

Cosmo-Techno-Poiesis: Architecture of Environmental Control

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Abstract

Architecture is a collective technological human practice to control local environments in order to protect the human body. Depending on the worldview and cosmology of the society which produces the architecture—increasingly the global worldview is rational, mono-technological and Western—this practice gives more or less space for nonhuman agency. This paper looks at ways to loosen the contemporary Western obsession with controlling the environment architecturally by exploring different forms of architectural *memento mori* (remember you must die). The act of willing (poiesis) protective-controlling architecture (technology) into the world, inside a certain worldview (cosmology), is explored through the conceptual entanglement of those three notions: *cosmo-techno-poiesis*. The paper concludes with an architectural example and a short summary.

Keywords

Architecture, natureculture, nonhuman, environment, ruin, decay, technophilia, posthumanism, transhumanism, memento mori.

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Architecture as Mono- Technological Boundaries

“While traditional architecture was capable of providing shelter from the environment, the advent of HVAC (Heating, Ventilating, and Air Conditioning) systems at the beginning of the twentieth century established the building envelope as a cocoon in which an alternative universe was maintained.”—Michelle Addington ¹

The architectural boundary is a place of intense negotiation. The layer between “inside” and “outside” does not just mediate between indoor and outdoor climate (the focus of most construction regulations) but also negotiates a psychological positioning of the inhabitant in relationship to their environment. Michelle Addington, dean of the University of Texas at Austin School of Architecture, problematizes the increasingly hermetically sealed architectural envelopes, which divorce the human body from its natural environment, in order to endorse the work of artist-architect Philip Beesley. ² His almost transhumanist sculptures rethink the engagement of humans with architectural boundaries through technological augmentation and almost life-like behaviors: “... Beesley's environments always question the idea of boundary, and in doing so, question the very nature of architecture.” ³

Architecture divides what is inside and what is outside, what is nature and what is culture. The inside is a space of control, while the outside is uncontrolled and hostile. The environment is either filled with archetypes of fear or with energies and weather phenomena not fitting into our energy calculations. The latter leads to increasingly higher energy standards, such as those for nearly zero-energy buildings (NZEB), ⁴ and with it prescribed wall insulation values and air-tightness factors.

Architect and artist Luis Berríos-Negrón uses the “green-house”—as an actual architectural typology and a metaphorical artistic device—to question nature's “outsider position” and to describe how architecture can manifest a human mindset towards nature:

Control and domination are expressed by placing nature, ironically, on the “inside,” where man thinks he can dominate life—to extract and accelerate, or decelerate and conserve growth—regardless of place or season. That site-less, modern, illusory power sandwiched between the industrial logic of translucent surfaces is that which cuts, represses, forgets, and *fore-gets* the realities of an habitable environment. ⁵

Architecture in that sense is not just a technological solution which mitigates energy losses but is also a manifestation of ideology which separates the human body from the natural environment—or even reality. The architectural envelope is where an increasingly questionable separation of nature and culture ⁶ is formalized and manifested—in physical actuality and in a metaphorical collective mindset. This paper looks at architectural (or at least theoretical-architectural: architectonic) ways out of nature-culture dichotomies while realizing at the same time that Haraway's idea of *naturecultures*—an endless conglomerate of entanglements of matter, stories, life and so forth—has practical “common sense” limits when it comes to buildings: Who in the Western world wants to remove the architectural separator between the human and its environment? The text looks at possible ways to loosen this boundary, by reintroducing nature as an architectural *companion species*. ⁷

According to artist-architect Frederick Kiesler, architecture is a form of *technological environment* which helps humans in their survival in the *natural environment*. Technology, according to him, is a form of social heredity, which has in it the long history of toolmaking: “Thus a contemporary chair, for instance, is the product of many generations of other tools for man to rest his body in fatigue. This is heredity in technology.” ⁸

What that means is that our built environment, or technological environment, is an archive of previous human-nature struggles and former knowledge production. Architecture is a technology which is placed between the human body and its environment. The formulation of this technological “machine” visualizes a society's relationship to the “actual” and the “imagined” natural environment. While actual local weather characteristics, material availability and cultural idiosyncrasies contribute to a vernacular architecture and its specific boundary conditions, the worldview of that society (cosmology) negotiates how much those boundaries are open to inside-outside mediation.

Yuk Hui coined the term *cosmotecnics* ⁹ in order to work on the problems that he sees in the world, one of them: An unquestioned mono-technological development which is rooted in a certain global worldview (cosmology). This one-dimensional development, according to him, contributes to the destruction of the planet and to the maintenance of fixed human-cosmos, human-nonhuman and nature-culture relations:

I gave a preliminary definition of cosmotechnics as unification between the cosmic order and the moral order through technical activities, in order to suggest that technology should be re-situated in a broader reality, which enables it and also constrains it. The detachment of technology from such a reality has resulted from the desire to be universalizing and to become the ground of everything. Such a desire is made possible by the history of colonization, modernization and globalization, which, being accompanied by its history of economic growth and military expansion, has given rise to a mono-technological culture in which modern technology becomes the principal productive force and largely determines the relation between human and non-human beings, human and cosmos, and nature and culture. The problems brought about by this mono-technological culture are leading to the exhaustion of resources and of life on earth and to the destruction of the environment, which are central to the discourse around the Anthropocene.¹⁰

Western architecture—as a form of technology to negotiate between humans and nature—follows the logic of what Hui describes: Mono-technological prescriptions, which are embedded in an unquestioned but slowly crumbling technoscientific cosmology, are dictated by law and leave no room for alternative cosmologies, techno-diversity or alternative engagements of humans with their environment. Or as Helmut Trischler and Fabienne Will state it when talking about the *Technochene / Technosphere*: “Humans submit to the artifacts they have created themselves, shifting the responsibility for human-environment relationships to things.”¹¹

The increasingly hermetically sealed borders of Western buildings do not solve the root problem of a troubled human-environment relationship. In fact, their purpose of creating borders between the human and its environment does exactly that: deepening the border between the human and its environment.

Poiesis: Willing Architecture into the World

Architecture, or in fact every form of natural or man-made matter, is a manifestation of invisible forces, entanglements and hidden networks of different human and nonhuman power struggles. Kiesler calls these “inter-acting” forces *co-reality*:

What we call “forms,” whether they are natural or artificial, are only the visible trading posts of integrating and disintegrating forces mutating at low rates of speed. Reality consists of these two categories of forces which inter-act constantly in visible and invisible configurations. This exchange of inter-acting forces I call CO-REALITY, and the science of its relationships, CORREALISM. The term “correalism” expresses the dynamics of continual interaction between man and his natural and technological environments.¹²

Specifically, the term *inter-action* sounds very familiar and foreshadows feminist theorist and physicist Karen Barad's *intra-action* by a few decades:

The neologism “intra-action” signifies the mutual constitution of entangled agencies. That is, in contrast to the usual “interaction,” which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. It is important to note that the “distinct” agencies are only distinct in a relational, not an absolute, sense, that is, agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements.¹³

Architecture comes into being when the time is ripe. All inter-acting, or intra-acting, forces come together: Something or someone wants it to exist and this something or someone has the means to make it exist. Architecture in that sense is a form of individual or collective artistic *poiesis*—the will to bring into being. Poiesis is where artwork, artist, receiver, idea and matter come together.¹⁴ The concept overlaps with the foundational concept of magic, where willing leads to manifestations in the world or control over the ego. Will, in the magical sense, is neither good nor bad but depends on the intention of the magician.¹⁵ The size, construction time, material quality and the technological standard of architecture is directly related to the intensity with which one or many will. An Egyptian pyramid or a New York City high-rise is brought into the world with a considerable bigger amount of willing than a hut made from leaves, or a tent bought in the supermarket (while its existence as a typology comes with a long history of willing people as well). The willing of buildings, and accordingly the manifestation of them, is in itself not a bad thing. To will protection from the environment's “attacks,” for example, comes with a different amount of control fantasies (or karma) than the willing of the next biggest building in the world. Intention is key. We can consider the built environment (technical environment)—the existing stock of matter which

divides human bodies from their natural environment—to be the product of human poiesis or their willing to keep nature at a distance.

Another interesting question is if architecture – as a global technology – is in fact creating or perpetuating itself. Peter Haff argues that the Anthropocene is essentially built on the *technosphere* (the technological conglomerate of human activity) which is out of the control for the individual and therefore collective human:

[W]e abandon the apparently natural assumption that the technosphere is primarily a human-created and controlled system and instead develop the idea that the workings of modern humanity are a product of a system that operates beyond our control and that imposes its own requirements on human behavior. The technosphere is a system for which humans are essential but, nonetheless, subordinate parts. As shorthand we can say that the technosphere is autonomous. This does not mean that humans cannot influence its behavior, but that the technosphere will tend to resist attempts to compromise its function. ¹⁶

In a sense, architecture—as part of the technosphere which perpetuates the Anthropocene—can be seen as a nonhuman entity which wants to be fed with more technology, more matter and more human will or it fights back: a Golem, Frankenstein's monster.

How much are we in control of our architectural (techno)logic and how much control should it have over the environment and us?

Memento Mori: Giving-Up Control

How much control is too much control? The following part will concentrate on the concept of death and life as metaphorical transient categories of architecture. Newly built architecture can be considered being “born” out of human will or poiesis and in total control of the inner—and therefore psychologically the outer—environment, while “neglected” buildings can be considered to be in the process of dying and therefore the human is less in control of inner our outer environments. What productive states of architecture exist between birth and death, between control and giving up control, which allow for nonhuman agency and provide human habitats at the same time?

While the transhumanists want to overcome human mortality ¹⁷ and the limits of the planet (multi-planetary thinking can be considered to be the big brother or sister of individual transhumanism), philosophy

professor Patricia MacCormack argues, from an ahuman perspective, for a way out of the world's problems through the embracing of death:

Where I want to push things is through the incorporation of the death of the species in actuality and to cease the actual death of the nonhuman other as inherently joyful affirmative qualities of protest, and this I see exemplified in two activist philosophies which result in two material actions: human extinction and animal abolition. ¹⁸

Ahumanism and transhumanism can be seen as being on an oppositional spectrum with different degrees of human control desires over the nonhuman other. *Critical / cultural / philosophical posthumanism* fits better to the former, in terms of giving up human control or acknowledging more agency of nonhumans ¹⁹ while *cybernetic posthumanism* overlaps with the latter. ²⁰

While MacCormack advocates the slow phase-out of human control over the world ²¹ the transhumanists want to achieve a god-like status, which allows them to be in total control of life itself. ²² One can argue that both, the voluntary species suicide and the conquest of death, is hubristic and therefore human-centric. The following part explores steps on the gradient between both extreme positions in order to generate productive ways to look at architectural production and advocates for a Buddhist-like *middle way* of architectural environmental control.

The Anthropocene exists, at least partially, because of an unbalanced human understanding of how much nature control is the right amount. Technology is a gift which allows us to take what we need—but we thought we needed it all. The following part investigates some concepts, which are seen as fruitful for an architectural discourse, and which allow nonhuman agency and try to avoid total environmental control. Which states of architecture exist on the spectrum of species suicide to eternal life? Our Western architectural thinking is increasingly moving towards the latter. While houses used to be built out of natural, available materials which would decay at some point or another, today we (try to) build for eternity. While the killing of our building stock (explosion) would be similar to MacCormack's extreme, the other extreme can be found in contemporary construction regulations: the denial of death and the desire for eternal life and absolute environmental control.

Here, we will look at the idea of an architecture of decay as a form of *memento mori* (remember you must die). Decay here is shown as a one-directional entropy of architecture but hopes to reopen the thinking for an

architecture of imperfection, transient form, openness, open-endedness and flexibility (openness to agency of others, ready to give up human control).

The transient nature of decay, decomposition ²³ and *wabi* ²⁴—or its digital counterpart: the glitch—can be seen as forms of nonhuman agency. When talking about the historical Japanese tea master Sen no Rikyū and his understanding of *wabi*, Rumiko Handa, professor of architecture at the University of Nebraska-Lincoln, states the following:

There are a number of instances that demonstrate Rikyū's preference for impermanence, which is important because it shows the limitation of human control in comparison to natural forces. Rikyū's desire to submit to forces beyond human control extends to allowing the artifact not to function in its primary utility. ²⁵

Rosa Menkman, when speaking about glitches as machine-revealing entities, acknowledges nonhuman agency in a similar fashion:

A glitch is the most puzzling, difficult to define and enchanting noise artifact; it reveals itself to perception as accident, chaos or laceration and gives a glimpse into normally obfuscated machine language. Rather than creating the illusion of a transparent, well-working interface to information, the glitch captures the machine revealing itself. ²⁶

While the medium for *wabi* and glitch is different, they share the similarity of acknowledging and appreciating nonhuman agency—giving up human control. One could say that the former is engaging with natural nonhuman agencies while the latter is focusing on man-made (technological) non-human agencies. Both reveal a hidden “true reality” which is outside of the control of humans.

Both, the glitch and the concepts related to *wabi*, work only in an equilibrium of the right amount of human control and nonhuman agency at the same time. Leaning too much on either side of the control spectrum, from human to non-human agency, can make the system collapse. Similar to a ruin which is only acknowledged as such if some parts are still standing and some damage exists. ²⁷ The nonhuman in the glitch and in the idea of *wabi* can be seen as a form of transient or, what political theorist Jane Bennett calls, “vibrant matter” ²⁸ or as a form of intra-action of time, space and matter. ²⁹ And maybe it is here where the true problem of the Anthropocene is located: time, or better the non-acceptance of time and its transient nature. Our scientific technological rational Western cosmology suggests being always on top of the invisible matterings,

intra-actions and vibrant matters. Glitches reveal the malfunctioning of the man-made system which forces one to acknowledge one's own death. The Western people want to control time or better their own death and the decay of the body—due to a lacking enchanted cosmology. ³⁰ In the same way that architecture is a representation of our collective cosmological worldview, current architectural practices as technologies to control nature – symbolize, or manifest, our collective worldviews and desires. A current desire is to maintain or increase control over the world and to conquer death, as the last natural entity, which is clearly visible in the aforementioned transhuman interpretation of posthumanism and in the current direction towards becoming a multi-planetary species. The denial of planetary limits can be seen as a form of denying any end to growth (aka death).

In order to propose alternative ways to think architecture outside of the mono-technological cosmology of total environmental control the author would like to propose to think—as many others have before ³¹—architecture as ruins with different stages of decay. Similar to the different stages of a human body's decomposition ³² architecture undergoes—if left to the natural forces—different steps of decay as well: from finished (alive) to ruined (skeletonized) to vanished. Can this, ironically human-centric, model and understanding of decomposition help to broaden an architectural understanding which is neither technophile nor morbidly romantic of the past and its ruins? What can a building's skeleton be used for? Which qualities does a moldy building still have? No skin but stable bones? While the decay of a body conventionally goes—despite what transhumanists wish—only in one direction (entropy), a building's ruination process is more ambivalent, as the example of Architecten de Vylder Vinck Taillieu's *Caritas* project shows:

[The architects] proposed to keep the already half-demolished building as it was and to make it accessible as a public space. Since the roof had already been removed and part of the wooden floor were gone, the wind and rain would further corrode the construction, causing the wooden planks to rot and the brick walls to crumble bit by bit. The architects limited themselves to a number of interventions to stabilize the building, while also further facilitating the process of decay over time. ³³

This form of architectural engagement with the ruin allows humans to inhabit the space while at the same time gives agency to natural nonhuman others. Architect and researcher Bart Decross calls this form of agency—when talking about John Ruskin's advocacy for

imperfection—"vital materiality."³⁴ One can only speculate if the architectural experiencing of controlled decay reminds the visitors consciously or subconsciously of their own mortal limits (memento mori) and if this in return could contribute to a humbler positioning of the self in relation to the cosmos.

The decay of the building can be considered only to be a movement towards an end from a human or building point of view. The decay of matter, human or building, is where vital materiality and vibrant matter meet. While every biotic body dies from the moment it is born, it can be said to be only a death from the point of view of that body. The final "death" is the moment when it serves as energy for other natural processes, as food for someone else, as the following description by research scientist and forensic anthropologist Arpad Vass illustrates:

I came to the conclusion, somewhat facetiously, that with the exception of micro-organisms living in deep-sea vents, every micro-organism known is involved in some aspect of the human decompositional cycle from *Acetobacter* to *Zoogloea*. While many of the organisms isolated come from the bowel and respiratory tract, literally hundreds of species are involved in the decompositional process and decomposition would not progress without them.³⁵

Summary

Architecture is a form of technology which helps society and the individual to control their immediate environment. The intensity or style of control, in the contemporary West, tries to remove nonhuman agency from the equation in order to obtain maximal control over natural processes. This control fantasy is based on a shared technoscientific cosmology. The idea of *cosmo-techno-poiesis* points at the complex entanglement of cosmology, technology and the human act of creating. Manifesting architecture, as a technology to keep nature at a distance, is not just an act which is ethically self-evident or true, but also an act of taking part in the creation or expansion of worldviews and therefore cosmologies. Architectural production is *cosmo-techno-poietic* production and should not be reduced to the creation of technological environments for the sake of excluding natural environments.

Wabi, glitch, ruin, imperfection and similar concepts of decay—summed up as memento mori—can potentially be engaged in architectural, actual and metaphorical, production which acknowledges nonhuman agency and breaks with human technoscientific control fantasies.

The current call for non-extractive forms of architectural production and degrowth thinking³⁶ demands new modes of thinking architectural (vital) matters. This paper is a call for technodiversity and new cosmologies which see technology as a tool of the middle way and not of total environmental control.

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