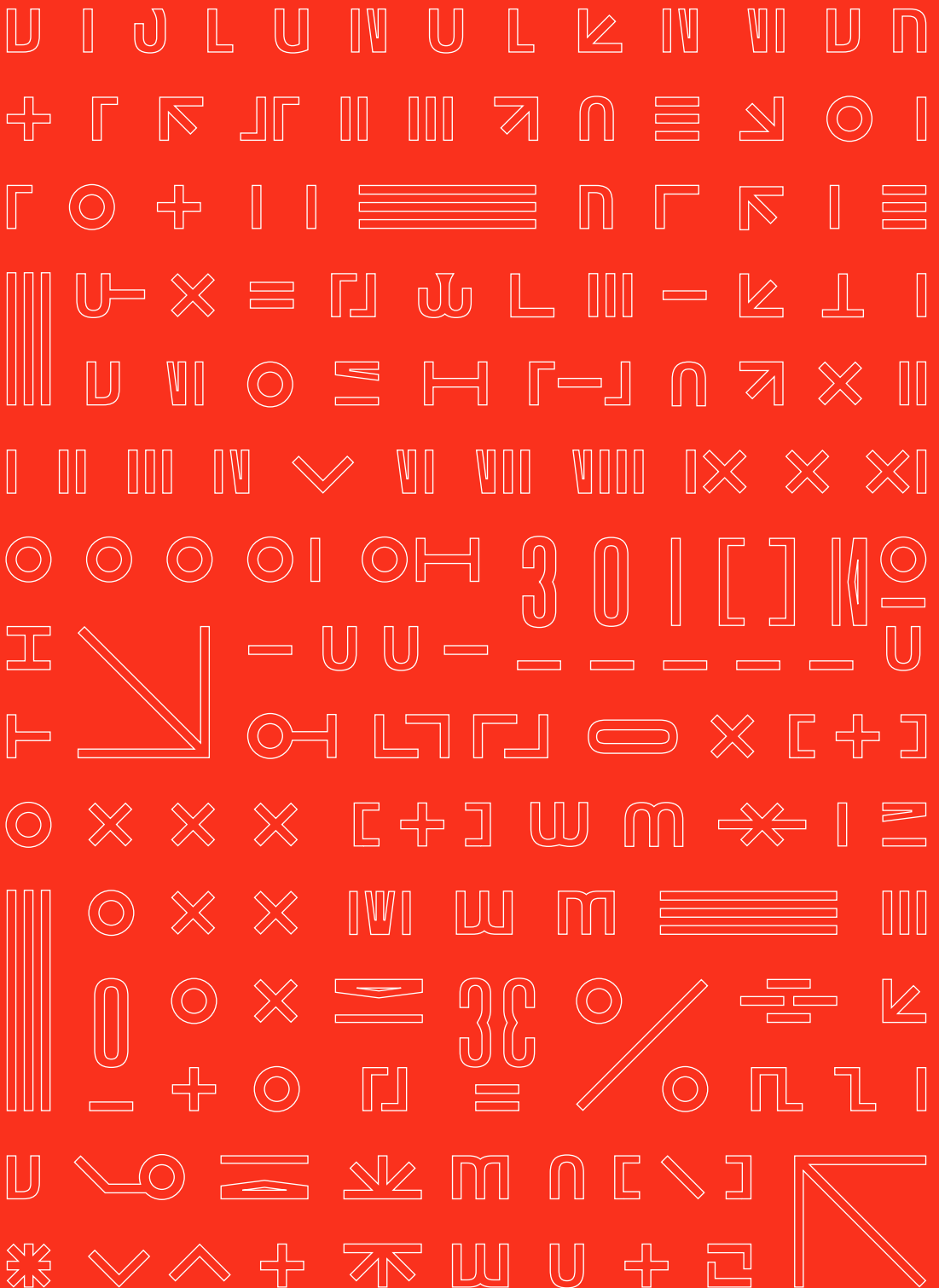
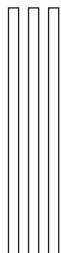
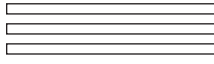


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BEYOND BIONTOLOGY? BRINGING ELIZABETH A. POVINELLI'S GEONTOLOGIES TO LIFE-CENTRED DESIGN

Joana Meroz

ABSTRACT

The concept of “design for life” has been rapidly picking up steam in the last few years. While the discourse around life-centred design leaves the concept of “life” unproblematised, it uses this term to signify an expansion of the sites and stakeholders of design beyond the human. I therefore define life-centred design as mobilising more-than-human approaches with the explicit aim of intervening in (the debate about) what planetary life is and should become. What purposes might life-centred design fulfil by differentiating between life/nonlife and favouring only the former? This article explores how Elizabeth A. Povinelli’s magisterial Geontologies: A Requiem to Late Liberalism (2016) can contribute to thinking through the ethical implications of life-centred design. I start by discussing three of Geontologies’ key concepts: the carbon imaginary, geontopower, and geontology. I then briefly experiment with activating those concepts to think about how three life-centred design practices configure life/nonlife and how those configurations might be involved in tactics of control. I then discuss how life-centred design tends to reproduce a modern Western belief in biontology (the equivalence of life with being) and as such risks reproducing (neo-)colonial practices of control. In conclusion, I both consider some of the ethical implications of life-centred design and speculate on those of a hypothetical post-biontological life-centred design.

#life-centred design, #Elizabeth A. Povinelli, #geontology, #geontopower, #more-than-human design

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INTRODUCTION¹

While the concept of “design for life” is not new, it has certainly been gaining traction. As far as one canonical design history goes, design practice and theory have been product-centred and market-oriented for much of their trajectories. From around the 1960s onwards, movements such as “participatory design” began integrating users into project development processes (Asaro 2000), making way for what became known as “user-centred design” (Norman 2013). “Service design” then developed a more holistic approach to problems by expanding the notion of “user” to encompass all stakeholders involved with a particular system (Irwin 2015; Kimbell 2010, 230). In turn, “human-centred design” repositioned the user as human in order to develop less commercial, more empathetic approaches to the design of products and experiences (Chmela-Jones 2017; Friess 2010).²

However, a number of critics have pointed out that this “human-first” approach has largely failed to engage with urgent global problems such as climate change and systemic social injustice, and has instead tended to indulge individual human desires for “convenience and short-term gain over appropriate solutions that deliver systemic long-term prosperity” (Näsholm 2020, 7; Norman 2005; Wilmot 2009, 6). Accordingly, in the past decade or so, a number of practitioners and commentators have called upon designers to replace “the human” as the measure of design with “life.” Design theorist John Thackara, often credited for coining the term “life-centred design,” argues that “the world needs a new kind of design based on an ethical framework in which life is the ultimate source of value” (2011).

But what does “life” mean here? Despite the centrality of this concept, I have yet to encounter an attempt at definition in life-centred design debates.³ This lack of clarity might stem from the fact that life-centred design (or “design for life”) has received scant academic attention;⁴ it is a term that, to date, has been predominantly discussed in popular, professional, and business literatures in an ad hoc manner.⁵ Nevertheless, in the context of these discussions, authors have consistently used “life” as a tool to diffuse the spotlight from humans and illuminate their interdependent relations with all other worldly entities (bacteria, plants, animals, the entire biosphere). This diffusion takes place on two inter-

¹ Unless otherwise indicated, all translations are the author's.

² Stefanie di Russo (2016, 29–35) provides a detailed, informative account of the transformations between product-, user-, service-, and human-centred design. However, I would argue that rather than following a strict succession or even a dialectical unfolding, these approaches (including life-centred design) have coexisted in different configurations, and relative intensities across time and space.

³ In fact, as Dutch philosopher Jan Warndorff (2017; 2021) points out, there is a generalised difficulty in defining life even in philosophy, including in treatises specifically focused on the concept.

⁴ Although still in its infancy, for academic literature discussing life-centred design see Escobar (2018a), Leong and Clark (2003), Näsholm (2020), and Tomitsch (2020). Bio-design, which I understand as one orientation within life-centred design, is an exception with abundant academic literature, whose review is beyond the scope of this article.

⁵ For popular literature on life-centred design see Hess (2020), Owens (2019), Robinson (2018), and Selin (2020); professional literature includes Thackara (2018) and Wilmot (2009).

⁶ For an early discussion of decentring humans in design, see DiSalvo and Lukens (2011). For a more recent review, see Forlano (2017).

related but different levels. On the one hand, it implies an expansion of sites where design takes place, since life-centred design attends to the role not only of humans, their discourses, and institutions but also of nonhuman existents in bringing design into being. On the other hand, it implies an expansion of the definition of the beneficiaries of design since life-centred design believes that more-than-human design should serve more-than-human needs. In sum, life-centred design can be understood as practices that use the concept of “life” as a tool to position all worldly existents as its primary stakeholders with the goal of allowing them all—including but no longer privileging the human—to thrive (Thackara 2021).

To this end, many such practices have engaged with what is variously called posthuman and non-anthropocentric theories such as those developed by Science and Technology Studies (STS), Actor-Network-Theory (ANT), object-oriented ontology (OOO), Donna Haraway, and Tim Ingold, among others. Furthermore, numerous design approaches including but not limited to biodesign, autonomous design, GeoDesign, design for degrowth, and transition design have been employing more-than-human approaches to develop long-term visions of flourishing symbioses between the so-called natural and social worlds. I will use the term “more-than-human” to collectively refer to approaches that decentre humans to also account for nonhumans in their analyses of design.⁶

While conceding that such a conceptualisation of life is porous, I argue that what sets life-centred design practices apart is their mobilisation of more-than-human approaches with the explicit aim of intervening in what planetary life is and should become. So rather than a radically new movement, I see life-centred design as a constellation of practices coalescing around a concern for life (however “life” may be substantially defined) that transverses various design traditions in time and space.

While such a commitment to life might seem unquestionable, we need to think carefully and ask questions. What purposes might life-centred design achieve by differentiating between life/nonlife and favouring only the former? Who or what might be disadvantaged from drawing this line in the sand?

To tease out such ambiguities, I turn to anthropologist and critical theorist Elizabeth A. Povinelli's brilliant and complex *Geontologies: A Requiem to Late Liberalism* (2016). Grounded in her ethnographic work of over thirty years with the Indigenous Belyuen community of northern Australia, Povinelli argues that the demarcation between life/nonlife is intimately entangled with political and economic power. By developing a range of new concepts—such as geontopower, the carbon imaginary, geontology and its figures (the Animist, the Desert, and the Virus)—the author argues that whether we understand something as alive or not has less to do with any essential characteristics of things in themselves and everything to do with particular power formations that benefit from

defining some things as “lively” and others as “inert” (Povinelli 2016, 5). While these concepts arose from Povinelli’s engagement with the specific perspectives of her Indigenous friends and colleagues, I concur with those who argue that their analytic potential invites their translation into other contexts. While readings of *Geontologies* are often found in studies of late settler liberalism, I am drawn to the potential of its concepts to probe into the ethical implications of life-centred design’s commitment to “life.”

What follows is an experiment in mobilising *Geontologies*’ site-specific conceptual apparatus (Jensen 2021, 99–100) to think through the ethical implications of life-centred design’s configuration of life/nonlife. I will start by presenting the backdrop Povinelli sketches to develop her argument; namely, Foucault’s concept of biopower. Without attempting to comprehensively cover the complexities of *Geontologies*, I move on to discuss three of its key concepts, namely the carbon imaginary, geontopower, and geontology. The purpose of this exposition is to familiarise the reader with this work and its potential to think critically about life-centred design rather than to critique it. The remainder of the article illustrates how an analysis of life-centred design through the lens of the carbon imaginary, geontology, and geontopower might proceed. In conclusion, I propose that if life-centred design is to confront its entanglements with geontopower, it needs to address its universalising and univocal biontological conceptualisation of life.

BIOPOWER

I will start by outlining philosopher Michel Foucault’s concept of biopower, since Povinelli opens *Geontologies* in dialogue with it.

The first modality of power that Foucault identifies is *sovereign power*. As Povinelli (2016, 1) reminds us, sovereign power is exercised through “the spectacular, public performance of the right to kill, to subtract life, and, in moments of regal generosity, to let live.” In the seventeenth century, Foucault ([1975] 1977) argues, power also started becoming exerted through *disciplinary power*. While sovereign power is power over death, disciplinary power is power over life through the management of living bodies. In turn, *biopower* (Foucault [1976] 1990) refers to the administration and optimisation of the life of entire human populations. Povinelli sums up biopower as the “set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power” (2016, 1).

We have become so enamoured by the notion of biopower, Povinelli (2016, 4) argues, that we have become blind to the fact that biopower itself rests upon another, more fundamental belief: that life/nonlife are categorically distinct. To unpack the distinction between life/nonlife and how it differs from the dichotomy between life and death, I will now turn to Povinelli’s concept of “the carbon imaginary.”

⁷ Déborah Danowski and Eduardo Viveiros de Castro agree with Dipesh Chakrabarty (2009) in describing this “as the transformation of our species from a mere biological agent into a geological force” (Danowski and Viveiros de Castro 2017, 14, emphases removed).

THE CARBON IMAGINARY

Povinelli (2016, 9) maintains that the West has assumed the following: life is fundamentally distinct from nonlife; what distinguishes life from nonlife is the presence or absence of metabolic processes, which she defines as “the full range of chemical and mechanical processes that all organisms (all life) use to grow, reproduce, and maintain their integrity” (ibid., 39); the ultimate goal of all organisms undergoing metabolic processes is to create, sustain, and reproduce a version of themselves; and that existents that undergo metabolic processes are biological (in other words, alive) and existents that do not undergo metabolic processes are not biological but geological, meteorological, etc. (non-living) (Simão de Freitas 2019, 13). Existents that do not undergo metabolic processes were never alive and thus will never die; they are nonlife. What Povinelli refers to as “the carbon imaginary” is the belief that life/nonlife are fundamentally distinct and that in the distinction of life/death and life/nonlife the former is a subset of the latter: “Life (Life {the carbon cycle [birth, growth, reproduction]} v. Death) v. Nonlife” (Povinelli 2016, 9).

Povinelli (2016, 21) believes it is the concept of the Anthropocene that has allowed us to recognise the carbon imaginary. The Anthropocene refers to the epoch when humans (life) acquired geological (nonlife) capacities to fundamentally alter the planet. As such, the concept of the Anthropocene is not so much a reference to the radical *growth* of human influence on Earth but indicates rather a *transformation of the type of force* that humans can exert on Earth. In other words, the term emphasises the idea that humans have progressed from “mere” biological beings into a geological force of nature,⁷ acquiring powers that go as far as potentially shifting the Earth’s axis and tilting its rotation (Adhikari and Ivins 2016; Deng et al. 2021). The concept of the Anthropocene thus indicates that what we still call “humanity,” rather than standing outside of what we can no longer call “nature,” exists in interdependent, but not always mutually beneficial, relations with it. So rather than simply asserting that humans affect their environment, the concept of the Anthropocene instead indicates the collapse of the modern episteme and its distinctions between humans/nonhumans, humanity/nature, nature/culture (Danowski and Viveiros de Castro 2017, 14–15). This is to say that the concept of the Anthropocene fundamentally disrupts distinctions between biological (life) and the geological/meteorological (nonlife).

This now manifest ontological instability between life/nonlife makes it clear to Western critical thought that insisting upon their categorical difference is a matter of ideology. To Povinelli (2016, 14), this newfound awareness of the ontological instability upon which Western culture is premised explains the recent proliferation of approaches exploring the entanglements between life/nonlife, such as posthumanist, more-

than-human, multispecies and new materialist theories—including life-centred approaches to design, I would add.

What does the Anthropocene's destabilisation of the carbon imaginary mean for our understanding of how power is exercised today? Biopower is concerned with the biological features and processes of human populations. As such, Povinelli argues, it is an inadequate concept with respect to analysing power strategies that are very much concerned with the management of the so-called non-living (such as gas, oil, land, water, minerals, etc.). Accordingly, Povinelli elaborates two new concepts to theorise how power is exercised not only over the living and the dead, but also over the living and the non-living: geontopower and geontology.

GEONTOPOWER

Povinelli (2016, 4, 9) introduces the neologism “geontopower” to describe power that works by differentiating between life and nonlife—a distinction that encompasses the differentiation between life and death just as the concept of geontopower encompasses the concept of biopower.⁸ In *Geontologies*, she examines Australian governance since the 1960s and '70s as a form of geontopower. She developed the concept of geontopower in the context of three decades of fieldwork with the Indigenous Belyuen community of northern Australia, during which she analysed the tactics of power and control used by the Australian government from the perspective of her Indigenous colleagues.⁹

Povinelli refers to the specific form of colonial governmentality that attempts to replace Indigenous peoples with settler populations through the management of markets and cultural diversity as “settler late liberalism” (as also practiced by Australian governance in this period). In late liberalism, a period that Povinelli defines as “stretching from the 1950s into the loosely defined present” (2021, 8–9), national governments overtly acknowledge Indigenous peoples' accusations of racism by instituting multicultural policies that do not, however, actually provide any substantive measure of Indigenous self-determination. *Settler* late liberalism refers to these dynamics taking place in settler societies, such as Australia and Canada (*ibid.*, 9).

A representative example of geontopower at work in the Belyuen community concerns the desecration of a rock known as Two Women Sitting Down (Povinelli 2016, 30–56). This is a rock formation sacred to the Belyuen, who attribute to it both sensory abilities (hearing and smelling) and a capacity to respond to humans. Whereas it might seem that the Belyuen believe this rock is animated and cannot be classified as nonlife, more accurately it means that they do not live by the carbon imaginary; so rather than viewing Two Women Sitting Down as a nonlife rock that happens to have some qualities of life, the Belyuen do not

⁸ As Jean-Thomas Tremblay (2018) notes, since the term “geontopower” denotes power obtained from the ontologisation of life and nonlife, the term “bio-geonto-power” might be more accurate, if more cumbersome.

⁹ Povinelli: “my academic life has primarily consisted not of producing ethnographic texts that explain their [Belyuen] culture and society to others but of helping to analyse how late liberal power appears when encountered from their lives. My object of analysis, in other words, is not them, but settler late liberalism” (2016, 22–23).

¹⁰ Povinelli's point is not about the superiority of the Belyuen's worldview but rather that the modern Western belief in the carbon imaginary is used to suppress the Belyuen lifeworld.

¹¹ Other commentators interpret the concept of geontology differently. However, following Povinelli (2016, especially 5–6, 16), I understand geontology as symptoms of the different ways that late liberal governance has been trying to make sense of and remain in control of the crumbling self-evidence of the difference between life/nonlife.

make the differentiation between life/nonlife in the first place (ibid., 33).¹⁰ However, *Two Women Sitting Down* contains valuable manganese that state-backed industrial capital wants to mine. As Povinelli argues, the Australian state and industry thus need the carbon imaginary to be universally recognised as a neutral and objective “fact” to legitimise the desecration of *Two Women Sitting Down*.

To clarify, Povinelli is not arguing that the Australian state is the first to question whether what a modern Western categorisation labels as geological formations can sense, nor that the carbon imaginary is a prerequisite for evicting Indigenous populations from their lands—the history of European colonialism from the fifteenth century onwards is rife with brutal examples that show otherwise. What the author is arguing is that in the Australian context of settler late liberalism, the carbon imaginary came to function as a seemingly “neutral” tool that allows the state to continue privileging the historical settler population rather than address social and economic injustices by facilitating extractive capitalism without recourse to *explicit* violence against Indigenous populations.

The case of *Two Women Sitting Down*, then, exemplifies the workings of control tactics premised not on biopower but on geontopower whereby the Australian government successively: posits the carbon imaginary as a universal truth; categorises the rock formation *Two Women Sitting Down* as nonlife and hence as unable to hear, smell or respond to humans; concludes that *Two Women Sitting Down* can be mined and destroyed; and construes the Belyuen as “backward” animists (Povinelli 2016, 173) for considering inert matter as lively, or in other words, for not understanding the distinction between life/nonlife (ibid., 5).

This is what Povinelli means by geontopower: it is a tactic to control both populations and territories exercised by differentiating between life/nonlife and by controlling who gets to decide what life/nonlife is and how they should be differentiated. The concept of geontopower thus allows us to perceive that the labelling of something as life or nonlife is never objective or innocent but a form of power dynamics that can reinforce deep social inequalities.

GEONTOLOGIES

To recapitulate, the Anthropocene and the reformulation of the exchange of capacities between living and non-living entities (humans having geological capacities and geological entities having agency to change human history) has opened Western thought to the realisation that it rests on the life/nonlife binary and that this binary is no longer stable. Povinelli (2016, 15) calls “geontology” the attempt by Western thought to imagine how life/nonlife might be related now that the carbon imaginary is dissolving.¹¹ She identifies three figures of geontology: the Animist, the Desert, and the Virus.

- The *Animist* overcomes the carbon imaginary by erasing the difference between life/nonlife and imbuing everything—people, animals, rivers, mountains, plains, plants, spirits, ancestors, communities—with vital force. “At the heart of the figure of the Animist lies the imaginary of the Indigene [...] The Animist is, in other words, all those who see an equivalence between all forms of life or who can see life where others would see the lack of life.” (Povinelli 2016, 17–18)

- The *Desert* is a vision of life driven primarily by the terror of the possible extinction of life and imagines the future as non-living. The Desert, Povinelli explains, “does not refer in any literal way to the ecosystem that, for lack of water, is hostile to life” (2016, 17). Instead, it “stands for all things perceived and conceived as denuded of life—and, by implication, all things that could, with the correct deployment of technological expertise or proper stewardship, be (re)made hospitable to life. The Desert, in other words, holds on to the distinction between Life and Nonlife and dramatises the possibility that Life is always at threat from the creeping, desiccating sands of Nonlife. The Desert is the space where life was, is not now, but could again be if knowledge, techniques and resources were properly managed.” (16)

- The *Virus* is a figure of self-interested appropriation (utilising disruption and reordering) of the difference between life/nonlife (Povinelli 2016, 18–19). It is neither concerned with nor defined by the life/nonlife distinction—not because all is lively (as for the Animist) or because all is inert (as for the Desert) but because viruses are neither alive nor inert. A virus is a piece of genetic code that is programmed to replicate itself, but cannot do so on its own: it needs to infect a host cell and force that cell to create copies of its DNA, after which each of those copies infects other cells in order to create more copies.

Before proceeding, it is important to emphasise that these are three different configurations of geontology, not of geontopower. Geontopower works by negotiating the life/nonlife distinction and who is entitled to participate in that negotiation, while the three figures of geontology reveal how that distinction is imagined in the case at hand. Given that today there are different ways of imagining the life/nonlife distinction, identifying the geontology of a particular case will also provide insights into the specific tactic of geontopower at work.

GEONTOLOGIES IN LIFE-CENTRED DESIGN

How does *Geontologies'* conceptual apparatus help us to identify how life-centred design practices configure distinctions and relations between life/nonlife and how these practices might be related to tactics of control? I will speculate on these questions by using three examples of life-centred design practices: Arturo Escobar's autonomous design, John Thackara's bioregioning, and Karl Chu's biomimetic genetic architecture. Entering

¹² *Echoing other commentators, Escobar holds that Western modernity has played a leading role in creating contemporary socio-political and environmental crises (2018b, 52). He defines Western modernity as fundamentally premised on what he calls a Cartesian, logocentric, rationalist, objectivistic, anthropocentric—in short, “dualist ontology.” Design, Escobar argues, is both a product and reproducer of this dualist ontology. By saying this, Escobar is affirming that “design is ontological,” which is the idea that our artificial world is ontological in that it is not only shaped by humans but also that design comes to define what reality is for humans (about the notion of “ontological design,” see Winograd and Flores 1986; Willis 2006; Fry 2011; Fry and Kalantidou 2014; Fry and Willis 2017). Nevertheless, Escobar believes that design, duly modified, can be instrumental in providing a way out of our catastrophic times by supporting rather than suppressing the flourishing of multiple lifeworlds of historically subordinated groups. In other words, if all design is ontological, Escobar argues, the challenge is to strip design of its in-built dualist ontology and of its problematic universalist propensities and redirect it towards supporting extra-modern lifeworlds.*

into the subtleties of each is beyond the scope of the present study; indeed, my aim here is not to comprehensively review these practices but instead to conceptually experiment with the geontological figures of the Animist, the Desert, and the Virus to subsequently speculate on how these practices might be interrelated with geontopower.

The Animist Imaginary of Autonomous Design

Arturo Escobar considers his proposal for “autonomous design,” which he developed most fully in his 2018 book *Designs for the Pluriverse*, as “life-centred design” (2018b, 75). Autonomous design refers to work that disrupts design’s rationalist, capitalist, extractivist, colonial heritage to support Indigenous cultures.¹² By Indigenous, Escobar means societies whose cosmologies are fundamentally relational and nondualist, hence radically different from modern, scientific, dualist ones. Beginning with a relational, nondualist ontology, autonomous design considers agency as distributed amongst the human and nonhuman (ibid., 194), viewing everything as interrelated, interdependent, and equally vital in its potential to enable Indigenous life-worlds to thrive. Accordingly, the goal of autonomous design is to effectively weave those existents together in an autopoietic “praxis for living” (ibid., 200) that contributes to the fullest realisation of communities “as the kinds of entities they are” (ibid., 184). In approaching everything as potentially possessing some animating spirit, autonomous design appears to not differentiate between life/nonlife. More specifically, autonomous design can be said to view life as having primary value and then extending its attributes to nonlife, thereby eliminating the latter by incorporating it into the former. In this generalisation of vitalism, autonomous design can be interpreted as an expression of the Animist.

The Desert Imaginary of Bioregioning

In a series of publications, lectures, and podcasts, John Thackara has developed the idea of “bioregioning” as an example of life-centred design. Bioregioning, or the design of bioregions, are projects that attempt to respond to the threat of total extinction due to anthropogenic climate disaster and the demise of industrial civilisation by returning to the local. A “bioregion” is a “life-place” (Thayer 2003), a territory demarcated by such elements as geology, meteorology, hydrology, and biology rather than by cultural, political, or economic boundaries. However, while primarily defined by their so-called natural qualities, bioregions also take into account human (urban) communities, along with the latter’s energy, water, food, and informational systems (Thackara 2019, 28–33). Thackara states that the design of bioregions entails the stewardship of living systems by drawing “connections between places, communities, and nature” (ibid., 16) with the aim of improving “the health and carrying capacity of the land” as well as

“the resilience of communities” (ibid., 19). Bioregioning is thus a form of design practice that is symptomatic of the imaginary of the Desert: not only does it dramatise the difference between life/nonlife, it also upholds life as the ultimate source of value and meaning.

¹³ *Mathews (2011) offers an in-depth consideration of the philosophical tenets of variations in biodesign.*

The Virus Imaginary of Biomimicry

Biological design, also called biodesign, is a well-established form of life-centred design.¹³ I follow Freya Mathews (2011) in broadly defining it as design of, with, or from life with the goal of integrating human production systems with larger ecosystems. She reports on how certain biodesign theorists (e.g., Benyus 2002 (1997); Hawken, Lovins, and Hunter Lovins 1999; William McDonough 2002) argue that to achieve bio-inclusive sustainability we should focus not on decreasing human production and consumption but rather on remodelling them based on so-called natural systems to render them generative of life. An extreme proposal of biodesign is Karl Chu's biomimetic genetic architecture. Mathews' description of it is worth quoting at length:

Armed with technologies of morphogenesis derived from genetics, information theory and computational theory, these theorists prefigure an “autonomous” architecture which self-constellates and self-replicates in adaptation to its environment. The structures emanating from such an architectural practice would be genuinely organic, built from the inside out in accordance with the morphogenetic principles of life itself. They would accordingly be sensitive to context and co-adaptive and in this sense internally synergistic—and therefore in principle as sustainable as the life world. There is thus no reason why an entire global urban-industrial civilisation designed in accordance with such principles should not usurp the “parliament of thirty million species” altogether, and replace it with a “new nature,” a simulated but fully sustainable “nature” exclusively human in its provenance and constituency. (Mathews 2011, 381–82)

Chu's proposal, in short, is to replace the current biosphere with a synthetic replica of ecological systems that theoretically could foster and support life, for example, through solar cities that replace forests, or industrial plants that purify water and substitute wetlands. In the words of Danowski and Viveiros de Castro (2017, 62), “the world will have been transubstantiated and absorbed by humankind as the triumphant species that re-transcends itself, through ingenious feats of anthropo-engineering, into a sublime posthuman entity.” Arguably, self-generating genetic architecture is indifferent to any actual life/nonlife distinction yet takes advantage of the “ethical commitment to the community of species that currently constitute the biosphere” (ibid., 382) to diminish, render superfluous, or altogether extinguish biological life by replacing it with a zombie-like nonlife that imitates life. It is therefore a design practice that can be said to configure life/nonlife in terms of the Virus.

¹⁴ Escobar acknowledges that one of the problems of universalising relationality is being confronted with worlds that refuse it, such as “in the world of [...] of all the patriarchs and gurus, the techno-patriarchs of technology too” (2020, n.p.).

GEONTOPOWER IN LIFE-CENTRED DESIGN

How might these life-centred design practices, through their different imaginations of life/nonlife, be related to geontopower? Bioregioning seeks to overcome nonlife through socio-technological innovations and appropriate stewardship. Biomimetic genetic architecture proposes to preserve the conditions for life by substituting the biosphere with a synthetic counterpart. More ambiguously, autonomous design can be said to eliminate nonlife “by simply enfolding it within life and eclipsing the conditions of Nonlife—inaction, inertness, finitude” (Johnson et al. 2019, 1321). Life-centred design can thus be said to be caught up in the “biontology” of the carbon imaginary. This is to say, these practices are not only predicated upon the distinction between life and nonlife; they are also biontological in that they equate ontology, being itself, with only one form of existence—life—to the exclusion of nonlife (Povinelli 2016, 16–17, 52).

To recall, geontopower works not only by steering the life/nonlife distinction but also by establishing who is entitled to participate in that negotiation. The disregard for extramodern modes of existence is obvious in biomimetic genetic architecture’s proposal to replace the planetary biosphere with a synthetic one designed according to a single and universalising, if troubled and troubling, vision of life. In the case of bioregioning, issues about whose territory, delineated according to which principles, governed under whose authority, and for whose benefit are open questions still being developed (Thackara 2017, 32). However, the case is much less straightforward in autonomous design. As discussed above, the very point of autonomous design is to support the flourishing of Indigenous communities “as the kinds of entities they are” (Escobar 2018b, 184). Advancing from the premise that a central feature of such communities is a relational ontology, autonomous design posits the right to existence of all existents and worlds in principle. An important question, which as far as I can tell is not explicitly addressed in *Designs for the Pluriverse*, is whether existents’ right to exist is intrinsic or instrumental, which is to say, on account of the roles they play in the continuation of life.¹⁵ The latter would raise the question whether autonomous design does not surreptitiously reintroduce a biontological carbon imaginary of life even while seeking to counter ethnocentric and Eurocentric definitions of design. Escobar’s ethical and political commitments to the causes of Indigenous communities are beyond question and not at stake here. Rather, the point that requires further exploration in the case of autonomous design is whether its current conceptualisation of life may not ultimately contradict extramodern worlds, such as the Belyuen’s, that are not biontological.

The considerations above expose a troublesome ambiguity at the heart of life-centred design. Life-centred design in the grips of

biontology can be said to be implicated in the universalisation of a modern Western understanding of life and ontology. Thus, despite the best intentions, designing for life according to a univocal and universalising biontological inclination actually runs the risk of suppressing extramodern worlds by “reiterating rather than challenging the discourse and strategy of geontopower” (Povinelli 2016, 55). This is problematic because, as we have discussed above, geontopower is deeply implicated in (neo-)colonial forms of domination (to recall: whereby historical settler populations are privileged and extractive capitalism facilitated without recourse to explicit violence against Indigenous populations).

CONCLUSION: LIFE-CENTRED DESIGN BEYOND BIONTOLOGY?

The discussion above raises the broader question regarding whether it is appropriate to aspire to connect design, including life-centred design, and extramodern worlds in the first place. However, this question might actually be misleading since it suggests that the relationship between design practices and extramodern worlds is optional, or in other words, that it is possible for design practices to not have anything to do with extramodern worlds.

As so-called “grounded globalisation” scholarship has shown, one of the consequences of globalisation is that “the interaction between the human and nonhuman world is less and less locally determined” (Gille 2014, 162). As Povinelli observes:

right when we think we have a location—these versus those—our focus must immediately extend over and outward. The global nature of climate change, capital, toxicity, and discursivity immediately demands we look elsewhere than where we are standing. We have to follow the flows of the toxic industries whose by-products seep into foods, forests, and aquifers [...] As we stretch the local across these seeping transits [...] we cannot remain in the local. We can only remain hereish. (2016, 13)

This implies that design practices, regardless of their setting or target public, cannot be fully contained within their location (Meroz 2014; 2018; Meroz and Serulus 2019).

While this observation has been made to expose the imbroglios of design with the global flows of resource extraction, the point I wish to make here is that it also implies that life-centred design is not as far removed from extramodern worlds as it may seem. For example, a life-centred app designed to create independence from global food chains by connecting local urbanite food growers (Näsholm 2020, 7) still depends on the translocal infrastructure of data centres that require

¹⁵ *Whether non-sentient matter can be the object of ethics, or whether ethical views ought to be formulated from the point of view of non-living existents are interesting and important questions, but they are not what is at stake in this article. After all, as Povinelli has shown, the living/non-living categories are not universal, nor is there universal consensus about the characteristics and capabilities of non-living existents. To recall, the Belyuen do attribute sensory abilities and a capacity to respond to humans to Two Women Sitting Down, but do not recognise its categorisation as either living or non-living because they do not differentiate between the two registers in the first place. Accordingly, and more precisely, I think that the question of the ethics of life-centred design concerns its relation to extramodern communities that might not distinguish between living and non-living and/or might attribute what “we” view as living capabilities and characteristics to non-living existents.*

vast quantities of electricity and toxic chemicals to power and cool. This “trajectory of power,” Povinelli (2016, 164) reminds us, is “directly related to the increased heating up of the outside environment”—the consequences of which are most severe for vulnerable communities inhabiting ecologically sensitive areas, such as many Indigenous ones (Arora 2017).

We may now return to the question posed in the introduction: what are the ethical implications of life-centred design? In view of the above, the ethical challenges that *Geontologies* poses to life-centred design can be framed as: can life-centred design go *beyond* the carbon imaginary and *beyond* biontology? If not, can it develop practices that do not encroach upon multiple extramodern worlds for the sake of preserving a single, local if universalising Eurocentric configuration of life? And if it can, would that be desirable, or in other words, what would the ethical trade-offs be, and for whom? Life-centred design beyond biontology means a concept of design that neither differentiates between life and non-life nor equates being with life. Arguably, such practices might imply giving up comforts and privileges to safeguard so-called “non-living” existents, and curtailing (some) so-called “living” beings’ claims and needs. These are major ethical considerations that require further and careful reflection and elaboration. In conclusion, I do not mean to suggest that embracing *Geontologies*’ concepts and challenges can enable life-centred design to claim an ethical position beyond trade-offs. However, I think that they do help to identify some less apparent yet critical ethical dilemmas facing life-centred design, as discussed above.¹⁵ In this sense, I agree with Costa (2016, 147–48), who concludes that “Povinelli’s work inspires new reflections and approaches to the ecological question from a cosmopolitical perspective guided by a decolonising posture.” Thus, while not providing solutions, *Geontologies* suggests that if life-centred design is to confront its entanglements with geontopower, it needs to address its universalising and univocal biontological conceptualisation of life and how its own use of so-called “resources” is deeply intertwined with extramodern worlds. To conclude with the words of Viveiros de Castro (2013, 274), “We must try to be very clear—if this is possible at all—about what we are trying to express when we cling to life as a sort of absolute horizon of our reflection.”

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