fracture that made possible the redefinition of nature discussed by Morton.

The whole psychoanalytic project may be considered as a way to find our place in the *Naturgemalde*, the picture of nature created by Von Humboldt as a schema to describe biological variance of flora and fauna as biological adaptation to geophysical conditions (ivi). As thoroughly argued by Frank Sulloway in his extensive study *Freud, Biologist of Mind* (1996), the whole of psychoanalysis may be reckoned as an expansion of the Darwinian argument on the descent of man into a coherent, mechanistic and almost ethological theory of mind. Coherently, this narrative was founded on the famous law of recapitulation by Ernst Haeckel, which maintained that the ontogenesis, the formative stage of the fetus of an individual organism, was a recapitulation of all the processes of the evolution of life (ivi). This notion is important in highlighting an epistemological paradox deeply embedded in the history of the social reception of evolution theory and scientific discourse in general. The law of recapitulation as conceived by Haeckel, despite being still a concept rich of fascinating and insightful metaphors, is now disproven beyond any controversy.

The reason is that Haeckel thought of this process as bound to a law of improvement, so that the adult stages of earlier life forms would have been mirrored in the fetuses of newer and “more developed” animals. As pointed out by Ben Woodard (2013), in his fitting analysis of the relation between ecological awareness and the depiction of horror in media and literature, even though Freud was pessimistic about the possibility of any substantial progress for civilization, he was deeply embedded in a narrative that saw evolution as a conflict to make: “things less oozy and slimy from things more slimy. Hoping that in the end this original sliminess may finally be cast aside” (ivi: 9). Here we see the disquieting heart of the problem already hinted at in the previous section while talking about transhumanism. Posed in these simplistic terms, evolution works like a race where organisms, like individuals, run to get a better position on an abstract ladder that goes from a less to a more perfect state, arbitrarily defined by consciousness. Thus, we can see how, as in 1895 Freud abandoned his trial for an almost proto-cybernetic project for a scientific Psychology (Sulloway, 1996), his more speculative and famous works became the canvas on which to engrave the new representation of the human heroic struggle against nature. The two protagonists of this narrative became the active, adaptive human agent, striving for individualization in Malthusian fare, and the passive, all absorbing, mathematical and mechanized background of drives and instincts that, through the unconscious, binds subjectivity to its phylogenetic, undifferentiated past. This conception works on the basic age-old dichotomy that



poses the difference between the human and the natural as one between freedom and necessity. The more conscious they are, the more organisms are free from being controlled by their physiology, their instinct and their environment. The natural origins of the human are thus viewed as an archaic remnant whose monolithic shadow menaces to engulf the myth of civilization like a prophecy of decay, a dream from which the Human has to awake and yet still lingers over its eyelids. But, like in the traditional adagio from the Zhuangzi, it is difficult to tell if the awakening of the human is a mere butterfly's dream. Yet, the more our comprehension of the human behavior processes proceeds, the more this *Sancta Sanctorum* of consciousness gets explored, the more this notion of Free Will becomes tenuous.

This framework is useful to comprehend the particular ambivalence found in evolution narratives epitomized by Woodard in the epistemological analysis of the body horror and zombie apocalypse genres (2013). Both these topics represent emblematically the disquieting perspective of a leak of the organic into our culturally-sanitized, machine powered, world. A leak that soon threatens to submerge it. In both scenarios an invisible enemy, like a parasite or a pathogen, invades and twists the autonomous human consciousness, disempowering the mind and turning the body into nothing but "a bloody node into an infrastructure of infection" (Woodard, 2013: 28). As observed by Woodard, we still haven't left a "demonic" conception of nature (Ivi), as parasites and pathogens, like demons unseen, threaten to possess and violate the *Sancta Sanctorum* of Agency, consciousness. In this framework of vulnerability we can better understand the tenets of AI Apocalypticism as a way to escape this invasive intimacy and close in a secure space the whole of the world-image that comes with the notion of a disembodied, nuclear consciousness. Yet, as shown by the many worries following the development and implementation of the AI, it is evident that the category of the machine is not exonerated by the same biophobia characteristic of our perception of the organic, as the two concepts intermingle and overlap.

The need to discern and define ourselves has been a distinctive staple of our kind since it began its rise to the vanguard of the primates' prominence some 7 million years ago. This need is symptomatic of our most precious characteristic, self-consciousness, which possession long fueled our pride as a unicum amongst other beings. Yet, over a long history of inquiry over it, not only this most precious pearl in the diadem of humanity remained elusive like the emperor's clothes, but what we understood about it began to paint a profoundly different picture from what the originally expected God-Given "out of jail" card.

In fact, Intelligent behavior, similar to consciousness emerges everywhere, both in machines and animals alike (Woodard, 2013). Long held tenets of human specialness are deflowered of their godly-bestowed attributes to become the fruit of a blind genetic babbling. At the same time, machines and robots that evolved from that simple lever that managed to let us lift the world the first time are now menacing to become autonomous enough to lift us along with the world.

In *Natural Born Cyborgs* (Clark, 2004), philosopher Andy Clark emblemizes the similarity between ecological and technological porosity with the example of the



disquieting genre defining art of Stelarc. In 1982, at Hosei University in Tokyo, Stelarc showcased a groundbreaking performance featuring a third hand controlled by EMG signals from his legs and abdomen. This electronic prosthesis, seamlessly integrated into his body, exemplifies Stelarc's exploration of the interface between body and machine. Yet, again Stelarc's work challenges the traditional notions of embodiment, pairing the third hand with his "Involuntary Body" performances (ivi: 300). Here, distant agents manipulate his biological body via muscle stimulation systems. This juxtaposition highlights the fluid boundaries of control: while Stelarc effortlessly commands the third hand, he becomes subject to external influence in the "Involuntary Body" performances. As shown by this example, humankind has already entered the phase of "preventative and prosthetic" (Lem, 2014: 301) adjustment to its own physical limits. If humankind evolves changing the environment around itself, then it is just impossible to change the world around it without changing itself, as all beings are inextricably integrated into their environment.

As aptly described in the words of futurologist and essential sci-fi writer Stanislaw Lem:

This ability, which penetrates the micro and macro universe with its technical tools, all the way to its furthest visible "*pantocreatic*" limit, does not touch the human organism itself. Man remains the last relic of Nature, the last "authentic product of Nature" inside the world he himself is creating. This state of events cannot last for an indefinite period of time. The invasion of technology created by man into his body is inevitable (ivi: 300).

As pointed out by George B. Dyson in his book *Darwin Among the Machines* (1999), already at the beginning of this evolutionary conundrum, the English polymath Samuel Butler, amongst the fiercest evolution enthusiasts and acutest critics of Darwin, had observed how human and machines are intermingled in a singular co-evolving dynamic. Some of his statements burn with the flame of prophecy as he contemplates, foreshadowed in the roar of the locomotive, humankind as just a biological humus for the new technologic Cambrian ready to explode. As he muses to the lack of imagination of his contemporaries, unable in connecting the technological forms to the whole of natural history, he anticipates the amazement of computer biologists like Thomas Ray beholding the software organisms of his project *Tierra* evolve, mutate and migrate in an artificial environment (ivi). More strikingly, he observes how machines will be integral in the evolution of man as both worlds become organically entangled. His vision is not one of reciprocal conquest but of organic symbiosis. In his diaries, often the Victorian visionary notes that as an organ is just an internal machine, thus a machine is an external organ so, he asks, is it really possible to tell the difference? In commanding a machine we act as its organs, we are its senses, its immune system when we repair it, and an external reproductive system as we produce it. This integral, symbiotic vision is useful in redefining evolution not as a vertical race toward transcendence, but as an horizontal, complex and dynamic embedded plane of reciprocal transformation, like a root system of which we are just an ephemeral, anonymous sprout.



### 3. Thanatopsis: Scientific discourses and Spiritual practices

As in the last section we dealt with the idea that the world is not ending, but changing with our own perception of ourselves, here we will discuss how, in the same way, although humanity is not necessarily on the brink of extinction, yet the Anthropos as a concept have always been no more than a ghost. The choice is between chasing our ghostly transcendence and, with the transhumanist, imagine that salvation lies in hunting a better machine than this biological body or, accepting our ephemeral embeddedness, discover that there were no ghosts nor bodies to start from.

This perspective was already advocated by anthropologist and cybernetic Gregory Bateson. As argued by Bateson, who often directly attributed his scientific intuitions to poets like William Blake or the more mystical works of Carl Jung, the notion of Aesthetic Unity is a necessary mean to acquire the "Systemic Wisdom" (ivi: 442) and to evade the dichotomizing views already discussed and move the first steps to what he calls the Ecology of Mind (ivi). In the words of the author:



We are beginning to play with ideas of Ecology, although we immediately trivialize these ideas into commerce and politics, there is at least an impulse still in the human breast to unify and thereby sanctify the total natural world, of which we are. [...] I hold to the presupposition that our loss of the sense of aesthetic unity was, quite simply, an epistemological mistake. I believe that the mistake may be more serious than all the minor insanities that characterize those older epistemologies which agreed upon the fundamental Unity.  
(Bateson, 1979: 18)

The importance of this concept may be synthesized in the impossibility to understand human consciousness or any kind of behaving system as a substance, as a something in itself. Systems are conceived as open, integrated and reciprocally dependent: individual psychologies thus emerge from specific societies that develop as specific bio-cultural niches that, again, shape back the environmental and even planetary processes. In similar fashion, neuroscientist Daniel Dennett argues against the idea of a central self, emphasizing instead a coalition of processes - neural, bodily, and technological - that collectively form what he terms the "soft self." This concept suggests that the self is not a distinct essence but rather an ongoing narrative constructed by various elements. Analogous to a pile of sand settling into a stable arrangement, the self organizes through stable coalitions of biological and non-biological elements. The mistaken belief in a central, slim self blinds us to our true nature as distributed, decentralized beings intimately connected to our context, culture, environment, and technology (Clark, 2004: 138).

These core ideas are essential in shifting epistemological perspective from the single, incarnate, individual to the complex intertwined processes from which it emerges. The psychological importance of this shift has been supported by the empirical studies of neuroscientist Andrew Newberg, whose research has led to the foundation of a growing field of study called Neurotheology (Newberg, 2018). Neurotheology is the last development of the bio-structuralist project developed by

Evolutionary Anthropologist Eugene d'Aquili and It seeks to clarify the subjective phenomenological field traditionally related with mystical and religious experiences in a neurological, systemic and evolutionary framework. The concern of this multidisciplinary enterprise is not, as psychology has tried since its conception, to demystify the religious in the psychopathological, but to analyze the adaptive function of this phenomena in the broader context of the brain cognitive processes. Neurotheology is particularly relevant in this context as, at its core, it stresses the notion that science is neurologically indistinguishable from religion, as they are both founded on the same "Cognitive Imperative" (Ivi: 195) of connecting and assembling patterns of recurrences into vaster narratives that enable pro-active relationships with the environment (Ibidem). This framework is useful to substantiate the transformative potential inherent in mystical experiences (ME) as they can be considered an important starting point to analyze the possible positive effects of implementing a wider notion of subjectivity.

ME are particularly profound states of consciousness, often obtained through meditative or rousing practices or, alternatively, through the assumption of psycho-active substances. Yet, not all Altered Conscious State can be considered properly Mystical. In fact, ME are mostly characterized by a profound unbinding of the regulatory processes of the self-image, often culminating in a merging with what is canonically perceived as a boundless unity that transcends corporeal and egoic limitations. This holistic expansion engenders a sense of universal selfhood, revealing the fragility of a strict dichotomy between subjective inner experiences and objective external perceptions. Newberg's neurological research has observed, analyzing voluntary subjects with PET<sup>4</sup> technology, how this phenomenon of unity correlates with reduced activity in the parietal lobe, the locus for self-conception and spatial cognition (ivi: 305). As sensory inputs diminish, the parietal lobe's ability to dynamically locate and distinguish self and space is compromised, thus leading to this feeling of de-materialized perception (ivi: 306). As observed by Newberg, after particularly intense ME, people tend to have long-lasting transformative effects in their epistemology, marked by a renewed sense of meaning, reduced anxiety and an overall perception of having progressed in what Newberg defines the Unity Continuum (ivi: 298). As many of the narratives that emerges as a resistance against the rise of a new ecological paradigm for human selfhood insist in maintaining and re-consolidate an individual-based norm of subjectivity, amplifying in the process the resistance toward alternative views<sup>5</sup> and incrementing the stress of feeling the original worldview under siege, the neurological insights that substantiate neurotheology may reveal themselves key in implementing the discovery of the Ecology of Mind as a form of therapeutic practice.

The positive psychological effects of this experiences have also, as discussed by philosopher Chris Letheby (2021), in its analysis of Psychedelic Augmented Psychotherapy, another important consequence in the dialogue between science and



<sup>4</sup> Positron Emission Tomography.

<sup>5</sup> As discussed in the notion of Ecological Horror in the previous section.

spirituality, as the proven effects of ME emphasizing the core features of “unselfing” reveals a genuine phenomenon, demonstrating that transformative practices can be described as 'spiritual' without requiring metaphysical beliefs. This is particularly important to address a common criticism made to this more Mystically-inclined perspective called “comforting delusion objection”.

This critical stance, emblematic of the complex internal struggle of science with its own myth, accuses this field of study of appositely concocting a consolatory narrative that seduces with the same appeal of religion, thus, being helpful but not true. This critique is particularly relevant as it poses to question the viability of a synthesis between scientific and religious epistemological frameworks. If this tenet is true, in fact, all kinds of epistemological systems that take into account the phenomenology of the spiritual into the subjective and social dynamics should be viewed as inherently metaphysical, thus undeserving of scientific inquiry outside of a reductionist context. In agreement with Newberg, Letheby observes how the transformative power of practices concerned with spiritual understanding is to be found in the biological processes of self-maintenance of the brain, thus being intrinsic to the embedded nature of consciousness. Thus, undervaluing the subjective phenomenology in which these systems express themselves would be, in essence, much more metaphysical than the supposed consolation these epistemological frameworks are accused of promoting. As said in the beginning, this line of argument is mostly symptomatic of the complex internal struggle that characterize the epistemology of science and yet, this fields of study, with their strict scientific inquiries, illuminate the intricate dialogue inherent social and biological influences, not abandoning, but rather nuancing reductionist approaches. These emerging fields serve as indispensable tools for reconciling the disparate narratives that fracture worldviews, unveiling the diverse outcomes stemming from an understanding of how various beliefs sculpt the shared physio-psychological architecture of the human brain.

Cultural psychiatrist Laurence Kirmayer is another leading proponent for the necessary recognition that individual and collective narratives, deeply entrenched within cultural fabrics, profoundly shape subjective experiences, expressions, and therapeutic journeys amidst mental and emotional turmoil (2015). Rooted in an ecological perspective inspired by Bateson, his model acknowledges the multifaceted interactions characterizing individual psychology within socio-environmental contexts. It expands upon traditional ecological frameworks by integrating notions of embodiment, enactment, embeddedness, and extension, thereby encapsulating the diverse layers of organization inherent in the bio-psycho-social continuum (ibidem).

Through this lens, Kirmayer elucidates how the body's physiological substrates intricately shape cognition, behavior, and subjective experience, engendering iterative cycles of interaction within the socio-environmental milieu. Thus, as showed by Newberg and Kirmayer, if the potential of the Eco-Social approach has to be found in promoting a feeling of connectedness, easing the opening of the personal into the collective both to promote healing and to ease and comprehend the source of suffering, reconnecting this narrative with the Eco-systemic, embedded nature of



what is perceived as “the divine” may be a way to re-conceptualize and better live or newly discovered intimacy with the world.

Environmental scientist Tyler Volk in his work *What is Death?* (2002) gives a perfect example of the possibilities that emerges in comprehending the narrative potential of binding together scientific facts with mystical meditation as he elucidates the benefits that can emerge – in life – from “a secular cosmology of death” (ivi: 10), and advocating a monist, materialist framework that eschews the necessity of relegating consciousness to a purportedly more secure realm of existence. As he observes, embracing the ecosystemic awareness of scale and cycles enables to develop what he describes, in line with Newberg, as “a sense of gratefulness” toward transience. In ecologically transcending individualistic notions of self and even species, this viewpoint fosters a sense of sharing and transformation. Death operates at the organismic level but is “perceived” differently at higher ecosystemic and cosmological scales, manifesting as a sharing of elements and information akin to cultural dissemination or genetic exchange. In this systemic framework, individuals are like the momentary gravitational configurations that give the ephemeral – yet long lasting – shape of planetary systems, nodes within a larger network, threads shred from an old dress to be tied again in something new. Employing ecological paradigms, Volk delineates the profound symbiosis wherein death yields sustenance for life, elucidating the intricate mechanisms by which organic matter cycles through ecosystems.

A pivotal insight within Volk’s *Thanatopsis* is the portrayal of a cyclical dynamic, wherein death serves as a catalyst for life’s perpetual renewal. Central to this metaphor is the concept of recycling, wherein deceased organisms contribute to the regeneration of life through intricate ecological processes. Volk illustrates how biological recycling, facilitated by organisms such as worms and bacteria, transforms organic matter into essential nutrients that sustain subsequent generations of life. By emphasizing the pivotal role of recycling, Volk underscores the profound impact of death on global productivity, asserting that without this process, life would languish at a mere fraction of its current abundance. Moreover, he elucidates how the management of death by living organisms amplifies the vitality of ecosystems, highlighting the interconnectedness of life and death within the broader biospheric framework. From the decomposition of organic detritus to the global flux of elemental constituents, Volk unveils the sublime choreography by which death fuels the vitality of the biosphere.

Volk’s vision of a metabolic mystique is not only a powerful and compelling metaphor, but also underscores the necessary passage, akin to a collective *Nekya*, from the fearful perspective of ecological horror to a more accepting understanding of our transient place in a vast process of reconfiguration and transformation.

In our survey, we tried to underscore the imperative for a comprehensive understanding of Global Warming within the broader context of a multifaceted and indispensable renegotiation of the human framework with its historical underpinnings. The different narratives scrutinized herein serve as indicators of the psychological resistance to this process, and particularly, the difficulties of coming to



terms with the sometimes frightening consequences that notions as embeddedness have on long held staples of our worldview. This profound epistemological shift affects not only our understanding of the Ecology around us but also of the ecology inside us. We argue that embracing unconventional yet fascinating new paradigms, although difficult, may present an unparalleled opportunity for change and metamorphosis, as social change is possible only in the context of a change in our shared imaginary. As evidenced by the psychiatric and psychoanalytic framework of many of the authors here discussed, addressing the mythopoetic and linguistic contexts within ecological discourse plays a crucial role in facilitating the collective processing of identity-related trauma arising from the tension between newfound ecological awareness and entrenched worldviews. An analysis of the concept of embeddedness, thus, may serve as a potent remedy to counter both the escapist impulse to seek transcendent solace in long held paradigms and the paralyzing effects of the impending sense of ecological doom. Consequently, the examination of the interplay between religious and scientific perspectives should not be viewed as a rejection of empiricism or a retreat into the ivory tower of mystic immobilism, but rather as an elucidation of how cultural and spiritual dimensions, integrated within a holistic, non reductive and biologically grounded framework, can address at their core the symptoms of social inertia that manifests in the resurgence of the apocalyptic imaginaries. Understanding science as a spiritual practice and spiritual traditions as mechanisms for navigating the dynamic relationship between consciousness and its eco-cultural context becomes thus essential in elaborating the new toolkits of social and political practices to further political and social action.



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*Re-Envisioning Embeddedness*

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