

**Pluriversal Horizons:
Notes for an Onto-epistemic Reorientation of Technology**

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Prelude

In November 2021, we (the authors) received a message from a dear friend whose brother was seriously ill:

This experience has really shaken and altered me. It's been a near-death experience for my brother, but because my siblings are so foundational to my sense of self, it feels like a near-death experience for me too. I feel disoriented, like my model of the world has been wrong. Earth really does feel incomputable. My sense of being able to predict and control the world and my life, to optimize my individual existence by calculating and executing a rational plan meant to maximize utility, to also try to protect my loved ones in this way—all of this has been based on a modernist misapprehension of reality. I feel there is nothing to be done now but to surrender to what I cannot control. Existence being holy and mysterious, far beyond my comprehension or control, being excessive of the prediction and manipulation promised by modernity, existence being so much bigger than what I could possibly have calculated or bargained for, I feel I'm being called (or forced, as the part of me who is grieving and angry would say) to surrender to just being a part of vast, incomprehensible, contingent existence, however it all unfolds.

Our friend's lucid and moving message revealed the intimate reach of calculative rationality in our modern lives. For even when wishing the best for our loved ones, we fall into a desire for optimizing our experiences with them, for safety and predictability; a pious and well-intentioned wish for plenitude that can only be a denial of the mystery of life, its unpredictability, and what ineffably lies beyond concepts and words. Many people today seem to be exploring these important dimensions of existence in their own unique ways, particularly when confronted with pandemics and the possibility of ecological collapse. At a time when the hypermodernity of cutting-edge technology and all things AI intend to reduce many aspects of daily life to calculation and algorithmic computation, albeit coated with a thick veneer of unquestionable progress, we feel the need to ponder deeply about what remains incomputable and incalculable, what cannot be accounted for by logocentric analyses and algorithmic rationality.

¹ We discuss some of the issues discussed in this chapter at length in a forthcoming book, Arturo Escobar, Michal Osterweil, and Kriti Sharma, *Designing Relationally: Making and Restor(y)ing Life* (London: Bloomsbury Press).

It would be impossible to trace the genealogy of such drive to calculation, optimization, rationalization, and control. Such genealogies are entangled with the long history of patriarchy and, since the dawn of modernity, with colonialism, capitalism, science, and technology. The consequences have been dire. Hong Kong philosopher Yuk Hui has posed the issue in a poignant way: “How should we respond to the challenge the human has undertaken to eliminate its own condition of existence?”² We hasten to add, however, that we are dealing here with the challenge *modern* humans have *unknowingly* undertaken, albeit *through their own designing*. We are talking here about that modern human, barely five centuries old, who invented what Jamaican philosopher Sylvia Wynter has powerfully described as a “monohumanist mode”³ of the human: Western, liberal, secular, and bourgeois. We have more to say about Wynter’s and Hui’s projects, but for now, let us add Hui’s perspective of the conjuncture brought about by the simultaneous triumph and meltdown of modernity as one that creates new conditions for philosophy and thought, and the possibility of multiple onto-epistemic and cosmotechnical starting points for a “new world history.”⁴

A similar point was recently articulated by Mapuche activist Moira Millán, when she stated, in response to the ongoing *terricidio* (terricide): “Necesitamos una revolución del pensamiento” (we need a revolution in our thought).⁵ If the current dominant *pensamiento* is at the basis of terricide, then this freeing of thought can only be achieved by seeing humans as belonging to the Earth and the web of life, as many indigenous, animist, and territorialized peoples have done for thousands of years.⁶ By now it is utterly clear that, under the maddening pace of monohumanism, we are further and further away from being attuned to Earth and informed by the interrelationships and interdependence of all forms of earthly life. For we increasingly inhabit an overarching, even if fractured and ever changing “one-world world,” which is liberal, secular, and anthropocentric.⁷ Most humans are forced to march to its dictates under the predatory command of neoliberal extractive global capitalism.

This chapter unfolds in the space demarcated by terricide and technology, on the one hand, and new conditions for thought, on the other, that characterize the generalized

² Yuk Hui, *Art and Cosmotechnics* (Brooklyn: e-flux Books; Minneapolis: University of Minnesota Press, 2021), 249.

³ Sylvia Wynter, “Unparalleled Catastrophe for Our Species? Or, to Give Humanness a Different Future: Conversations,” in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham: Duke University Press, 2015).

⁴ Yuk Hui, “Singularity Vs. Daoist Robots: Is there another path than accelerated Western modernization?,” *Noēma Magazine*, June 19, 2020, <https://www.noemamag.com/singularity-vs-daoist-robots>. Accessed January 6, 2022.

⁵ Moira Millán, “Moira Millán y el buen vivir originario,” *Pensamiento Ambiental*, YouTube, May 22, 2016, <https://youtu.be/JOiRYUW8R08>.

⁶ A certain revival of the interest in animism at present is not coincidental. See, e.g., Andreas Weber, *Sharing Life: The Ecopolitics of Reciprocity* (Delhi: Heinrich Böll Stiftung, 2020), and Tim Ingold, *Being Alive: Essays on Movement, Knowledge and Description* (London: Routledge, 2011).

⁷ John Law, “What’s wrong with a one-world world?” *Distinktion: Scandinavian Journal of Social Theory* 16, no. 1 (2015): 126–39.

existential crisis of the present: the interrelated crises of climate, energy, biodiversity, poverty, inequality, and meaning. It does so in four moments, each around a pivotal concept for our argument: terricide, monohumanism, monotechnologism, and pluriversal transitions. While only the rudiments of our approach can be presented here, the goal is to sketch a mode of access to the question concerning technology that weaves together these concepts. If terricide is an apt descriptor of what humans, taken as a whole albeit differentially, are doing to Earth and to Life, then we must start with the form of the human most responsible for it, which is the Man of monohumanism and its instrumental and computational approach to technology. The diagnosis of where we have been, in onto-epistemic and political terms, will provide a clearing for alternative narratives of Life and the human that is oriented toward mobilizing a new way of dwelling with the Earth.

There exists, no doubt, a correlation between the intensification of the capitalist engineering of the Earth and the rise of computation and artificiality. Countering the combined defuturing effects of these deadly processes⁸ by envisioning different futures, and futures in difference, becomes an onto-epistemic, cultural, and political endeavor of utmost importance. Is it possible to retrieve and reactivate the futuring potential of those ways of worlding that are not informed entirely by the calculative and enframing rationalities, wherever they are found? How to imagine and create historically unprecedented forms of human sociality, which enable multiple rewavings of the human with the Earth, within an ontology of care for the web of interdependencies that makes up Life? As we shall propose, what is at stake is the ushering of a revised understanding of history that grounds the reappropriation of technology in attunement to place, locality, and the relational reality of a living cosmos. Echoing this volume's call, we refer to this revised understanding and condition, *planetarity*.

Facing terricide

From February 7 to 10, 2020, the first Campamento Climático – Pueblos Contra el Terricidio (Climate encampment – Peoples against terricide) met in a recovered territory in the Wallmapu (Mapuche Territory, in what is otherwise known as the Argentinean Patagonia), with the goal of launching a broad movement against terricide. Called for and organized by Movimiento de Mujeres Indígenas por el Buen Vivir (Movement of indigenous women for good life), the group issued a declaration which read in part as follows:

We define terricide as the killing of tangible ecosystems, the spiritual ecosystem, and that of the *pueblos* and of all forms of life. Confronted with the terricide, we declare ourselves to be in permanent struggle, resistance, and re-existence against this system. [...] We summon all peoples to build a new civilizational matrix that embraces *buen vivir* [collective wellbeing] as a right. Buen vivir implies the retrieval of harmony and reciprocity among peoples and with the Earth. Summoned

⁸Tony Fry, *Defuturing. A New Design Philosophy* (London, Bloomsbury, 2021).

by the memory of our ancestors and the lands and landscapes that inhabit us, we have agreed on the creation of the movement Pueblos Contra el Terricidio.⁹ The movement set forth another important notion that is at the heart of this chapter: “Today,” they said, “the social emergent is Earth itself.”¹⁰ Let us emphasize that their words stem from the memory of their ancestors and the lands and landscapes that inhabit them. This is an instantiation of an understanding that the land does not belong to them, as in the modern ontological regime of property, but that they themselves belong to the land.

Unlike the notion of the apparently neutral Anthropocene, which lends itself to managerial and techno-scientific solutions to problems that overflow technoscience’s ability to solve them, terricide is a concept that does not fit easily into modern thought. In contrast to the Anthropocene, terricide avoids sheltering the idea of an overarching biopolitical project for a “universal humanity” in the terms of “Enlightened Man.” It reveals instead that the Anthropocene is the actual heir of modern science which, as such, is merely diagnostic and misses the point of what is at stake: “the possibility of designing *new conditions for being human*.”¹¹ Terricide announces that what is happening to the climate cannot be solved through technoscience, no matter how comprehensive and allegedly innovative. It dispels the idea that another round of ever more ambitious modern patriarchal will for mastery and control can “solve” the climate problem. At the same time, it makes clear why our understanding of technology must drastically change if it is to fulfill a role in fostering transitions to a new era of mutually enhancing human-Earth relations. In short, whereas Anthropocene conveys the sense of a neutral, objective diagnosis of the crisis, terricide claims that what is at stake is an ongoing crime against the earth which thus calls for a very different politics and set of strategies.

Escaping monohumanism

Thinking about new conditions for being human implies calling into question any universal idea of humanity premised on the exclusionary category of “Man.” There have been many problematizations of modern notions of the human, most famously perhaps Michel Foucault’s argument about the figure of Man as the foundation of all knowledge, as the subject and object of his own discourses, which crystallized with the modern episteme, or knowledge configuration, at the end of the eighteenth century.¹² Wynter’s framing of the

⁹ Authors’ translation; emphasis added, source:

<https://www.planbnoticias.com.ar/index.php/2020/02/15/participo-wuta-trawn-conformaron-movimiento-contra-el-terricidio>. For the full declaration, see

<https://revistaresistencias.wixsite.com/resistencias/post/deliber%C3%B3-en-el-lof-mapuche-pill%C3%A1n-mahuiza-el-campamento-clim%C3%A1tico-pueblos-contra-el-terricidio>. There are plenty of sources on terricide on the internet in Spanish, only a few in English.

¹⁰ See <http://comunizar.com.ar/argentina-mujeres-indigenas-ocupan-ministerio-del-interior>; and <http://idepsalud.org/terricidio-mujeres-indigenas-ocupan-pacificamente-desde-ayer-el-ministerio-de-interior>.

¹¹ Tony Fry and Adam Nocek, “Design in Crisis. Introducing a Problematic,” in *Design in Crisis: New Worlds, Philosophies and Practices*, eds. Tony Fry and Adam Nocek (London: Routledge, 2021), 3, original emphasis.

¹² Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, translated by Alan Sheridan (1966; New York: Vintage Books, 1994).

question of Man in terms of a “monohumanist” notion of the human is particularly powerful for understanding the current ecological-cum-existential crisis and the possibility of constructing a pluriversal horizon for humanity. Wynter posits a two-step process for the emergence of Man. The Copernican Revolution was essential to the first civilizational rift from Christian cosmology to rational worldview, by decentering God and giving birth to reason as a means of understanding the universe, a shift that was catalyzed by the conquest of America (“Man1”¹³). By the end of the eighteenth century, the rational view had developed into a fully biologized and economized account of the human (“Man2”¹⁴). Man2 relied on a rendering of evolution in terms of natural selection, Thomas Robert Malthus’s theory of resource scarcity, and the figure of *homo economicus* ushered in by the nascent science of political economy. Man2 resulted in a monohumanist view of the human as Western, bourgeois, secular, and liberal. Its Darwinian/Malthusian and economic macronarrative pivots on the principle of race and is subject to the imperatives of capital accumulation. This bio-economic “genre of the human” has steadily extended to all corners of the world through colonialism, development, and globalization (Wynter 2015). Man2 is the space within which we learn to live, think, and act, and it has become the default onto-epistemic existential domain.

Wynter disentangles the naturalization of Man2 by appealing to Franz Fanon. In Fanon’s notable conception of sociogenesis¹⁵, Wynter finds a genre of the human markedly different from the cosmogony of secular liberal Man. Sociogenetically, for Fanon, a Black person living in a Eurocentric context is obliged to experience themselves as both normally and abnormally human, being and non-being, as the “dysselected” par excellence. This leads Wynter to emphasize that the human is not only biology but is also shaped by self-maintaining (autopoietically instituted) cultural codes, origin narratives, and storytelling that in turn powerfully shape the brain and behavior. In short, the human is also always *homo narrans*. Wynter concludes that the human is inevitably hybrid: *bios* and *mythos*; matter, life, and story. As she daringly surmises, “With this hypothesis, should it prove to be true, our system of knowledge as we have it *now*, goes.”¹⁶ This is a most audacious claim (akin to “necesitamos una revolución del pensamiento”), one to which she arrives by revisiting “the human” from the perspective of the dysselected (persons racialized as naturally inferior) and the colonized. Through her analysis, Wynter opens a path for a significant “refiguring of humanness.”¹⁷ As she concludes, “unless we move out of the liberal monohumanist mindset, *it’s very difficult to see where we’ve been,*” and, hence, “*where we’re going.*”¹⁸ It is not easy to have an adequate awareness of our historical

¹³ McKittrick, *Sylvia Wynter: On Being Human as Praxis*, 3.

¹⁴ *Ibid.*

¹⁵ “Beside phylogeny and ontogeny stands sociogeny” (Frantz Fanon, *Black Skin, White Masks*, translated by Charles Lam Markmann (1952; London: Pluto Press, 2008), 4. This is a way of highlighting the dialectic of black skins/white masks confronting all Black people.

¹⁶ Wynter, “Unparalleled Catastrophe for Our Species?,” 16, original emphasis.

¹⁷ Denise Ferreira da Silva, “Before *Man*: Sylvia Wynter’s Rewriting of the Modern Episteme,” in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham: Duke University Press, 2015), 93, original emphasis.

¹⁸ Wynter, “Unparalleled Catastrophe for Our Species?,” 14, emphasis added.

circumstance, as genres of the human are “cosmogonically chartered”¹⁹ and powerfully implanted as a “second set of instructions”²⁰ in collective culture by narratives. This ontological determination makes clear the need to move beyond the mimetic desire to join the club of those inhabiting the bioeconomic world. An important element in this project of overcoming is debunking the master discipline of economics and the reductive versions of science and technology that make the bioeconomic view of the human inevitable.

To reiterate, the larger issue is “the incorporation of all forms of human being into a single homogenized descriptive statement that is based on the figure of the West’s liberal monohumanist Man”²¹; that is what *monohumanism* means. As Bayo Akomolafe eloquently states, it is as though “the word ‘human’ is a self-evident category that is not already simmering with tensions, elisions, disputations and troubling departures.”²² The response must come in the form of the creation of new horizon of humanity that enables an ecumenically open view of the hybrid notion of human. One might posit the question as follows: How to move towards a humanism (if at all) that embraces coeval and pluriversal genres of being human, while preventing its reabsorption into the regime of Man? For Wynter, given that they/we dwell in several worlds, peoples inhabiting the colonial difference have a “cognitive edge” in envisioning and moving towards such far-reaching transformation.

Beyond monotecnologism

The ontological examination of technology, by which we mean its role in the constitution of the real, the human, and Life, seems to be coming back in contemporary debates after a hiatus of several decades in which concern with the social and cultural dimensions of technology took the front seat. While ontological questions were never completely absent from the social studies of technology that came into prominence in the 1990s, particularly in the Anglo-American and French academic worlds, it is fair to say that the interest in the philosophical anthropology of technology is reemerging.²³ This return is being fostered by momentous issues that include the relation between technology and what moderns call nature, or “the more-than-human” in contemporary anthropological parlance; the impact of pervasive digitalization on subjectivities, social, economic, and political life; and above all the incredibly fast pace and scale of technological development in many fields, including anything that has to do with computation and AI, as well as cutting-edge developments in nanotechnology, synthetic biology, genomics, robotics and automation, neuroscience, geoengineering, and space travel. If it is true that in jumping back to a time

¹⁹ Ibid., 30.

²⁰ Ibid., 33.

²¹ Ibid., 23.

²² Bayo Akomolafe, “Coming Down to Earth,” March 11, 2020, <https://www.bayoakomolafe.net/post/coming-down-to-earth>.

²³ A number of critics of the technological rationality of advanced industrial society, from Jacques Ellul, Lewis Mumford, Herbert Marcuse, and Erich Fromm to Murray Bookchin, Ivan Illich, and Paul Virilio, as well as more recent philosophers of technology and machines, such as Gilbert Simondon, Gilles Deleuze and Bernard Stiegler, are important forerunners of the ontological examination of technology.

“when old technologies were new”²⁴—landmark technologies such as electricity, telegraphy and telephony, photography and the cinema, air travel, and so forth—we would experience a sense of profound cultural transformation and disorientation, it is also the case that never before in human history has technology permeated so profoundly and extensively so many domains of social, biological, and cultural life. From the development of microprocessors in the 1950s and recombinant DNA techniques in the 1970s until today’s promise of a great technological singularity, the exponential growth of technology has irremediably impacted all dimensions of social existence, from the molecular to the personal and the global.²⁵

These developments are driving a great acceleration in the pace of capitalist extraction of earth resources and the use of energy and materials, impacting Earth indelibly²⁶. At stake is nothing less than the status of the human, Life, and the fate of the Earth. The double problematic lies within the relation between technology and the magnitude and pace of extraction, on the one hand, and the historical and onto-epistemic background underlying monotecnologism and capitalist extraction, on the other. Design theorist Clive Dilnot describes this unprecedented juncture as the coming of age of the artificial as a horizon for being. How is the arrival of the epoch of the artificial-as-totality to be thought and acted upon? Let us begin by stating that for Dilnot artifice and prefiguration—the condition of being made of the human—have been central to human existence from the get-go; however, they have undergone a profound shift in the period of the Great Acceleration, which roughly started after the Second World War. For Dilnot, in becoming unbounded, technology ushers in a regime of world-making and materiality that fully replaces nature as horizon. This is what he means by the artificial.

The artificial thus “unarguably constitutes for us the underlying condition of existence of our time. It is an unsurpassable condition because *there can be no relation to natural conditions of existence which do not pass through it*. [...] The artificial replaces nature as the horizon and medium of our world.”

²⁴ Carolyn Marvin, *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century* (New York: Oxford University Press, 1988).

²⁵ The Korean-German cultural studies scholar Byung-Chul Han has analyzed in depth the impact of the expansion of the digital order on daily life from a post-Heideggerian perspective, particularly the erosion of the vitality of things as sources of meaningful experience by pervasive informatization. The smartphone is central to this state of affairs. The infosphere defactualizes human existence, turning it into information and ending the era of fact-based truth; this contributes greatly to the undermining of presence, empathy, place, and community. In the age of social media, a generalized narcissism settles in, causing not only things but the other to disappear. Interestingly, Han concludes that artificial intelligence, by processing “*hechos predeterminados que siguen siendo los mismos*” (predetermined facts that continue to be the same; original emphasis), precludes the irruption of something that is genuinely new. (Byung-Chul Han, *No-cosas: Quiebras del mundo de hoy*, trans. Joaquín Chamorro Mielke [Madrid: Taurus, 2021], 57). For a creative statement of alternatives to the digital monocultures of the present, see the wonderful project by the Verses collective, *Towards a Digital Pluriverse*: <https://pluriverse.world>.

²⁶ J. R. McNeill and Peter Engelke, *The Great Acceleration: An Environmental History of the Anthropocene since 1945* (Cambridge, MA: Harvard University Press, 2016).

²⁷ Heidegger's statement about the centrality of object-centeredness to modern social life ("Beings became objects that could be controlled and seen through by calculation"²⁸) seems fulfilled. But is it? If the crisis has become permanent and total, it means that in this very condition there lies the possibility of an affirmation: "At once a gathering of modernity and the stepping beyond it."²⁹ A different future is immanently present in the new condition, only if we do not assume continuity with modernity but interrupt its trajectory: If things have been made, they can be made otherwise. In short, the artificial-as-totality suggests the impossibility of thinking from within the limits of what-is (which would only entrench calculative rationality and the logic of capital). We need to ask, are there any affirmative openings within the artificial? Dilnot suggests that "In the artificial, we go *past* the modern. [...] [t]he rupture of the artificial is the rupture—the ending—*of* the modern. It is the rupture *with* the modern in that it objectively institutes another circulation of thinking and acting. This ending of the modern is the institution of another historical epoch."³⁰ This "ending" of the modern, is what creates an "opening" for a kind of thought that is not content with being largely a commentator on disaster (as is a great deal of critique today), but instead one that fully recognizes autonomous making as central to many cultures and as a recoverable practice.

Dilnot intuits the possibility of a reconstitution of interdependence as the basis for being human by reinterpreting the meaning of relation. This in turn requires reestablishing "biological interdependence and the contingency of existence as the prime underlying condition of all being."³¹ Lest one wish to hear in this statement an anachronistic advocacy for a return to nature, what he has in mind is an onto-epistemic and political project focused on the active re/making of interdependence through the artificial. Like Millán and Dilnot, for Hui the contemporary conjuncture provides new conditions for thought beyond the modern. Such conditions, he surmises, can be laid down through a new approach to the relation between art, technology, and philosophy that is open to what logocentric thought cannot comprehend. "The task of thinking," he states, "is to elaborate the unconceptualizable not only through concepts and ideas, but also intuitions."³² This involves a notion of intelligence that incorporates "intuition-acting" as it takes place in the social world, and a kind of thinking that enables ontologically open futures. Such new conditions might enable a different relation to technology, questioning algorithmic rationality and its relation to capital, while fostering a techno-diversity that resists the onto-epistemic takeover by machines.

²⁷ Clive Dilnot, "Designing in the World of the Naturalized Artificial," in *Design in Crisis: New Worlds, Philosophies and Practices*, eds. Tony Fry and Adam Nocek (London: Routledge, 2020), 9103, emphasis added.

²⁸ Martin Heidegger, *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper, 1971), 74.

²⁹ Clive Dilnot, "Designing in the World of the Naturalized Artificial," in *Design in Crisis: New Worlds, Philosophies and Practices*, eds. Tony Fry and Adam Nocek (London: Routledge, 2020), 95.

³⁰ Clive Dilnot, "Designing in the World of the Naturalized Artificial," 103. This means that conceiving of possibility through an impossible leap from within what-is (e.g., the technological Singularity), falls into the trap of ruling out radical possibilities from within what is currently thinkable and doable, thus missing the option of a genuine departure beyond monotecnologism towards a pluriversal cosmotechnics.

³¹ Dilnot, "Designing in the World of the Naturalized Artificial," 107.

³² Hui, *Art and Cosmotechnics*, 249.

Returning technology to being part of Life by placing it at the service of multiple ways of worlding, rather than leaving it in its dominating instance, is a clearer imperative today than ever before. We are increasingly enmeshed in gigantic technological systems (aggregate data systems, networks, prediction algorithms, sensors, interconnected “smart” devices) with a tendency to totalize and supplant (organic) life, redrawing the opposition between the organic and the mechanistic in favor of the latter (the becoming-organic of machines). In Ivan Illich’s terms, we have significantly overshot the threshold beyond which any given technology becomes disabling, rather than enabling, of human potentiality.³³ Hence Hui’s emphasis on finding technological practices that do not stifle what is non-rational, incomputable, incalculable, and ineffable, practices that resist the drive towards the recursive rationalization of the unknown. This is where the role of art becomes manifest.³⁴

The ontological critique of AI (life on the screen writ large, one might say) needs to be accompanied by an acute awareness that the world is progressively being reduced to recursive calculation by ubiquitous cybernetic machines fueled by a proliferating algorithmic rationality that is functional to global capitalism, besides being heavily depending on extraction. In other words, it is necessary to bring the ontological analyses to bear on the fact that monohumanist technosociality is currently, and increasingly, being deployed in nearly all spheres of social life (from finance and health to shopping, media and politics) by the explosion of machine learning, algorithm logics, and big data. This is possibly one of today’s most crucial philosophical and political questions and remains underexamined, given the naturalization of “data” and the unquestioned role of statistics and probability that underwrite such algorithms.³⁵ Said succinctly, it is chiefly through such machine-learning mechanisms and algorithmic rationality that the worldview and desires of the powerful are imperialized and perpetuated, often with celebratory undertones. A global cybereconomy has emerged largely run by “algorithms of oppression” with their structuring patriarchal and racist commitments; they operate as veritable forms of technological redlining, as internet scholar Safiya Umoja Noble has demonstrated.³⁶

In this context, rearticulating the relation between technology and worldmaking becomes crucial. Does the phenomenological approach to being-in-the-world still hold, given that “[w]hen the computational environment *displaces* the world, it doesn’t mean that the world disappears, but rather that it becomes silent,”³⁷ and ceases to be sensible? This question leads Hui to emphasize the reconsideration of place and locality relationally and non-dualistically, for which he finds clues in East Asian *shanshui* or “landscape” painting.

³³ Ivan Illich, *Tools for Conviviality* (London: Calder & Boyars, 1973).

³⁴ Hui, *Art and Cosmotronics*. See also, for instance, Yuk Hui and Brian Kuan Wood, “A Conversation on Art and Cosmotronics, Part 1,” <https://www.e-flux.com/journal/124/446668/a-conversation-on-art-and-cosmotronics-part-1/>

³⁵ For a critique of algorithmic rationality and the mathematics behind it, see Justin Joque, *Revolutionary Mathematics. Artificial Intelligence, Statistics and the Logic of Capitalism* (London, Verso, 2022).

³⁶ See Safiya U. Noble, *Algorithms of Oppression. How Search Engines Reinforce Racism* (New York: New York University Press, 2018). My thanks to Orin Starn for bringing this important work to my attention.

³⁷ Hui, *Art and Cosmotronics*, 247, original emphasis.

These beautiful works of art make the cosmos visible through the composition of non-human agencies like water, rocks, fish, plants, etc., rendering sensible what is sublime and unknowable. As he says, shanshui paintings and Japanese gardens aim to make sensible what is invisible, in the realization that “[t]he Unknown is also conditioned by place, which is the ground, the groundless ground.”³⁸ Can this approach make (modern) humans aware of their growing detachment from Earth effected by technology, with its ensuing cosmic nihilism?³⁹

Hui is not advocating for a wholesale rejection of modern technology. For him, a vision of technology is needed that goes beyond modernization while being able to accommodate modern technology “without becoming techno-logistic,” one that is able to overcome the opposition between “technology and spiritual life.”⁴⁰ The resulting techno-diversity would avoid modern onto-hegemony, rendering it into one possible cosmotechnics among many. A different relation between art and technology would enable an “education of sensibility” that fosters an incitement to being present to place (akin to Ingold’s “education of attention”).⁴¹ This requires a renewed orientation towards Being, the Unknown, and the non-rational, regaining the ability to feel “a resonance between ten thousand beings.”⁴² Art—in its cosmotechnical multiplicity—must confront the current crisis “in order to produce new epistemes, new sensibilities that will be able to give science and technology new directions and frameworks.”⁴³ Such epistemic revolution “is not something we can invent from without. Rather, it is always already *local* and *historical*.”⁴⁴ We could argue, in our own terms, that Hui is calling for a pluriversal sensibility through regaining the grounding and presence to the world and hence, to multiple other worlds.⁴⁵

There is one remaining crucial aspect that is seldom emphasized in theoretical discussions of technology, and this is their dependence on patriarchy. Patriarchy may be defined as an ontology and an ensemble of practices and emotions that privilege competition, hierarchies, appropriation of the Earth, domination of others, power, growth,

³⁸ *Ibid.*, 274.

³⁹ Yuk Hui stresses recursivity as fundamental to both computation (machine) and the world (Life), albeit differently so. His advocacy, after a laborious genealogy of recursive thought in both Western philosophy and Chinese thought (Hui, *Recursivity and Contingency* [London: Rowman & Littlefield, 2019]), is for a “*generalized recursive thinking* [that] needs to understand and to co-exist with machines” (Hui, *Art and Cosmotechnics*, 248, original emphasis), while mindful of the fact that not everything in Life is recursively enumerable, i.e., the world cannot be reduced to a recursive universe.

⁴⁰ Hui, *Art and Cosmotechnics*, 277; echoing Japanese philosopher Kiyoshi Miki.

⁴¹ Tim Ingold, “From the Transmission of Representations to the Education of Attention.” In *The Debated Mind: Evolutionary Psychology versus Ethnography*. Edited by Harvey Whitehouse (London: Bloomsbury Academic, 2001).

⁴² Hui, *Art and Cosmotechnics*, 281.

⁴³ *Ibid.*, 282.

⁴⁴ *Ibid.*, 287, original emphasis.

⁴⁵ For Hui, it is important to acknowledge the limits of a “becoming organic” of technology, for that remains a dualistic formulation. Socioecological theory must straddle two positions in this regard: on the one hand, the idea of a purely non-objectified organic nature (although via making it “subject”); on the other, nature’s final demise after its complete conquering by technology in the name of the utopia of endless techno-material prosperity embedded in Western metaphysics of technology.

violence, and war. These values are at the basis of contemporary technology's drive towards calculation, control, maximization, instrumentality, extraction, and algorithmic prediction. Patriarchal cultures, in their entanglement with capitalism and coloniality, can be said to provide the onto-epistemic software for the techno-economic acceleration that underlies the current staggering levels of inequality and ecological devastation. They provide the architecture for the masculinist "historical project of things," in contradistinction to the "historical project of relations," as stated by Rita Segato, that characterizes the ontologies of care emphasized today by many decolonial and anti-racist feminists.⁴⁶ Unfortunately, it is the techno-patriarchal gurus of high tech that are gaining the upper hand in the vital onto-epistemic task of imagining futures. With their seductive imaginaries of control and unlimited choice, of life beyond Earth and "beyond biology,"⁴⁷ these techno-patriarchs steer visions of the future more effectively than any other social actor. Naming them as ontologically, socially, and politically patriarchal is crucial for positing contrasting imaginaries for different futures and futures in difference.⁴⁸

Pluriversal planetarity

We are now able to suggest some elements for reinterpreting the dominant understanding of technology from an onto-epistemic perspective. We situate the contemporary conjuncture at the intersection of the double condition of terricide and the artificial-as-totality, on the one hand, and the possibility of new conditions for thought presented by such conjuncture, on the other. By doing so, we begin to perceive a multiplicity of new beginnings derived from a revised understanding of history that, in turn, provides grounds for a reappropriation of technology in attunement to place, locality, and the relational reality of a living cosmos, that is, to other worldmaking practices in all of their pluriversal multiplicity. Echoing this volume's call, we call "planetarity" this new condition, a category to which we arrived by questioning anew patriarchal monohumanism and monotechnologism. In its evocation of Earth, planetarity counters the dominant narratives of coloniality, developmentality, and imperial globality from the perspective of pluriversality.⁴⁹

Planetarity emerges in the vast space between Earth and World, as a project for reassessing the role of technology in shaping modernity and the human. Beyond the receding of the world and the erosion of the preeminence of the *hic et nunc* (here and now) of human existence⁵⁰ in the cybernetic age, Earth herself tends to disappear; more precisely, it is the monotechnological and monoversal way of worlding underlying the "one-world world" that is responsible for the vanishing of the Earth as Life's abode for most humans. Against such mono-ontological worlding there arise both Earth and pluriversality: Earth as

⁴⁶ For example, see Rita Laura Segato, *Contra-pedagogías de la crueldad* (Buenos Aires: Prometeo Libros, 2018), and Segato, *La guerra contra las mujeres* (Madrid: Traficantes de Sueños, 2016).

⁴⁷ Ray Kurzweil, *The Singularity is Near* (New York: Viking Books, 2015).

⁴⁸ For an extended discussion of the patriarchal dimension of ontological dualism, see Arturo Escobar, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds* (Durham: Duke University Press, 2018).

⁴⁹ For a discussion of the notion of pluriversality, see Arturo Escobar, *Pluriversal Politics: The Real and the Possible* (Durham: Duke University Press, 2020).

⁵⁰ Paul Virilio, *Open Sky*, trans. Julie Rose (London: Verso, 1997).

the capacity of life for perpetual self-organization, and life's ceaselessly unfolding flux of changing forms, forces, behaviors, and relations; and pluriversality, as the continued presence of a world of many worlds, a world where many worlds fit, as the Zapatista from Chiapas, Mexico, have wisely put it.⁵¹

Together, Earth and pluriverse signal the radical interdependence of everything that exists, and the fact that all entities are always in the process of dependent co-arising. This conception points at the patent limitations of classificatory rationality to fully understand life through positivist categories and concepts and, concomitantly, of anthropocentric techno-designing to shape life to its will. Even then, when faced with incomputable processes such as climate change, moderns can only think about addressing them through a new round of technoscientific rationality, which is more computation. We are still far from heeding Akomolafe's prescient admonishment that climate change is not a problem that organizations can draw lines around and manage, because climate change *is* the world; as such, given its incalculable and unbounded complexity, climate change is "ontologically *unframeable, unthinkable and incalculable.*"⁵² No amount of computational power and scientific research can change this predicament at the very heart of Western scientific "objectivity."⁵³ We need to come to terms with the limitations of the discourse of the wise management of the planet for the benefit of everything promised by modern science and politics—embedded in notions of sustainability, innovation, ecological modernization, and so forth.

One of the figurations that, for us, best conveys the challenge of planetarity, as an onto-epistemic space where pluriversality might flourish, is that of transitions. Transition thinking has been emerging steadily in many parts of the world and from many perspectives and traditions. Yet many of the transition proposals do not depart significantly from the modern story of Life and the onto-epistemic regime of Man; therefore, calls for pluriversality are at risk of being reabsorbed by new rounds of monohumanist technosociality driven by global capital. In their emphasis on the socio-technical, economic, and ecological aspects of transitions, they continue to uphold an anthropocentric attitude of epistemic mastery and control. Other transition narratives focus on particular domains (e.g., cities in transition, energy transitions, agricultural transitions, technological transitions, postcapitalist transitions, and so forth). Many of these visions are, of course, important for imagining transitions from onto-epistemic perspectives, but they need to be pushed ontologically, by which we mean emphasizing the existential and civilizational dimension of the transitions.

It should be clear by now that approaches to transitions need to go well beyond science and logocentric social theory. "El problema no es de ciencia, sino de las condiciones de la existencia" (the problem is not one of science, but of the conditions of

⁵¹ Marisol de la Cadena and Mario Blaser, eds. *A World of Many Worlds* (Durham: Duke University Press, 2018).

⁵² Bayo Akomolafe, "What climate collapse asks of us," August 17, 2019, <https://www.bayoakomolafe.net/post/what-climate-collapse-asks-of-us>, original emphasis. For a similar point, see Fry and Tlostanova, *A New Political Imagination*.

⁵³ Lorraine Daston and Peter Galison, *Objectivity* (Brooklyn: Zone Books, 2007).

existence), is a rhyme heard in some activist circles in Colombia. This does not mean that science and technology do not have a role to play in the pluriversal transitions, but that scientists, policy makers, and activists alike need to acknowledge the limits of both science and modern social theory, an idea aptly conveyed with the saying that “más allá de la razón hay un mundo de colores” (there is a world of colors beyond reason).⁵⁴ Here we may locate a diverse set of visions and proposals, such as Hui’s appeal to art and cosmotechnics as a way to explore a different relation between technology and nature that engages with Western ontology without becoming techno-logistic; Akomolafe’s call for “coming down to earth,” going into the cracks of the dominant systems, and building sanctuary for the wider living coalitions that refuse to coexist with oppressive systems⁵⁵; design theorist Ezio Manzini’s call for a novel practice of urban dwelling under a novel paradigm of relationality and care that is based on proximity, which is essential for a place-based and Earth-wise human sociality⁵⁶; the stimulating attempts to steer emergent technological trajectories towards a civilizational “great transition”⁵⁷; and evolving experiments and frameworks for transition design, regenerative design, and autonomous design.⁵⁸

This is but a sample of what is already a rich spectrum of experiments seeking to remember the conditions of interdependence, reestablish the conditions of reciprocity, acknowledge pluriversality, and strategically ground actions in place and locality, while meshworking with similar transformative initiatives. The principle of radical interdependence signifies going beyond ontologies of separation with their reductionist premise of intrinsically existing objects, subjects, and actions.⁵⁹ It also implies the full acceptance of the fact that, at a very fundamental level, we are all within the pluriverse. When facing the toxic loops of contemporary existence, this realization should move us along the path of repairing, healing, caring, regenerating, and making and creating with others: humans, non-humans, materials, landscapes, spirits, ancestors, water, seeds, and all kinds of tools and technologies. To do so with an acute ontological and historical conceptualization and practice of politics implies doing one’s best to shake-off the constraints of having to live daily within the enduring assemblage constituted by individual personhoods, needs, technologies, markets, and single truths that has become the operating system of the structuring force field, which in social theory terms can be called the

⁵⁴ Adolfo Albán Achinte, *Más allá de la razón hay un mundo de colores: Modernidades, colonialidades y reexistencia* (Santiago de Cuba: Editorial Oriente, 2013).

⁵⁵ Akomolafe, “What climate collapse asks of us.”

⁵⁶ Ezio Manzini, *Livable Proximity: Ideas for the City that Cares* (Milano: Egea, 2022).

⁵⁷ For example, see Paul Raskin, *Journey to Earthland: The Great Transition to Planetary Civilization* (Cambridge, MA: Tellus Institute 2016).

⁵⁸ For some examples, see Terry Irwin, Gideon Kossoff, and Cameron Tonkinwise, “Transition Design Provocation,” *Design Philosophy Papers* 13, no. 1 (2015): 3–11; Terry Irwin and Gideon Kossoff, “Transition Design as a Strategy for Addressing Urban Wicked Problems,” in *Cities Without Capitalism*, eds. Hossein Sadri and Senem Zeybekoglu (London: Routledge, 2021); Daniel Christian Wahl, *Designing Regenerative Cultures* (Axminster: Triarchy Press, 2016); and Josie Warden, *Regenerative Futures: From sustaining to thriving together* (London: RSA, 2021), <https://www.thersa.org/globalassets/pdfs/reports/from-sustaining-to-thriving-together-final.pdf>.

⁵⁹ Kriti Sharma, *Interdependence: Biology and Beyond* (New York: Fordham University Press, 2015).

patriarchal-colonial capitalist system, the Western civilizational project, industrialism, monotechnologism, etc.

“The way isn’t forward, it’s awkward.”⁶⁰ Awkward as in: questioning the patriarchal master narratives of linear progress, perpetual growth, simple causality, prediction, logocentric rationality, uni/monoverse, secularity, marching in unison to the drumbeat of rationality, White privilege, billionaire techno-gurus, individual success, panicked avoidance of suffering and death, and anthropocentric continuity. Awkward as in: flourishing in the cracks and fissures of oppressive designs and practices; attuning to the intuitive, the irrational, the feminine, the sacred, the ineffable; committing to place despite the pressure to delocalize and decommunalize; creating pluriversal hypertextualities and other kinds of collective intelligence enabled by digitality. Awkward as in: meditating on and organizing horizontally for the end of a civilization premised on extractive capitalism.⁶¹

Design approaches that take into account the ontological predicaments of monohumanism and monotechnologism⁶² involve a redirecive practice of technology as a space for mutually enriching articulations between the biophysical and the techno-cultural infrastructures of any and all world-making practices.⁶³ In this context, the praxis of repairing, healing, and caring for life’s web of interdependencies might be established as a pluriversal strategy to keep in tension the earth-bound and the artificial, and to overcome the most destructive aspects of the technological reshaping of worlds. Dealing with this tension constructively requires paying attention to the onto-epistemic, existential, and political conditions necessary for a reappraisal of the constitutive relationality of all existence, as we suggest with the propositions below. As Swedish anthropologist Helena Norberg-Hodge put it, “Why should we accept an energy- and mineral-intensive technological infrastructure that is fundamentally about speeding life up, increasing our screen-time, automating our jobs, and tightening the grip of the 1%?”⁶⁴

Reorientation of technology

⁶⁰ Akomolafe, “Coming Down to Earth.”

⁶¹ The revered Buddhist teacher Thich Nhat Hanh invites us to actively accept the end of our consumerist civilization by meditating on this thought: “Breathing in, I know that this civilization is going to die. Breathing out, this civilization cannot escape dying.” Thich Nhat Hanh, *The World We Have: A Buddhist Approach to Peace and Ecology* (Berkeley: Parallax Press, 2008), 46. This is a call to move beyond a civilization that has become so antithetical to the ontology of interbeing, and to accept that this civilization is temporary, whether or not we wish to move beyond it.

⁶² For ontologically-oriented design proposals, see Fry, *Defuturing*; Escobar, *Designs for the Pluriverse*.

⁶³ A recent reader on “cosmolocalism,” for instance, offers different framings, including open design distributed manufacture, maker cities, fab cities, do-it-together, planetary bricolage, planetary mutualization, cosmopolitan localism, peer-to-peer production, and commons; it includes over forty cases from modular automotive manufacturing, to agri-robotics and peer to peer farming, community driven wind power and housing construction to biohacking, furniture fabrication, upcycling, prosthetics, and disaster relief, with a sophisticated conceptualization of cosmopolitan localism and its technological infrastructures. For more information, see the project Cosmolocal Reader, <https://clreader.net>.

⁶⁴ Helena Norberg-Hodge, “Putting Technology in Its Place,” GTI Forum Technology and the Future, Great Transition Initiative, January 3, 2022, <https://greattransition.org/images/Technology-Future-Norberg-Hodge.pdf>.

Design, like technology, has been predicated on the premise of the separability between humans and the world. Yet what would become of designing and technology if they were to be reconceived from the fundamental insight that the world does not exist “out there,” separate from us, but that we construct it with every one of our actions and perceptions? Such reorientation should contribute to disrupting the monohumanist technological and economic worlding practices that make the world one (principally technology and economics), thus challenging the globalizing economy where only One World and One Human fit. This is the predicament of planetarity, marked by the simultaneous condition of unprecedented challenges and novel possibilities for thought, from which there might emerge new cosmotechnical directions for science and technology. Such designing and technological practices would persuasively contribute to transitioning towards the pluriverse including the need to consider all living forms. As we have argued, this would involve an onto-epistemic (not only politico-economic) reorientation of technology. We offer a few additional propositions in this regard. This onto-epistemic reorientation involves cultural-political work of utmost importance at present. Let us call this cultural-political task of onto-epistemically reorienting technology, pluriversalizing technology⁶⁵:

1. Pluriversalizing technology needs to be approached from the premise that life is constituted by the radical interdependence of everything that exists, so that designers slowly discover the considerable potential of acting from interdependence and care
2. Pluriversalizing technology means designing technologies that support a world of many worlds, with an active awareness that constructing worlds under the premise of ontological separation negates the possibility of existence for the ontologically divergent.
3. Pluriversalizing technology places in parenthesis the modern notions of object and project, opening possibilities for non-object centered and non-projectual technological designing praxis.
4. Pluriversalizing technology focuses on technologies intended for the reconstitution, healing, and caring for the web of interrelations that make up the bodies, places, cities, and landscapes that we are and inhabit.
5. Pluriversalizing technology fosters a departure from anthropocentrism, figuring conditions for all earth-beings to flourish. It instills a sense of being at home in a world that is alive, creating spaces for reimagining ourselves as pluriverse and as community.
6. Pluriversalizing technology is mindful of the conditions of generalized individuation, delocalization, decommunalization, and deplacing effected by modern technology-driven global capitalism. Conversely, it sees itself as contributing to the postcapitalist recommunalization of social life and the relocation of activities such as eating (vs. “food”), healing (vs. “health”), learning (vs. “education”), dwelling (vs. “housing”), and livelihood (vs. “economy”).

⁶⁵ This is an adaptation of a set of propositions concerning pluriversal designing initially developed by Marisol de la Cadena and Arturo Escobar, “Notes on Ontological Excess: Towards Pluriversal Designing.” In Martín Tironi, ed. *Resonancias tectónicas desde el Sur: Del diseño centrado en el usuario al diseño centrado en el planeta* (forthcoming).

7. Pluriversalizing technology aims to heal the ontological uprootedness from body, place, and landscape through forms of making that contribute to re-embodiment, re-placing, and re-earthing life.
8. Pluriversalizing technology entails reclaiming the capacity for making life collectively and autonomously, instead of outsourcing it to heteronomous institutions, experts, the state, and the capitalist economy.⁶⁶ It moves away from the historical project of objects, while favoring the historical project of relations.
9. Pluriversalizing technology contributes to dismantle the mandate of masculinity that is at the core of the object-driven ontology of modernity. It practices a feminist and anti-racist politics that pragmatically privileges collective and communitizing modes of making and acting centered on care.
10. Pluriversalizing technology takes seriously the struggles for social justice, respect for the Earth, and the rights of all human and non-human entities to exist.
11. Pluriversalizing technology involves learning to think and make with those who rise in defense of their life territories, strengthening their life-making and autonomy-oriented practices.
12. Pluriversalizing technology requires a renewed awareness of how the creation of conditions for life-sustaining coexistence will necessarily have to engage with the dominant logic of unsustainability and defuturing.⁶⁷
13. Pluriversalizing technology goes beyond the grammar of “problems” and “solutions,” particularly as it pertains to incomputable and ontologically unframeable civilizational challenges such as climate change.
14. Pluriversalizing technology resists translating the inexhaustible reservoir of practices of prefiguration, artifice, and making maintained by peoples worldwide into the grammars of modern technology and design, letting them come into the foreground as unique instances of relational life making.⁶⁸
15. Pluriversalizing technology renders the project of re-earthing cities into a historically plausible intellectual, political, and technical process focused on the creation of spaces of healing, re-communalization, and mutually enhancing relations with the Earth.
16. Pluriversalizing technology engages in new conversations with art, aesthetics, and philosophy (multiple traditions of thought) intended to illuminate paths to a different relation between humans and the cosmos in the face of generalized cybernetic thinking. It retrieves the history, knowledge, and world-making significance of what lies beyond established forms of rationality.
17. Pluriversalizing technology actively opposes digital monocultures by creatively inhabiting the space opened between pluriversal visions of the digital and digital

⁶⁶ See Leanne B. Simpson, *As We Have Always Done* (Minneapolis: University of Minnesota Press, 2017); Gustavo Esteva, “Autonomy,” in *Pluriverse: A Post-Development Dictionary*, edited by Ashish Kothari, Ariel Salleh, Arturo Escobar, Federico Demaria, and Alberto Acosta (Delhi: Tulika and AuthorsUpFront Publishing, 2019), pp. 99-102

⁶⁷ Fry and Tlostanova, *A New Political Imagination*.

⁶⁸ Alfredo Gutiérrez, “When Design Goes South: From decoloniality, through declassification to desobono,” in *Design in Crisis: New Worlds, Philosophies and Practices*, eds. Tony Fry and Adam Nocek (London: Routledge, 2020).

visions of the pluriverse, searching for a more grounded ethics of technology and AI that resists digital land grabs while fostering digital commons.⁶⁹

18. Pluriversalizing technology has as a general goal mobilizing for a new way of dwelling on the Earth.⁷⁰

⁶⁹ This item inspired by the “Towards a Digital Pluriverse” project.

⁷⁰ This formulation guides the current work of a small group that includes Fernando Flores, Terry Winograd, Don Norman, B. Scot Rouse, and Arturo Escobar, gathered around the formative insights of computer network technologies and design originally formulated in Terry Winograd and Fernando Flores, *Understanding Computers and Cognition: A New Foundation for Design* (Norwood, NJ: Ablex, 1986).

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