Futurity Report

Edited by
Eric C. H. de Bruyn and
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Sternberg Press
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Introduction

Ah, he cries, now I finally understand: this is the dialectic!
Now I can write my report!
—Fredric Jameson, “The Aesthetics of Singularity”

A report on futurity; that is to say, not a report on the future or on futurism, and certainly not a futurological report. A futurity report may bring several incongruous items to mind—a market analysis of financial instruments, an insurance company’s study of climate risks, a horse breeder’s forecast of a foal’s performance. Yet they all fit within the distinctly modern, statistical project of “taming chance.” So many futurologies transforming the randomness of events into the speculative business of manageable risks, so many actionable forecasts to accompany the weather report on the daily news. This collection of essays is not that type of report. Anyone looking for entertaining or bankable speculations about a future yet to come need not read any further. We would like to reclaim and repurpose futurity, and along with it modes of thought and practice that are as critical as they are speculative (to use a term that has seen much abuse in recent years). This is a book about the historicity of the future, futurism, and futurology; it is about the historical conditions that allow, shape, or for that matter, block a mode of thinking that wishes to transcend its own present, to become nonsynchronous with itself.
Ends, Returns, and Other Histories

If, according to Franco “Bifo” Berardi, 1977 was the year the future ended, with the Deutscher Herbst putting an end to the ideals of May ’68, and with punk’s ambivalent slogan “No Future” turning Situationism on its head, then the fall of the Wall in 1989 seemed like the final defeat of any kind of alternate futurity, any kind of systemic alternative. From then on, the future could only be a capitalist one, and a neoliberal one to boot. Fukuyama’s late-1980s diagnosis of the “end of history” was perfect for this latest variant of Western triumphalism: our “liberal” society as the culmination of history. Posthistory had no more need for a future, as global capitalism had asserted itself as “the best of all possible worlds” and ideology was declared dead. Even the need to devise futurological scenarios, a strategic weapon of Cold War rationality, seemed to have become less urgent, their status bumped down to the level of mere business projections or social planning. A rampant misreading of Fredric Jameson’s statement on the “structural impossibility of utopian representation” seems to have driven the final nail in the coffin. Mourning our putative, collective inability to imagine another future, much of the New Left has been cast in a state of disarray.

An already classic statement of left melancholia is T. J. Clark’s unrelentingly bleak “For a Left with No Future.” In this essay, Clark notes that “there will be no future […] without war, poverty, Malthusian panic, tyranny, cruelty, classes, dead time, and all the ills the flesh is heir to, because there will be no future; only a present in which the left (always embattled and marginalized, always—proudly—a thing of the past) struggles to assemble the ‘material for a society’ Nietzsche thought had vanished from the earth. And this is a recipe for politics, not quietism—a left that can look the world in the face.” With his disenchanted presentism, Clark disparages utopia as a dangerously delusional mode of thinking and imagining: “Utopias reassure modernity as to its infinite potential. But why? It should learn—be taught—to look failure in the face.” Whereas Clark resuscitates an old critique of utopian socialism in the wake of a century of failed revolutions, the question is whether futurity can truly be reduced to Clark’s emptied-out “future” of modernity.

A different, less disenchanted and less defensive form of presentism can be found among various post-Operaist and autonomist theorists. Isabell Lorey, for instance, has quoted Foucault to the effect that what mattered in May ’68 was not so much “the question of utopia” as the fact that the multitude organized itself in nonhierarchical manners. In Lorey’s Negri-informed words, such a self-regulatory form of political
collectivity amounts to “constituent power in the present infinitive.”\(^8\) Maurizo Lazzarato, too, has insisted that May ’68 finally put an end to the long nineteenth century, with its thinking in terms of linear progress, of history racing forward like a train on a linear track; today’s accelerationists are in the wrong century.\(^9\) However, a central supposition for this volume (which contributors may or may not agree with) is that futurity cannot and should not be equated with linear and teleological futures. Dale Carrico provides one helpful definition:

> Futurity cannot be delineated but only lived, in serial presents attesting always unpredictably to struggle, collaboration, and expression. The Future, to the contrary, brandishing the shackle of its definite article, is always described from a parochial present and is always a funhouse mirror reflecting a parochial present back to itself, amplifying its desires and fears, confirming its prejudices, reassuring its True Believers that the Key to History is in their hands.\(^10\)

And what is Walter Benjamin’s conception of history, with its now-time shattering linear-historicist temporalities, other than a desperate affirmation of this freedom? Presentism must take care not to become as meme-ified and reductive as today’s neo-futurisms. If there is one thing that’s truly of the present, it is relentless branding aimed at perpetuating one’s theoretical boutique store, and so the future has returned to haunt present discourse—Clark, Lazzarato, and Lorey notwithstanding. There is no end to the books, conferences, and exhibitions that claim to (re)invent the future.

The accumulating and accelerating financial, social, and ecological crises in our present appear to be merging into a catastrophe that has put an end to all previous “ends.” If it has previously been proposed that the beginning of the “end of the future” can be dated to 1977 or 1989, a new possibility of periodization arrived with the financial crisis of 2008, or even more recently with the United States’ withdrawal from the 2016 Paris Agreement. As the inequality of wealth distribution increases, as the specter of human redundancy through automation makes headlines, and the catastrophic effects of climate change threaten to increase the massive displacement of people across the globe, the issue of futurity is back with a vengeance. But what has changed while futurity seems to have been in hibernation? How can we orient ourselves in relation to the onslaught of highly diverse futures that are coming our way? If futurity used to be shaped by one dominant imaginary—\textit{homo economicus}—it has now been joined by a second imaginary—\textit{homo ecologicus}—which is, at
times, understood to coincide with the former, but is more often seen as fundamentally incompatible. Futurity thus has two operational fields of signification—economic systems and climate systems—which returns us to the original meaning of futures: a financial device to insure oneself on the grain market against inclement weather. The problem being, of course, that no financial instrument of risk distribution—futures, derivatives, etc.—is capable of weathering a perfect storm: the unforeseeable, if inevitable, catastrophe that insurers would call “an act of God.”

Localist primitivism offers no way out: Bruno Latour has reasoned that, in the age of the Anthropocene, there is no pure, untainted locality to reinhabit, whether imagined in terms of social or ecological solidarity. He submits, for instance, that Trump’s isolationist politics made it clear that it would require the resources of several planets to get this one lonely planet up to the level of the “developed world.” Globalization requires borders, walls, and seas acting as barriers. Making America Great Again means nothing less than Trump’s America not giving up its claim to more than its fair share. The United States of America under Trump, therefore, appears to have delineated a new, if completely imaginary, position of the hors-sol: like the sea nations of Peter Thiel or the floating aerostat cities of science fiction, Trump’s America is attempting a virtual liftoff, ripping itself free from any shared ground. The other side of this environmental axis is what Latour calls the terrestrial—a problem of, more than a solution to, how we might move forward in a world driven by economic and environmental exploitation. We need, he writes, to find a way to “re-land” (atterrir) not only in accordance with the Kantian problem of “how to orient oneself in thinking,” but also in a sly reference to the scenario of a disaster movie in which a disabled plane must make it safely back to Earth.11

If we can return to Kant’s old question about orienting oneself, then it is because we may now be witnessing a phenomenon similar to what had concerned Kant in 1786, namely, the emergence of an inflationary form of philosophical speculation, unanchored to any common, social horizon. One may well wonder about the coincidence of so-called speculative theory—which has little to nothing to say about political, social, or environmental significance—with the unhinged flights of financial speculation, which appear to have barely been tempered by the 2008 crisis.
Speculative Futures

Our futurity report is an attempt to map this shifting terrain, to trace both its ancient contours and its more recent seismic upheavals, along the dual set of coordinates that Latour has outlined. Clearly there is a futural aspect to such a mapping—where hither?—but if this futurity report presents various methods of orientation, it steers clear of futurological designs, utopian dreams, or the speculative and accelerationist neofuturisms of the present. Arguably, this theoretical production indicates not so much a breakthrough, a lifting of the crisis, but an intensification of the ongoing catastrophe. We’ve hit the next stage of grief: melancholia disguised as mania.

Appropriating and intensifying Latour’s critique of the modern subject-object dichotomy, speculative realists such as Graham Harman, Quentin Meillassoux, and Ray Brassier denounce what they call Kant’s correlationism—the insistence on always correlating the world with the mind and never speculating about the Ding an sich. The supposed fall from grace of modern philosophy, the alleged reduction of ontology to epistemology by Kant and those who followed in his wake, is reversed by a “flat ontology” in which all cats are gray, and in which the real antinomies that modern thought sought to work through dialectically have been magicked away. At times, these theorists appear to be obsessed with images of the end of the world in which not even a few survivors remain to bear witness: a world without us consisting of indifferent, nonsentient matter. Brassier, for instance, adopts a familiar theme that is exercised in the more grandiose, cosmological versions of hard sci-fi—the heat death of the universe—but takes this entropic device to its furthest extreme. As Déborah Danowski and Eduardo Viveiros de Castro observe, Brassier conjures the image of a thanatropic drive in life and thought, pointing toward a nonhuman horizon, beyond which nothing but a “glacial wasteland” exists, where “radical exteriority is absolutely, outlandishly dead.”12 Meanwhile, outside of philosophical prose, correlation is an operative force that has remade the ontic. As the incisive critique of Danowski and Viveiros de Castro puts it, turning the tables on speculative theory, “We can see the irony of our predicament as that of a catastrophic terrestrial objectivation of the correlation”—in other words: “Human thought, materialized as a giant technological machine of planetary impact, effectively and destructively correlates the world.”13

Whereas accelerationism functions as a hypertrophic version of the progressive ideology of modernism, despite all claims of sabotaging capitalism’s expansionist drift, some object-oriented speculation amounts to a premature pronouncement of the death of man in the midst of a
human-created disaster called the Anthropocene. However, these are two sides of the same counterfeit coin. Indeed, certain speculationists have entered into an alliance with the Prometheus protagonists of contemporary accelerationism. As China Miéville puts it, in a text republished in this volume, “Bad hope and bad despair are mutually constitutive. Capitalism gets you coming or going. [...] And when ‘we’, geoengineers, fail, ‘we’ can live through it, whisper ‘our’ survivalist bad consciences, the peppers hoarding cans of beans.” The dystopian utopia of techno-fix oriented accelerationists mirrors the utopian dystopia of those who imagine a life without humans. Whatever floats your boat.

A key source for today’s speculo-accelerationist futurisms is the CCRU (Cybernetic Culture Research Unit) created by Sadie Plant and Nick Land at Warwick University in the 1990s. In his influential writings from that time, Land presaged the“sidelining of human intelligence by the coming technosphere.” Echoing Deleuze and Guattari, if in a less emancipatory mode, he argued that “as cybernetic technics [machinery] redesigns all oppositionality as nonlinear flow. There is no dialectic between social and technical relations, but only a machinism that dissolves society into the machines whilst deterritorializing the machines across the ruins of society,” a ruined society whose “general theory” was cybernetics. Rather than a cybernetics of stabilization, a media ecology of distributed power, Land embraced a dubitable cybernetics of mutant escalation and acceleration—which made him the most immediate precursor for Nick Srnicek and Alex Williams’s brand of “left accelerationism.” Armen Avanessian and Robin Mackay constructed their accelerationist reader around him, including not only speculative realists such as Brassier and Iain Hamilton Grant, but also Deleuze and Guattari, Negri, and the Russian “cosmist” Nikolai Fedorov, among others. While Negri has some critical words to offer on accelerationism’s technological and social determinism, Brassier touts a neo-Enlightenment and quasi-Marxist Prometheusism: the human can be a bearer of a rule-based rationality that points beyond the organic. Prometheusism becomes cybernetic thanatropism, in true Landian fashion.

Today, Land has moved far to the right with his “Dark Enlightenment” treatise, obsessing about (the future of) race as subject to genetic reconfiguration through technoscience. With upper-class inbreeding, the human race, he notes, may in fact diverge into different species, scuppering what he regards as the utopian leftist “program for global genetic pooling,” with its vision of a “unitary ‘human’ gene pool, stirred with increasing ardor into homogeneous intermixture.” The apparent unwillingness of “leftist” accelerationists and their speculative comrades to distance themselves from their überdaddy and his racism, coupled with
the “convergence between the discourse of accelerationists with Singu-
laritarianism and the vibrant capitalist apologetics of think tanks” noted by
Danowski and Viveiros de Castro, makes one wonder what kind of future, by whom and for whom, is being invented here.

Tellingly, a blurb on one of Harman’s books claims his style “evokes that of a William James merged with the spirit of H. P. Lovecraft.” Speculative fiction—including utopian fiction and sci-fi—often seems to provide one of two motifs for speculo-accelerationist theory: on the one hand, an intimation of ontic horror and nonhuman alterity; on the other hand, linear scenarios leading to a postmodern and possibly posthuman future (and in the posthuman, this second motif connects with the first). But this is shortchanging the social imaginary of so-called para-
fiction. Fredric Jameson, for instance, has insisted that utopian and sci-fi texts are not blueprints for a future perfect society, but rather “maps and plans to be read negatively”; they estrange the present. In a similar fash-
ion, Ursula K. Le Guin noted, “It’s lovely to be invited to participate in Futurological Congresses where Systems Science displays its grand apoc-
alyptic graphs, to be asked to tell the newspapers what America will be like in 2011, and all that. But it’s a terrible mistake. I write science fiction, and science fiction isn’t about the future.” What it is about, to quote Raymond Williams, is crisis, shift, mutation, recasting, or “a crisis of ex-
posure which produces a crisis of possibility; a reworking, in imagination, of all forms and conditions.”

In Jameson’s text, quoted in the epigraph, a cosmonaut is stranded on a foreign Earth, and at first befuddled by the dialectical image of his own society that he encounters there. Struggling to understand the habits of the sentient alien beings, he is enlightened by a “wise old alien econom-
ist” who explains that this planet exists at a later stage of his own socio-
economic system. The cosmonaut is a familiar, allegorical figure of such an ideological decoding of the “novum” of sci-fi and utopian literature. However, although this volume would probably not have happened were it not for the writings of Jameson, our futurity report is less engaged in a defamiliarization of the present than an exploration of those futurities that have been marginalized, repressed, or forgotten over time, and the reasons why this may have been the case, as well as performing an immanent cri-
tique (and perhaps “preprogramming”) of the present. Modernism cannot (yet) be fully laid to rest. Our Futurity Report, therefore, also needs to address such “paradoxical modernisms,” in the words of McKenzie Wark, that speak to our present in untold fashions.
Sci-Fi after the
End of the World

For better or worse, much speculative fiction consists of compromised visions and ambiguous imaginary. The question then becomes how to (re)read forms of science fiction that have, for instance, been complicit in colonialism; how to make the problematic productive. One might also think colonialism itself as science fiction, as Pedro Neves Marques argues in this volume. Was sixteenth-century America not truly the site of a War of the Worlds, with alien invaders laying waste to Indigenous communities? Perhaps, following Latour, we need to distinguish between (modern) Humans and those he calls the Earthbound—Indigenous peoples who may not be too pleased when included with the humans who caused the Anthropocene.23

The human keeps transmuting. As financial futures are traded in algorithmic rather than human time, as humans enter into ever more intricate entanglements with technological devices and become metadata-producing biomass, or are subjected to automated racial profiling, transhumanist fantasies of “uploading your brain” face posthumanist problematizations of the human as anything but an autonomous subject lording over the world. Donna Haraway has launched a highly influential—and very Californian—feminist “cyborg myth” with the statement that “by the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism,” and that the cyborg “is a creature in a post-gender world.”24 Whereas Haraway has since shifted her focus to the actually existing “human animal” and its cohabitation with other species, others have placed greater emphasis on transcending the human through technology and/or stimulants (Nick Land) or on transcending the limitations of biology through “the medical and biotechnological dimension of gender production” and in making possible new (trans)gender identities (Paul B. Preciado).25

However, are such cyborg narratives not still predicated on a conception of Western techno-vanguardism? Louis Chude-Sokei has argued that Haraway’s dictum that the “boundary between human and animal is thoroughly breached by the late-twentieth century in United States scientific culture” needs to be opposed to the study of “Caribbean lineage of creolization and its hostility to conventional borders and antinomies.”26 While Caribbean “pre-posthumanists” such as Sylvia Wynter problematized the exclusion of the racialized Other from the category of the human, they stopped short of problematizing this notion itself. By contrast, Chude-Sokei reads creolization as a violent process of becoming-cyborg: we are the robots, with the slaves being subject to a bioengineering process
that amounts to “a broader evolutionary process without man at its center.” Writing about the Detroit-based electronic duo Drexciya, who created a myth about slaves thrown overboard during the Middle Passage mutating into a species of sea creatures, Kodwo Eshun—who used to be part of the ccru group—notes that “by reimagining the Transatlantic Slave Trade as a fiction of enforced mutation, the Drexciya mythos opened, and continues to open, a speculative space for the reimagining of the posthuman condition, and for questions of becoming, origin and mutation in relation to capitalism, finance and futurity.”28 This is a posthuman Afrofuturism that retools Land for a decentering of Western humanism: the Middle Passage, rather than Google Labs, is the site of a becoming-cyborg.

But what is the creolized, impure temporality co-inhabited by these different kinds of humans, nonhumans, quasi- and posthumans? Today, as Achille Mbembe argues in a reading of Afrofuturism in the present volume, “producing Negroes no longer involves forging a submissive social bond or a body of extraction,” as “today’s ‘underlying negro’ (in lowercase) is a subaltern category of humanity, a subaltern kind of humanity, the superfluous and almost surplus component that capital hardly needs, and which seems doomed to zoning and expulsion.”29 Different kinds of humans, exposed to the realities of social and ecological violence to different degrees, cohabit the planet in a fraught and disjointed contemporaneity. There is no single present, just as, we might add, different futurities proliferate. Under these conditions, some future scenarios assume a secessionist character: one activist has even argued that what may be best for the Congo (a country wrecked by civil war, owing to legacies of colonialism and mining operations) may be to become like North Korea and opt out of the global world order. Meanwhile, Peter Thiel with his island utopias and Elon Musk with his space program signal that the global über-class is to abandon any notion of society or solidarity on a dying planet. Future, in such scenarios, can only mean exodus from copresence.

In this volume, we aim to take stock of the (historical) modalities in which the future might be thought—or even, for some, should not be thought at all. Futurity, then, as investigative report rather than as alternative scenario. However, this is not a disinterested exercise; it would be technocratic folly to try to arrive at some “neutral” taxonomy. Futurity can only be lived. Whose time are you on? What are the conditions under which a version of the future is “preprogrammed” into the present? What are the obstacles and blind spots? As noted by Silvia Maglioni and Graeme Thomson in this volume, the productive relations in the film industry have undermined the potential of science-fiction cinema. Are other modes of doing and living science fiction as a speculative practice possible?
The production of this volume took place under the actually existing conditions of contemporary capitalism, with generous partners (the Van Abbemuseum and Sternberg Press) that made it all possible, and with impressive degrees of self-exploitation on the part of our authors. We see this as a sign of a shared sense of urgency and a shared set of questions. This polyphonic book is a conversation that, despite all odds, is a little utopian moment.

_Futurity Report is based on the symposium “Future Caucus,” which took place at the Van Abbemuseum, Eindhoven, on May 20, 2017, as part of the Becoming More series. The symposium included the speakers Diedrich Diederichsen, Kodwo Eshun, Mauricio Lazzarato, Doreen Mende, Kerstin Stakemeier, Marina Vishmidt, and McKenzie Wark. We would like to thank Nick Aikens, Charles Esche, and Annie Fletcher for their support of this project. The conference can be viewed online at https://vanabbemuseum.nl/en/programme/programme/becoming-more-20-may-future-caucus/._

2. On the origins of this history, see Ian Hacking, _The Taming of Chance_ (Cambridge: Cambridge University Press, 1990).
3. Franco “Bifo” Berardi, _After the Future_ (Oakland, CA: AK Press, 2011). Berardi does not sufficiently acknowledge that this slogan was as much an act of refusal (your future is not my future) as it was one of despondence (the social wreckage caused by neoliberalization).
5. Although the dictum “It is easier to imagine the end of the world than to imagine the end of capitalism” is often ascribed to Jameson, he does not claim to own this remark; see Fredric Jameson, “Future City,” _New Left Review_, no. 21 (May–June 2003): 76. In his introduction to _Archaeologies of the Future_, Jameson further clarifies his position: “What is crippling is not the presence of an enemy but rather the universal belief, not only that this tendency [of neoliberalism] is irreversible, but that the historic alternatives to capitalism have been proven unviuable and impossible, and that no other socioeconomic system is conceivable, let alone practically available.”
13 Ibid., 36.
16 Ray Brassier, “Prometheanism and Its Critics,” in Mackay and Avanessian, #Accelerate, 467–487.
19 Jameson, Archaeologies of the Future, 12.
26 Louis Chude-Sokei, The Sound of Culture: Diaspora and Black Technopoetics (Middletown, CT: Wesleyan University Press, 2016), 179. See also Pedro Neves Marques’s contribution to this volume.
27 Chude-Sokei, The Sound of Culture, 141.
1. Past Futures

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Diedrich Diederichsen
Paradoxical Modernismo[-9088a]

I was going to call this “Paradoxical Modernism,” but then my cat Pickles sat on the keyboard and changed it to “Paradoxical Modernismo[-9088a].” Since chance operations are a modernist enthusiasm, I’m leaving that in. Now, to the paradoxes.

The first paradox that attends thinking about futures may be that we really do confront a different kind of time, thus fulfilling one of the great desires of the modern as a worldview. And yet this different kind of time isn’t modern at all, indeed isn’t even human. Accelerating the time of exchange value produced a rupture in a unit of geological temporality—the Holocene—that had been a constant and a given since the ice ages ended. The start of the Holocene was more than eleven thousand years ago. There’s not much in culture, and nothing in modern culture, that prepares us for another such change in geological time: the beginnings of the Anthropocene.

The moderns were a heterodox lot. Perhaps all they have in common (and here I’m merely compressing Fredric Jameson) is a certain figure of temporality. To be modern is to think, or rather to know, that the future will be qualitatively different from the past. For some moderns this was inevitable; for others, a matter of will. For some it was desired; for others, feared. For still others it just had to be endured. In all cases, the future appears as a rather vast canvas onto which to project dreams, fears, longings, fantasies—the full gamut of rational and poetic talents.

The future in this sense is a modern invention. The time to come for premoderns could be cyclical or apocalyptic; it could be a succession of lean years or fat seasons. The idea of a qualitative difference between past and future is what I consider to be distinctively modern. But then so too is the waning of belief in this future. Perhaps the postmodern was
a sort of disenchantment of the future, or with the future. (Nothing was more modern, paradoxically enough, than pomo.) In some versions of the postmodern, the future would be just more of the same, the endless repetition of eternal capitalism. In other versions the future simply could not be known, as time lost its shape and acquired a random quality. Or, a third version: if there were a future, it would be a rather ethereal leap into messianic time.

Perhaps we could risk a certain materialist, even “vulgar Marxist” account of this rise and fall of modern time as a component of the forces of production. Perhaps it arose out of the existence of accurate means of not only measuring but communicating time values. The architecture of modern temporality is not just in the spread of clock time, but in the coordination of clock times at different locations. Modernity runs on the timepiece and the telegraph. This capacity to transmit time was essential to the running of railways, that great infrastructure of modernity.

Modernity ran on a technics that stabilized and regularized a grid of communicable time. From the era of the railways to air transport, communicable time made the synchronizing of all kinds of complex, spatially distributed events possible, from production to warfare. The tapping of ever more extensive sources of fossil-fuel energy to mobilize matter called for ever more elaborate forms of information, calling forth nature as a resource, managed within this grid of communicable temporality.

One could think of modernity as a kind of second nature. As Paolo Virno insists, it’s a term that in Marx is perhaps only used ironically. The bourgeoisie takes its historical conditions of existence to be natural, but such conditions are only a second nature, an artificial one. And yet it is an artificial nature that is not without its own reality effects, not to mention its own subsidiary paradoxes. This second nature was built out of and against what it retrospectively perceives as a first nature, a disenchanted nature, a nature no longer sacred, or only residually sacred: a nature that now appears as a resource. Second nature is sacred to the bourgeois, but it depends on the desecration of everything else.

Second nature has both internal and external tensions, and both tensions have the same basic quality: that of a kind of finitude and noisy recalcitrance to the quantified and coordinated time of extraction. Both land and labor are there to be colonized, to respond as a resource to commands communicated to it and to respond in quantified kind. Both leave some residue, some remainder that cannot quite become, or refuses to become a resource for second nature.

If there is a moment of inflection, where commodification might have collapsed under its own weight, perhaps it was the 1970s. The 1960s
tend to dominate a certain historical consciousness as an era of possibility, but the ’70s, an era of historical exhaustion, might from our current point of view carry more freight. One could still think about futures in the ’60s, as if a whole blank sheet of future was there to be filled in with a black ink or a cinematic light. By the ’70s, this was a little harder to sustain, what with the oil shocks, the lack of productivity growth, the stalemate between capital and labor, the fiscal crisis of the state. Not to mention the arrival on the scene of this problem of ecology.

From the 1980s onward, the future gets started again, but on an austerity basis. If there’s a future at all, it’s more of the same, eternal capitalism, capitalism with modifiers that merely describe its changing appearances: post-Fordist, neoliberal. Or: there’s no future, as punk rock insisted from the deindustrialized rust belts. Or: there’s a future, but for someone else. In Japan, the future looked bright in the early and mid-’80s, until the bubble burst. Or: one might speak even now of a kind of Sinofuturism. But these future narratives might be merely about who dominates rather than some qualitative elaboration of the form of the world.

What arose out of the blockage of mechanical modernization in the 1970s still lacks its own language, its own concepts. Perhaps it has to do with a still little-understood instrumentalization of information, which finally began to show results from the end of the 1970s onward. Second nature organized matter with great infusions of energy by synchronizing labor and technology on a planetary scale, using a measurable and transmittable time. Perhaps what broke out of its contradictions and enervations was a third nature, a sphere of information that took the incoherent chunks of social and technical labor built up into second nature and liquidated them.

No longer would information be circulated and time-stamped to manage the material and energy resources of the planet, to build a second nature out of what will, retroactively, be called “nature.” Instead, the circulation and accumulation of information itself becomes the goal, and the resources of second nature, together with primary nature as a resource, are held to underwrite it. Nature and second nature alike are thrown into a new kind of temporality to achieve this accelerated information efflorescence that is the surface effect of third nature. There would no longer be any pretense of an orderly and synchronized temporal objective or state of equilibrium, one in which volatility was just an undesirable side effect. Rather: a third nature of turbulent information that does not serve the organization of planetary resources but is served by it.
Third Nature as Belief
and as Science

What makes third nature possible is the development of another kind of technics. Remember: this is a vulgar-Marxist story. It comes down to a break in the technical form of the means of production. More specifically, the focus here is on a new technics of time. In addition to the extensive vector of the timepiece and telegraphy, complicating it, adding new dimensions to it, is an intensive vector of computation, a folding of information into quartz-clock time, a vast acceleration of the speed at which possible dispositions of the resources of nature and second nature can be proposed, compared, analyzed, and commanded.

Third nature is in this sense not just a repetition of second nature as built form and primary nature as resource in an informational matrix or image. It is a nature composed of every possible future state of those two prior natures considered as quantifiable and configurable resources. In third nature, all of the futures have already happened, and are already happening, over and over, all the time. Time includes all of its calculable futures in each instant, and is recalculated in each instant, as each enacted instantiation of its resources changes the calculation.

Third nature is a world in which all the futures happen all at once, as possible outcomes. But all the futures are now a very big—though in every other regard a very limited—set. Third nature generates the set of every future that can be calculated. Every future that can be hedged. Every risk that can be assessed. It even includes, but only in negative, risks that cannot be assessed—its figurative black swans and blank swans. Third nature even hedges against the possibility that it can’t be hedged. Third nature assesses and disposes of an almost infinite set of futures every second, and yet a great many futures remain unknown, and unknowable, to it.

One could get carried away with the increasing speed of this operation, with the speed of information tending toward the speed of light. But the more interesting side of it is the opposite tendency. Postmechanical approaches to the technics of time make time not only speed up but also slow down. Very, very long time horizons start to become detectable and measurable as well.

We can now measure the age of the universe, the age of the galaxy, the age of the solar system, the age and the ages of the earth. This development of insanely long durations is perhaps the most interesting aspect of what the technics of time have enabled. It is a disenchantment of the eternal. Even the universe is not forever. And certainly the earth is not forever. Third nature reaches out to, quantifies, models, and simulates—even geological time. Indeed, geological time may be the time it knows best.
Curiously, this disenchantment with modern temporality coincided with the return of a cyclical ideal of time, which in the strict sense is what I take ecological thought to be about. On the one hand, ecology brought the modern back in contact with nature, from which it had rather abstracted itself. But on the other, ecology brought back nature as a temporal figure that is cyclical and homeostatic, oscillating around an equilibrium—like its ideal type, the market.

Ecologists insisted with rising urgency about a world out of balance, a world that departs from homeostasis. Their call was for limiting or modifying the modern march into the future to stop its perturbations of homeostasis from getting out of hand. The thought here is that if we moderns could refrain from meddling, nature would return to its circle of life.

But it turns out there is no ecology. This too is subject to a disenchantment. The god of the self-correcting system, whether of economy or ecology, is dead. This is the Nietzschean core of the doctrine of the Anthropocene: there is no ecology. Actually, two gods died with the rise of third nature. The market is not a self-correcting homeostatic ideal, and neither is nature. Both become disenchanted. Both can and do collapse. But having disenchanted the cyclical gods of nature and second nature, perhaps the volatile god of third nature, of creative destruction, is the last remaining idol.

But that’s third nature as belief. While it can be hard to peel them apart, third nature as science is not the same. And what third nature as science shows us is that nature is not homeostatic in the long run. And the reason we know this comes from a very interesting kind of science, one philosophers have for unfathomable reasons chosen to largely ignore.\(^8\) We know this because of Earth system science, which is a truly remarkable and original kind of knowing.\(^9\)

Earth system science too is a product of, and an agent in, a certain temporal technics. Its objective is to simulate the world through computation.\(^10\) Earth system science is a science in and of third nature. It uses the technics of information and of temporality to understand what those very same technics are doing to the world. And as the models consistently show, third nature is destroying its conditions of existence. There is no ecology. Indeed, contra Timothy Morton, we have to think nature without ecology.\(^11\)

This is the first sense, then, in which this is a rather paradoxical modernity we are living in. Just when it looked like the acceleration of the transformation of nature into second nature was just the slipstream of a strange, ineffable yet eternal capitalism, it turns out that qualitative novelty will be the least of our worries.\(^12\) The supercharged development of
nature not only into the second nature of an energetic built form but also into a third nature of information infrastructure at once accelerates and reveals the destruction of its own conditions of possibility. The return of geological time is now determined; its effects are left to chance. And so we arrive at the end of the modern as the end of the Holocene. And what a short, weird trip it’s been.

Financializing Extinction

Just when you thought things couldn’t get any weirder, maybe there’s a second paradox attendant to this first: that geological time has taken a novel turn, and that novelty is showing up in the kind of temporality that is really its opposite. It’s showing up in financial instruments. A feature of the kind of finance that third nature has enabled is that it does not profit from just the upside; it can extract a return on market movement in any direction. It’s a temporality with multiple possible timeline threads, made possible by the instruments of derivatives, of calls and puts, options and swaps, and which trades multiple future times within present time, always and already.

So it will come as no surprise that while some smart money is now treating fossil-fuel reserves as unrealizable value, or is investing in smart energy grids or whatever, there’s another approach going on as well. And that’s to trade on all the possible downsides. It turns out that destabilizing geological time opens up fascinating opportunities in economic time as materialized in the temporal technics of third nature. There is even, as Razmig Keyuchian points out, such a thing as catastrophe bonds, to be paid if a hurricane or an earthquake reaches a certain contractually agreed, scientifically determined magnitude. These may get more popular as such catastrophes themselves get more popular: rising sea levels and warmer waters seem to drive more and bigger earthquakes and hurricanes respectively.

I call the planetary ruling class of our time, the owners of third nature, the vectoralist class: they own the stocks, flows, and most importantly, the intensive and extensive vectors upon which information-driven complex and interesting ways to the fact that their days are numbered as the frontiers of the planet in this geological epoch. They have seen the signs and have reacted accordingly, by arming themselves and looting the last surplus to be had from the current geo-economic regime. Luxury survivalism is now a market niche. Apocalypse as genre effectively forecloses thinking about multispecies life without the dominant commodity form.
And so it might be time to mobilize affective and imaginative resources to open a space for retooling a popular response, given that the futures the ruling class imagines entail shedding billions of us as surplus to their service requirements. William Gibson gives an eerie version of this in his 2014 novel *The Peripheral*, in which a ruling class lovingly named “the klept” survive in a London populated mostly by androids after the charmingly named “Jackpot.” There’s a plot of sorts that involves manipulating past events in “stubs” of time via a “Chinese router,” which is, if anything, a figure for the narrative art of science fiction or imaginative futurism itself.16

Who in the world of theory has imagined past-present-future relations in a way that fully engages the natural and social sciences as well as the imaginative arts? Who has been able to think natural time as something other than a residue or an ecological godhead? Who has offered what Yuk Hui usefully calls a “cosmotechnics” for understanding the inhuman interfaces that run between, and constitute, the human and the nonhuman?17 Perhaps, as in Gibson’s imagination, we need the stubs of past times to build out from and into this present so that there might still be futures.

*Paradoxical Marxist Modernists*

This might involve a third kind of paradox. Contrary to a certain Latourian conceit, there may well have been forms of modern thought and action that were fully capable of thinking the social and the natural as constituted out of the same substance.18 Strangely enough, it happened in a world that for Bruno Latour is doubly a dead letter: sometimes they were also Marxists.

Thinking outside the geological conditions of the Holocene might best be accomplished with the help of certain paradoxical Marxist modernists who did not bracket off geological time and conditions. It is time to build a knowledge apparatus that does not depress and disable itself or others by spending too much energy drawing endless attention to the diminished space for livable futures, but rather builds capacity for producing viable forms of life regardless. This might be another kind of paradox: a modern thought that refrains from critiquing its own conditions of possibility but nurtures them as an enabling myth.

Maybe one could think of it as tagging the database with metadata that connects past movements in Marxism and modernism with currently salient tags, so that this past work can resonate with current projects. I’m currently working on the Marxist wing of the social relations of science in Britain, from the late 1920s to the mid-’50s. It’s a strange kind of family
portrait, including the siblings J. B. S. Haldane and Naomi Mitchison, Haldane’s first wife Charlotte, J. D. Bernal and at least one of his lovers, Margot Heinemann, as well as Joseph Needham. I’ve published a bit on Bernal and Needham. On the theme of futurity, some curious pieces by J. B. S. Haldane seem apropos.

Haldane was one of the founding figures in population genetics. But he was also a larger-than-life public figure. Charlotte, who he met when she interviewed him for her newspaper, invented a kind of popular science journalism in the 1920s, and Haldane turned out to be one of its star writers. They were both radicalized by the rise of fascism, and joined the Communist Party when it seemed the only organization that actively opposed fascism but also stood for progress, science, enlightenment. One should note that this generation thought of Freud as an Enlightenment thinker precisely because he pointed toward the limits of rationality.

Here I just want to mention two once-very-famous short pieces by Haldane. In the early 1920s he had invented a kind of speculative science writing that would contribute to what was later called science fiction. He had read H. G. Wells, but unlike Wells, Haldane really did have a broad knowledge of the modern sciences of his time, particularly the new physics and biology, and the coming together of physical science and geology. While he rarely wrote in a fictional mode, the few times he did turned out to be very influential.

The objective of his short text “The Last Judgment,” which dates from 1927, is to think the human within geological time. Haldane thought forty million years ahead was the longest period he could imagine, because forty million years in the past, our ancestors were at least recognizable mammals. He speculates on the ways humans could come to an end, leaving aside the accidental ones. What he wants to think is something now recognizable as the Anthropocene, where collective human action in second nature undoes a primary nature.

Haldane solves the problem of the authorship or even existence of a story of human extinction by making it a radio broadcast for post-human children on the planet Venus, forty million years from now, “rendered very freely into English.” The story starts shortly in advance of 1927, when the exhaustion of fossil fuels has led to new energy sources, mainly tidal power. The movement of the tides is used so extensively that over millions of years it slows the rotation of the earth, with terminal consequences. Haldane’s is a very, very slow Anthropocene.

This is a world in which human evolution had ceased, and the sense of pain abolished. There are mostly failed attempts at exploring other planets with multistage rockets and solar sailing. Meanwhile, humans
are destroying their own planet, leading to a mass extinction. Haldane: “But the vast majority of mankind contemplated the death of their species with less aversion than their own, and no effective measures were taken to forestall approaching doom.” Venus is successfully colonized, not by humans but by posthumans, selectively bred, or perhaps in contemporary terms, genetically engineered, for that purpose. They are designed to be a much more social species, to think more of the collective than the individual. They form a “super-organism.” Haldane was not yet close to the Communist Party when he wrote this, and he does not prefer the Venustian posthuman collective to actually existing humans. But it’s hard not to imagine that the Soviet Union was his inspiration for these creatures.

The Venustians have new senses, being able to detect radio and magnetic fields. They are further modifying themselves for colonizing other planets and even other galaxies on generation ships. Haldane: “Our galaxy has a probable life of at least eighty million years. Before that time has elapsed it is our ideal that all the matter in it available for life should be within the power of the heirs of the species whose original home has just been destroyed.”

The Venustian communists were not Haldane’s ideal, at least not at the time. They were more of a thought experiment. They point to a constitutive limit to the human. Haldane: “Our private, national and even international aims are restricted to a time measured in human life-spans.” In the absence of an interpersonal and intergenerational superorganism, how might the human species-being think, feel, and organize on a planetary scale and a geological time horizon? Haldane: “Man’s little world will end. The human mind can already envisage that end. If humanity can enlarge the scope of its will as it has enlarged the reach of its intellect, it will escape that end.” The humans of “The Last Judgment” fail at this. The last of them seek refuge underground at the Antarctic as their world collapses. The problem, for Haldane, was how to think an impossible totality, one that includes a geological temporality that is already unstable and vulnerable to anthropogenic disturbance. I don’t think he would have looked backward to Gaia, with its lingering sense of a homeostatic ecology.

Haldane’s “The Last Judgment” is quite possibly the urtext for the science-fiction tropes of terraforming and the very long timeline. Together with Alexander Bogdanov’s Red Star (1908), it is an early exemplar of Anthropocene fiction, in which collective human labor builds a second nature that systematically undoes its natural conditions of existence. Haldane is an acknowledged influence on Olaf Stapledon. Aldous Huxley took ectogenesis, or “test-tube babies,” from him. The Christian fantasy writer C. S. Lewis wrote a (not very good) science-fiction trilogy
in which a figure based on Haldane was the bad guy. But Haldane’s more explicit science-fiction texts are perhaps a bit too human-centric. Here I think we can combine his experiments in the long timeline with another of his innovations.

In the short text “Possible Worlds,” Haldane experiments with non-human points of view. He starts with a simplifying assumption about human worldviews: “Now, perhaps mankind’s greatest intellectual achievement is the idea of the thing, by which I mean a portion of experience conceived of as public and ethically neutral.”28 He then compares this to a series of possible other worldviews, based on the physiology and praxis of different species.

For example, an intelligent dog would probably construct a physics composed of ambient smells rather than visible things, and might include how one feels about the smell in the knowledge of it—what Haldane calls its tertiary quality. “Remember that to a dog a thing’s smell is its most real reality. He uses the term ‘smellable’ or ‘odorous’ to denote ‘reality,’ just as we use ‘tangible’ or ‘visible.’”29 Such might be the basis of dog science. The dog philosopher might go even further: “He was so impressed with the reality of smells that he took every opportunity to postulate smells, even when they were unsmellable.”30

The bee worldview might be a system of duties rather than a system of things, expressed in a language of verbs rather than nouns, whereas for the philosophical barnacle, the world is what it can sweep toward itself. Haldane: “But I do not feel that any of us know enough about the possible kinds of being and thought, to make it worthwhile taking any of our metaphysical systems very much more seriously than those at which a thinking barnacle might arrive. Such systems seem to be helps to the imagination rather than accounts of reality.”31

Thinking geological time might require a capacity to perceive and act in the world far beyond the human. It might take an inhuman or even nonhuman praxis in the world. Haldane: “And one day man will be able to do in reality what in this essay I have done in jest, namely, to look at existence from the point of view of non-human minds.”32 Or, as he wrote a decade later in The Marxist Philosophy and the Sciences: “The laws of organic chemistry are not absolute laws, they are functions of the human time scale. If men lived a million times quicker they could work with methyl and other compounds which we describe as radicals. If we lived a million times slower most of organic chemistry would be beyond our grasp, so unstable are the substances concerned.”33
A Queer Universe

Haldane is remembered for two famous remarks, although one might be no more than a legend. The legendary one goes like this: Haldane is asked by a bishop what he, based on his extensive knowledge of biology, can conclude about what was in God’s mind when he created the world. Haldane is said to have responded that the good lord was inordinately fond of beetles. If he did not say it, he should have.

The other remark is in the text of “Possible Worlds”: “Now, my own suspicion is that the universe is not only queerer than we suppose, but queerer than we can suppose.” It is a statement which in the current context I would gloss as follows: to perceive the world in any useful way is to become posthuman. It is to extend the inhuman apparatus of perception and cognition further and further into the nonhuman world. Or, in the language of this text, only by a further elaboration of third nature can the unstable and now-collapsing regime of second nature even be perceived.

The universe is not only queerer than we suppose, but queerer than we can suppose. One can pair this remark with a lesser-known one by Haldane: “The future will not be as we should wish.”

Lurking in the Marxist modernism of the interwar years is what one might risk calling a kind of posthuman empiricism. Haldane’s thought experiments on bee philosophy and barnacle science point toward ways in which perception really was being extended by inhuman perceptual apparatuses toward a nonhuman world, and indeed reconfigured what that nonhuman world and what that human species-being could actually be or become. This is our last paradox, then: only by becoming inhuman will the human endure.

3 Paolo Virno, When the Word Becomes Flesh: Language and Human Nature (Los Angeles: Semiotext(e), 2015).
4 See Lawrence Lek’s video essay “Sinofuturism (1839–2046 AD),” August 19, 2016, Vimeo, 1:00:00, https://vimeo.com/179509486.
8 Although of course there are interesting exceptions. See, for example, Allan Stroekl, Bataille’s Peak: Energy, Religion, and Postsustainability (Minneapolis: University of Minnesota Press, 2007).
Martha Rosler; Off the Shelf: Utopian Science Fiction, M, 2008. Courtesy of the artist
The Limits of Utopia

Dystopias infect official reports. The Intergovernmental Panel on Climate Change (IPCC) demands a shift in our emissions by a third to avoid utter disaster. KPMG, in the leaden chattiness of corporate PowerPoint-ese, sees the same horizon. NASA part-funds a report warning that systemic civilizational collapse “is difficult to avoid.”

We may quibble with the models, but not with the assertion that the end of everything is right out there, for everyone to discuss.

The stench and blare of poisoned cities, lugubrious underground bunkers, ash landscapes ... Worseness is the bad conscience of betterness, dystopian rebukes integral to the utopian tradition. We hanker and warn, our best dreams and our worst standing together against our waking.

Fuck this up, and it’s a desiccated, flooded, cold, hot, dead Earth. Get it right? There are lifetimes worth of pre-dreams of new Edens, from Le Guin and Piercy and innumerable others, going right back, visions of what, nearly two millennia ago, the Church Father Lactantius, in The Divine Institutes, called the “renewed world”:

The earth will open its fruitfulness, and bring forth the most abundant fruits of its own accord; the rocky mountains shall drop with honey; streams of wine shall run down, and rivers flow with milk; in short, the world itself shall rejoice, and all nature exult, being rescued and set free from the dominion of evil and impiety, and guilt and error.
And it’s never only the world that’s in question: for Lactantius, as for all
the best utopias, it’s humanity too. The world will rejoice because we at
last will be capable of inhabiting it, free from the evil and impiety and guilt
and error with which we’ve excoriated it. The relationship between hu-
manity and what we’d now call the environment will be healed.

But so rich a lineage has hardly stopped countless environmental-
isms from failing, not merely to change the world, but also to change the
agenda about changing the world.

We who want another, better Earth are understandably proud to
keep alternatives alive in this, an epoch that punishes thoughts of change.
We need utopias. That’s almost a given in activism. If an alternative to this
world were inconceivable, how could we change it?

But utopia has its limits: utopia can be toxic.

What price hopelessness, indeed? But what price hope?

In 1985 the city government announced that it would locate a trash
incinerator in South Central Los Angeles, a year after California Waste
Management paid half a million in taxpayers’ dollars to the consultancy
firm Cerrell Associates for advice on locating such controversial toxic fac-
cilities. The Cerrell Report is a how-to, a checklist outlining the qualities of the
“least resistant” personality profile.” Target the less educated, it
advises. The elderly. “Middle and higher-socioeconomic strata neighborhoods,” it says, “should not fall at least within the one-mile and five-mile
radii of the proposed site.”

Target the poor.

That this is the strategy is unsurprising: that they admit it raises
eyebrows. “You know,” one wants to whisper, “that we can hear you?”

In fact the local community did resist, and successfully. But what
are sometimes called the Big Ten green groups—the Sierra Club, Friends
of the Earth, the National Resources Defense Council, the Wilderness
Society, and others—refused the request to join the campaign. Because,
they said, it was not an environmental, but a “community health” issue.

The fallacies of Big Green. Start with heuristics like rural versus
urban, nature versus the social, and in the face of oppressive power you
easily become complicit, or worse, in environmental injustice, in racism.
Such simplistic urbophobic utopianism can unite the most nostalgic con-
servative, seeking solace in a national park, with the most extropian
post-hippie touting an eco start-up.

For Lactantius, it was God who would heal a broken nature. This
is a more secular age—sort of. But not everyone leaves such messianism
aside: some incorporate it into a new, and newly vacuous, totality.
In 1968, Stewart Brand opened the first *Whole Earth Catalog* with an image of the Blue Planet, Spaceship Earth, a survival pod in which we mutually cuddle. Beside it the text read, “We are as gods and might as well get good at it.”

Here, says the image, is a beautiful Gaian totality. Here, say the words, is the ecological subject: “We.” Which obviously leaves unanswered, in the famous punchline to the blistering, uneasy joke, Tonto’s question to the Lone Ranger: “Who is ‘we’?”

Faced with the scale of what’s coming, there’s a common and baleful propriety, a self-shackling green politeness. “Anything,” the argument goes, “is better than nothing.” Hence solutions to tempt business, and the pleading for ecologically inflected economic rationality. Capitalism, we are told by Jonathon Porritt, an eminent British environmentalist, is the only game in town.

And businesses do adapt, according to their priorities. Whatever the barking of their pet deniers, the oil companies all have climate change divisions—less to fight that change than to plan for profit during it. Companies extend into newly monetized territories. Thus the brief biofuels boom, and that supposed solution to the planet’s problems drives rapid deforestation and food riots, before the industry and market tanks. The invisible hand is supposed to clean up its own mess, with emissions trading schemes and offsetting. Opportunities and incentives for shady deals and inflated baseline estimates increase, as, relentlessly, do the emissions. EU carbon bonds remain junk. New financial instruments proliferate: weather derivatives that make climate chaos itself profitable. What are called “catastrophe bonds” change hands in vast quantities, because one of the minor casualties of capitalism is shame.

Citizens fret about their own refuse, which we should, absolutely, minimize. But in the UK only 10 percent of waste is down to households. Recall that the very concept of litter was an invention of the American packaging industry, in 1953, in response to a local ban on disposable bottles. The cauld of atomized and privatized guilt under which we’re encouraged to labor is a quite deliberate act of misdirection.

At a grander scale, the most conciliatory green organizations obfuscate the nexus of ecological degradation, capitalism, and imperialism in which they’re caught up. In 2013 the US Environmental Protection Agency presented its national Climate Leadership Award, for “tackling the challenge of climate change with practical, common-sense, and cost-saving solutions,” to Raytheon.
It isn’t clear whether Raytheon’s drones will be embossed with the award’s symbol, so their commitment to sustainability can flash like a proud goldfish fin as they rain death on Afghan villages.

In the service of profit, even husbanding trees supposedly to counteract emissions can be violence. Far worse than merely a failure, UN-backed emission-reduction forest offsetting schemes—known as REDD—legitimate monocultures and seize land in the name of the planet, all so corporations can continue to pollute. In Uganda, 22,000 farmers are evicted for the UN-accredited New Forests Company plans. In Kenya, Ogiek people are threatened with violent expulsion from the Mau Forest in a project blessed by the UN. And in case we need an unsuitable metaphor, the Guaraqueçaba Climate Action Project in Brazil, bankrolled by Chevron, General Motors, and American Electric Power, locks the Guarani people away from their own forest, and to do so it employs armed guards called Força Verde—Green Force.

This is environmentalism as dispossession, what the Indigenous Environmental Network calls carbon colonialism.

And stocks of heavy industry go up. The recent IPCC report left financial markets unmoved: the value such markets continue to grant oil, coal, and gas reserves ignores the international targets according to which the bulk of such reserves not only are still in the earth, but must remain so. This carbon bubble declares that the choice is climate catastrophe or another financial one.

Or, of course, both.

Forget any spurious human totality: there is a very real, dangerous, other modern totality in commanding place, one with which too much environmentalism has failed to wrestle. As Jason Moore puts it, “Wall Street is a way of organizing Nature.”

The very term Anthropocene, which gives with one hand, insisting on human drivers of ecological shift, misleads with its implied “We.” After all, whether in the deforestation of what’s now Britain, the extinction of the megafauna in North America, or any of countless other examples, *Homo sapiens, anthropos*, has always fed back into its *cene*, the ecology of which it is constituent, changing the world. Nor was what altered to make these previously relatively local effects planetary and epochal, warranting a new geochronological term, the birth (as if, in too many accounts, by some miracle) of heavy industry, but a shift in the political economy by which it and we are organized, an accelerating cycle of profit and accumulation.

Which is why Moore, among others, insists that this epoch of potential catastrophe is not the Anthropocene, but the Capitalocene.
Utopias are necessary. But they are not merely insufficient; they can, in some iterations, be part of the ideology of the system, the bad totality that organizes us, warms the skies, and condemns millions to peonage on garbage scree.

The utopia of togetherness is a lie. Environmental justice means acknowledging that there is no whole earth, no “we,” without a “them.” That we are not all in this together.

Which means fighting the fact that fines for toxic spills in predominantly white areas are five times what they are in minority ones. It means not only providing livings for people who survive by sifting through rejectamenta in toxic dumps but also squaring up against the imperialism of garbage that put them there, against trash neoliberalism by which poor countries compete to become repositories of filth.

And it means standing directly against military power and violence. Three times as many land-rights and environmental activists were murdered in 2012 than a decade before. Environmental justice means facing down Shell not only for turning Nigeria’s Ogoniland into a hallucinatory sump, a landscape of petrochemical Ragnarok, but also for arming the Nigerian state for years, during and after the rule of Sani Abacha.

Arms trading, dictatorships, and murder are environmental politics.

Those punching down rely not on the quiescence but on the weakness of those against whom they fight. The Cerrell Report is clear: “All socioeconomic groupings tend to resent the nearby siting of major facilities, but the middle and upper-socioeconomic strata possess better resources to effectuate their opposition.”

The poor should be targeted, in other words, not because they will not fight, but because, being poor, they will not win. The struggle for environmental justice is the struggle to prove that wrong.

So we start with the nontotality of the “we.” From there not only can we see the task but we can return to our utopias, to better honor the best of them.

Those rivers of milk and wine can stop being surplus. There’s nothing foolish about such yearnings; they are glimmerings in eyes set on human freedom, a leap from necessity. Far from being merely outlandish, these are abruptly aspects of a grounded utopia incorporating political economy, a yearning on behalf of those who strive without power. In the medieval peasant utopia Cockaigne it rains cheese. Charles Fourier imagined the seas turned to lemonade. The Big Rock Candy Mountain. These are dreams of sustenance out of reach of the dreamers, of the reduction of labor, of a world that will let exhausted humanity rest.
We can dispense with the most banal critiques of utopia. That it is unconvincing as a blueprint, as if that is what it should ever be. That it is drab, boring, faceless and colorless and always the same. The smear that the visionary aspiration for better things always makes things worse. These canards serve stasis.

There are sharper criticisms to be made, for the sake of our utopias themselves and of the day-to-day interventions without which they risk being—and this, itself, is one of those criticisms—valves to release pressure.

Utopia, for one thing, has never been the preserve of those who cleave to liberation. Settlers and expropriators have for centuries asserted their good environmental sense against the laziness of feckless Natives, in realizing the potential of land spuriously designated empty, of making so-called deserts so-called bloom. Ecotopia has justified settlement and empire since long before the UN’s REDD schemes. It has justified murder.

There is a vision of the world as a garden under threat. Choked with toxic growth. Gardening as war. And the task being one of “ruthlessly eliminating the weeds that would deprive the better plants of nutrition, air, light and sun.”

Here the better plants are Aryans. The weeds are Jews.

SS-Obergruppenführer and Reichsminister of Agriculture in the Third Reich Walther Darré coagulated soil science, nostalgia, pagan kitsch, imperialism, agrarian mystique, and race hate in a vision of green renewal and earth stewardship predicated on genocide. He was the most powerful theorist of Blut und Boden, “blood and soil,” a Nazi ecotopia of organic farmlands and restocked Nordic forests, protected by the pure-blooded peasant-soldier.

The tree may not have grown as Darré hoped, but its roots didn’t die. A whole variety of fascist groups across the world still proclaim their fidelity to ecological renewal and green world, and agitate ostentatiously against climate change, pollution, and despoliation, declaring against those poisons in the service of another: the logic of race.

Of course reactionary apologists for Big Pollute routinely slander ecological activists as fascists. That doesn’t mean those committed to such activism should not be ruthless in ferreting out any real overlaps—very much the opposite.

Aspects of eliminationist bad utopia can be found much more widely than in the self-conscious Far Right. Swaths of ecological thinking are caught up with a nebulous, sentimentalized spiritualist utopia, what the ecofeminist Chaia Heller calls “eco-la-la.” Crossbred with crude Malthusianism in the combative variant called deep ecology, the tiveness
of that vision can morph into brutality, according to which the problem is overpopulation, humanity itself. At its most cheerfully eccentric lies the Voluntary Human Extinction Movement, advocating an end to breeding; at the most vicious are the pronouncements of David Foreman of Earth First! faced with the Ethiopian famine of 1984: “The worst thing we could do in Ethiopia is to give aid—the best thing would be to just let nature seek its own balance, to let the people there just starve.”

This is an ecological utopia of mass death. That we could also call an apocalypse.

Apocalypse and utopia: the end of everything, and the horizon of hope. Far from antipodes, these two have always been inextricable. Sometimes, as in Lactantius, the imagined relationship is chronological, even of cause and effect. The one, the apocalypse, the end-times rending of the veil, paves the way for the other, the time beyond, the new beginning.

Something has happened: now they are more intimately imbricated than ever. “Today,” the bleak and sinister philosopher Emil Cioran announces, “reconciled with the terrible, we are seeing a contamination of utopia by apocalypse. [...] The two genres [...] which once seemed so dissimilar to us, interpenetrate, rub off on each other, to form a third.” Such reconciliation with the terrible, such interpenetration, is vivid in these deep-ecological hankerings for a world slashed and burned of humans. The scourging has become the dream.

This is not quite a dystopia: it’s a third form—apocatopia, utopianapocalypse—and it’s all around us. We’re surrounded by a culture of ruination, dreams of falling cities, a peopleless world where animals explore. We know the clichés. Vines reclaim Wall Street as if it belongs to them, rather than the other way round; trash vastness, dunes of garbage; the remains of some great just-recognizable bridge now broken to jut, a portentous diving board, into the void. Et cetera.

It’s as if we still hanker to see something better and beyond the rubble, but lack the strength. Or as if there’s a concerted effort to assert the “We” again, though negatively— “We” are the problem, and thus this We-lessness a sublime solution. The melancholy is disingenuous. There’s enthusiasm, a disavowed investment in these supposed warnings, these catastrophes. The apocalypse-mongers fool no one. Since long before Shelley imagined the day when “Westminster Abbey shall stand, shapeless and nameless ruins, in the midst of an unpeopled marsh,” these have been scenes of beauty.

We’ve all scrolled slack-mouthed through images of the Chernobyl zone, of Japan’s deserted Gunkanjima island, of the ruins of Detroit,
through clickbait lists of Top Ten Most Awesomely Creepy Abandoned Places. This shouldn’t occasion guilt. Our horror at the tragedies and crimes behind some such images is real: it coexists with, rather than either of these, our gasp of awe. We don’t choose what catches our breath. Nor do the images that enthrall us read off reductively to particular politics. But certainly the amoral beauty of our apocatopias can dovetail with something brutal and malefic, an eliminationist disgust.

We can’t not read such camply symptomatic cultural matter diagnostically. What else can we do with the deluge of films of deluge, the piling up, like debris under Benjamin’s angel of history, of texts about the piling up of debris?

Symptoms morph with the world. One swallow, of however high a budget, does not a summer make, but one doesn’t have to be Žižek to diagnose a cultural shift when, in Guillermo del Toro’s recent Pacific Rim, Idris Elba bellows, “Today we are canceling the apocalypse.” Perhaps we’ve had our fill of the end, and with this line we usher in a different kind of aftermath—the apocalypse that fails. We’re back, with muscular new hope.

A similar shift is visible in the rise of geoengineering, ideas once pulp fiction and the ruminations of eccentricites. Now, planet-scale plans to spray acid into the stratosphere to become mirrored molecules to reflect radiation, to scrub CO₂ from the atmosphere, to bring up benthic waters to cool the oceans, are written up by Nobel laureates, discussed in the New Yorker and the MIT Technology Review. A new hope, a new can-do, the return of human agency, sleeves rolled up, fixing the problem. With Science.

This planet-hacking, however, is utterly speculative, controversial, and—according to recent work at Germany’s Helmholtz Centre—by the most generous possible projections thoroughly inadequate to halt climate chaos. It is, by any reasonable standards, absurd that such plans seem more rational than enacting the social measures to slash emissions that are entirely possible right now, but which would necessitate a transformation of our political system.

It’s a left cliché to pronounce that these days it’s easier to imagine the end of the world than the end of capitalism: Andreas Malm points out that with the trope of geoengineering, it’s easier to imagine the deliberate transformation of the entire planet than of our political economy. What looks at first like a new Prometheanism is rather capitulation, surrender to the status quo. Utopia is here exoneration of entrenched power, the red lines of which are not to be crossed.

What price hope indeed?
Seventy percent of the staff at the mothballed Union Carbide factory in Bhopal, India, had been docked pay for refusing to break safety routines. Staffing levels were inadequate, readings taken half as often as intended. None of the six safety systems worked as it should, if at all. The trade union had protested, and been ignored.

On December 3, 1984, twenty-seven tons of methyl isocyanate spewed from the plant. Between eight and ten thousand people died that night. Twenty-five thousand have died since. Half a million were injured, around seventy thousand permanently and hideously. The rate of birth defects in the area is vastly high. The groundwater still shows toxins massively above safe levels.

Initially, the Indian government demanded $3.3 billion in compensation, which Union Carbide spent $50 million fighting. At last, in 1989, the company settled out of court for $470 million, 15 percent of that initial sum. The survivors received, as lifetime compensation, between $300 and $500 each. In the words of Kathy Hunt, Dow-Cardbide’s public affairs officer, in 2002, “$300 is plenty good for an Indian.”

Why rehearse these terrible, familiar facts? Not only because, as is well known, Warren Anderson, Carbide’s ex-CEO, has never been extradited to face Indian justice, despite an arrest warrant being issued. Nor because Carbide and Dow Chemical, which bought it in 2001, deny all responsibility and refuse to clean the area or to respond to Indian court summonses. There is another reason.

In 1989, the Wall Street Journal reported that US executives were extremely anxious about this first major test of a US corporation’s liability for an accident in the developing world. At last, in October 1991, came the key moment for this discussion: the Supreme Court of India upheld Carbide’s offer and dismissed all outstanding petitions against it, thereby offering the company legal protection. And its share price immediately spiked high. Because Wall Street knew its priorities had prevailed. That it was safe.

A real-world interpenetration of apocalypse and utopia. Apocalypse for those thousands who drowned on their own lungs. And for the corporations, now reassured that the poor, unlike profit, were indeed dispensable? An everyday utopia.

This is another of the limitations of utopia: we live in utopia; it just isn’t ours. So we live in apocalypse too.

Earth: to be determined. Utopia? Apocalypse? Is it worse to hope or to despair? To that question there can only be one answer: yes. It is worse to hope or to despair.
Bad hope and bad despair are mutually constitutive. Capitalism gets you coming or going. “We” can fix the problem “we” made. And when “we,” geoengineers, fail, “we” can live through it, whisper “our” survivalist bad consciences, the preppers hoarding cans of beans.

Is there a better optimism? And a right way to lose hope? It depends who’s hoping, for what, for whom—and against whom. We must learn to hope with teeth.

We won’t be browbeaten by demands for our own bureaucratized proposals. In fact there is no dearth of models to consider, but the radical critique of the everyday stands even in the absence of an alternative. We can go further: if we take utopia seriously, as a total reshaping, its scale means we can’t think it from this side. It’s the process of making it that will allow us to do so. It is utopian fidelity that might underpin our refusal to expound it, or any road map.

We should utopia as hard as we can. Along with a fulfilled humanity we should imagine flying islands, self-constituting coralline neighborhoods, photosynthesizing cars bred from biospliced bone marrow. Big Rock Candy Mountains. Because we’ll never mistake those dreams for blueprints, nor for mere absurdities.

What utopias are are new Rorschachs. We pour our concerns and ideas out, and then in dreaming we fold the paper to open it again and reveal startling patterns. We may pour with a degree of intent, but what we make is beyond precise planning. Our utopias are to be enjoyed and admired: they are made of our concerns, and they tell us about our now, about our pre-utopian selves. They are to be interpreted. And so are those of our enemies.

To understand what we’re up against means to respect it. The earth is not being blistered because the despoilers are stupid or irrational or making a mistake or have insufficient data. We should fight our case as urgently as we can and win arguments, but we shouldn’t fool ourselves: whatever the self-delusion, guilt, or occasional tears of a CEO, in a profit-maximizing world it’s rational for the institutions of our status quo to do what they do. Individuals and even sometimes some organizations may resist that in specific cases, but only by refusing that system’s logic. Which the system itself of course cannot do.

The fight for ecological justice means a fight against that system, because there is massive profit in injustice. This battle won’t always be over catastrophic climate change or land expropriation: in neoliberalism, even local struggles for fleeting moments of green municipal life are ultimately struggles against power. The protests that shook the Turkish state in 2013 started with a government plan to build over Gezi Park, one of the last green spaces in the city.
Rather than touting togetherness, we fight best by embracing our not-togetherness. The fact that there are sides. Famously, we approach a tipping point. Rather than hoping for cohesion, our best hope lies in conflict. Our aim, an aspect of our utopianism, should be this strategy of tension.

There is bad pessimism as well as bad optimism. Against the curmudgeonly surrender of, say, James Lovegrove, there are sound scientific reasons to suggest that we’re not yet—quite—at some point of no return. We need to tilt at a different tipping point, into irrevocable social change, and that requires a different pessimism, an unflinching look at how bad things are.

Pessimism has a bad rap among activists, terrified of surrender. But activism without the pessimism that rigor should provoke is just sentimentality.

There is hope. But for it to be real, and barbed, and tempered into a weapon, we cannot just default to it. We have to test it, subject it to the strain of appropriate near-despair. We need utopia, but to try to think utopia, in this world, without rage, without fury, is an indulgence we can’t afford. In the face of what is done, we cannot think utopia without hate.

Even our ends-of-the-world are too Whiggish. Let us put an end to one-nation apocalypse. Here instead is to antinomian utopia. A hope that abjures the hope of those in power.

It is the supposedly sensible critics who are the most profoundly unrealistic. As Joel Kovel says, “We can have the accumulation of capital, and we can have ecological integrity, but we can’t have both of them together.” To believe otherwise would be quaint were it not so dangerous.

In 2003, William Stavropoulos, CEO of Dow—who has, recall, no responsibility to the chemically maimed of Bhopal—said in a press release, “Being environmentally responsible makes good business sense.”

And that, in the pejorative sense, is the most absurd utopia of all.

An earlier version of this piece was given as a keynote on April 20, 2014, at the Earth Day Conference of the Nelson Institute, University of Wisconsin-Madison. I’m very grateful to Paul Robbins and all at the institute.

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Breaks with the Future:
A Halt? Confessions,
Some Notes

Life-Breaking

My hope then is that
by the time this is scanned
its affective logics
and self-ad-
ministered prosthetics
will have been
rendered obsolete
by the events to come.\[^1\]

Taken from a longer poem by David Buuck entitled “A Swarming, a Wolfin,” published in his 2016 book *Noise in the Face Of*, this passage, and many like it, allows the reader to adapt to a rhythmic reconfiguration of time. Buuck offers a temporality that constantly shifts from unreal futures and locked-up pasts to operative moments of presentness and back again. Within these shifts, Buuck counters any harmonization of the reconfigured temporalities. Escalating the literary specificities of the different modes of writing he employs, Buuck introduces these temporal shifts into his text as bound up with the communicative functions that these formats carry in moments of political upheaval: the language of emails, text messages, tweets, warnings, memoranda, and confessions. Each breach, each interruption, yields its own ruptured temporal signature within the breaks of an attempted communication. Because this is what Buuck’s whole book seems to dedicate itself to: tracing communicizations that exist in somatic instances, in moments of struggle. And what signifies “struggle” is thereby fundamentally expanded into the bodies of the individuals partaking in it. “We” and “I” become overlapping categories, poetically expediting a
radical deinstitutionalization of what signifies “political.” These struggles are crossings between voluntary upheavals and their unintended or unpredictable metamorphosis. Here, communication consists of momentary physical proximities, of articulations of unrealized homologies—in short, of evidence of capitalist (and capitalized) time-breaking, in the bodies of groups, individuals, language.

Such textually intensified instances of time-breaking are traces of the immediacy that the theory of communication, as ultraleft heresy, systematically seeks out as the only genuinely political form of life. And they are bound to what Benjamin Noys characterizes as communicationists’ understanding of “negative identity.” Collectives like Endnotes insist that communizing means not least self-abolishing—breaking capital within ourselves. Communication in that sense figures as the end of all externalization, or, to use Noys’s words again: “Communization requires that we start thinking communism from within the immanent conditions of global capitalism rather than from a putatively radical or communist ‘outside.’” The problem today remains that this is a mostly theoretical endeavor, and in the case of Endnotes, as in that of their earlier French counterpart Théorie Communiste, also one whose phrasing very much sticks to the category of the workers as the capital-made class of revolution. It is debatable if the classical Marxist understanding of life under capitalism via the category of class—a category that is often used metaphorically today, with impossible classes like that of “us,” the intellectuals, tagging along—can in fact seize the instances of revolutionary immediacy that communization strives for in our own times. Under headings like “surplus population” and “abjection,” Endnotes has attempted to understand this problem as a change not so much within the working class as within what has been historically externalized from it. The question of struggle here returns, but not as classical class struggle: “While the association of racialized margins of the working class with a reserve army function diminished, police repression of the poor mounted.” The working class itself comes to appear as the result of an externalization—that of labor’s unproductive, abject forms—and the lumpen return not as the heroic other but as a figure of labor’s (self-)expropriation. In the light of the physical and psychological contestedness of such communications, of life facing repression, Buuck does not isolate its instances as rarities of an affirmative life; he instead exposes them as conflicted, undependable, undirected, libid-
As I am I because the big state knows me.?

Communization here is a living body’s experience of both subjection and subje ctivization:

Who is “abjected,” then? We might provisionally reply, somewhat tautologically: those who are defined as such by the fact that they are the object of these processes of repression. There is no particular pre-existing trait or social categorization which must, in itself, necessarily or inevitably mark one out as an object of such a process, which is not to say that certain social categories do not end up being reproduced in but such positions. Abjection is closely related—though not identical—to racialisation.

As unsatisfying as such a general statement may be, it provides an approach to Buuck’s textual ventures into the articulated temporali ties of engagement. They might be necessary, even inevitable, but the order of past, present, and future within them is not (yet) functional; nor is it, or can it be, (self-)affirming. It is operational, one might argue, only in our practical engagement with moments of communized self-expropriation. The communizing breaking of time is the breaking of our own time. Endnotes concludes: “And the combinatory processes of struggle can be endlessly generative.” Even though it follows a paragraph attempting to resuscitate the unifying force of the concept of class—rather than that of abjection—to bracket these processes, one might take literally the word “endlessly.” In which case it characterizes a potentially unamending temporality of generative breaks: a contested life within which communization equals shared metamorphosis rather than heroic voluntarism.

In his early book *Zur Phänomenologie des Bewusstseinsstroms* (On the Phenomenology of the Stream of Consciousness, 1966), art historian Peter Gorsen traces what he describes as the self-destruction of phenomenology in the late nineteenth century, manifest in the works of Wilhelm Dilthey, Edmund Husserl, and Henri Bergson. Gorsen sees this self-destruction emerge from phenomenology’s inability to come to terms with the proceeding capitalization of time, its economically fungible unification within all strands of human life. The philosophical—phenomenological—urge was to render this temporality as a living form, a perceptive mode, an opening toward individualizations of experience. According to Gorsen, phenomenology thus inevitably self-destructed, shattering the
subject within the excessive demands of a vitalist life that more and more manifested itself as a vitalism of capital: the ongoing process that Marx characterized as “primitive accumulation”—the reconstruction of all living relations as those of capital, leading to the subsumption of life under capital—began to upend everything that “vital” itself signified. In ontologizing life as such, philosophical phenomenologies, according to Gorsen, along with Karl Heinz Haag, unintentionally undermine the self-realizations of lived lives because they omit the formative character of capital as epistemic ontology. Gorsen seeks to understand the presence of the Bewussteinsstrom (stream of consciousness) in a time in which “no subject can ever befit a predicate that contradicts it.” While capitalization is a process of succumbing to the positivism of productivity, it leaves the modern subject with a process of factual self-negation: it has to abide by the affirmation of the terms of its own subjection (or else become incomprehensible/abject). The subject of capitalism inhabits an unliveable form, a self-subjection to capitalist nominalization.

The phenomenological project—because it attempted to philosophically safeguard the Sein rather than identify it in the necessity to contradict philosophy itself—remained essentially unrealized, and a perpetuum mobile of self-destruction of the phenomenological subject of perception was set in motion. Only the capitalization of phenomenological categories rendered them scientifically acceptable (thus the positivistic attacks on phenomenology as philosophical esotericism at the time), but this scientificity entailed a philosophical vitalization of its own capitalization, and thus phenomenology’s effective self-destruction.

Today this dynamism of self-destruction returns in several shapes. For one, we are faced with the increasingly inevitable insight that it is our own systemic form, the epistemic ontology of our capitalized lives, that renders our communization impossible. The modern “I,” the only juridically sanctioned human form of political and economic accountability within global capitalism, is the author whose self-expropriation lies at the core of the communications that Buuck traces. It is not this subject’s solidarity with the abject and the lumpen that opens up a horizon of communized phenomenology, but the breaking of its time—and space. So, on a different level, this is true not only in the sense that our own capitalized vitality inhibits our intended de-capitalizations. Historically, it has also fundamentally hierarchized the forms in which this capitalization shaped them in difference. While the epistemic ontology of capital that brought down phenomenology’s ontological openness (and still does today) presents itself as a universal dynamism of accumulation, it left (and still
leaves) much life unaccumulated, illegible as, or unanimated by, capital: a deadening capitalization of difference, in which difference is reduced to difference for capital. The vitalism of capital lies in its accumulation of life, its form-giving function that further implies de-accumulation, the decline of all non-accumulated life. In this respect, Ruth Wilson Gilmore writes:

Racism is a practice of abstraction, a death-dealing displacement of difference into hierarchies that organize relations within and between the planet’s sovereign political territories. [...] Indeed, the process of abstraction that signifies racism produces effects at the most intimately “sovereign” scale, insofar as particular kinds of bodies, one by one, are materially (if not always visibly) configured by racism into a hierarchy of human and inhuman persons that is sum form the category of the “human being.”

Brenna Bhandar and Alberto Toscano quote Gilmore in their text “Race, Real Estate and Real Abstraction,” in which they backtrack “the ways in which property law [...] works through race.” The impossible immediacy of an affirable, or self-affirming, communication now penetrates our bodies in more than one sense: as a subject whose impossible form implicates the vitalism of capital as (not least) our own, and as an us whose vitalism subsists on account of what Gilmore calls the “death-dealing displacement of difference into hierarchies.” The self-destruction of phenomenology, which Gorsen registered, is not only a philosophical one. It requires rereading today; it has implications for any emphatic understanding of experience that exceeds the sensual reproduction of capitalized difference.

Life-Valorizing

The brutalizing simultaneity that life under capital perpetuates has recently become more and more apparent, not least because of its financialized catastrophism. The now derivatives-driven digital equalization of all living and dead forms as quantitative assets allows for an ongoing displacement of negative value. The exclusion and obscuring of non- and decapitalized lives has thus been partially replaced by its subjection to negative valorizations. Consequently, negativized lives seem to be rendered more trenchantly visible. Differences and incommensurabilities that were capitalized all along seem to be rendered again beyond the scope of their social harmonization in crumbling systems of social security. If we look back at the mortgage crisis, around 2010, for example, we see how negative value
fused derivative productivity with processes of social abjection on a mass scale. One can get a material sense in how far the financialization of capital has rendered negative social dynamisms for large parts of the population as perpetually de-socializing dynamisms. To quote Buuck again:

had to financialize the climate
in order to save it

“and then I got board certified”

However, it is this status quo that renders the procedures of de-capitalization that Buuck’s writings trace as literary hopes for communized modes of self-expropriation, that is to say, not creeds hoping for penance but, arguably, a kind of confession. What is framed as self-abolition in communitarian theories, like those of Endnotes, might, when shifted toward self-expropriation, lose a bit of the heroism that its negative idealism otherwise uncomfortably entails. As K. Aarons has remarked, within such negative identity politics, “self-abolition remains a regulative idea rather than an actionable maxim.” But the brutal physicality of the communications that Buuck traces—self-expropriation, concrete dealings with attacks on and renouncements of one’s juridical freedom—seem to be all but idealist, all but regulative, all but universalizable. These instances are aesthetic as much as they are political evacuations of social and aesthetic forms that are rendered dysfunctional, brutalized, obsolete, isolated, unbearable, organized into a mass of confessions, not of guilt, but of a guilting life within capital. The multifarious return of modes of confession not only in Buuck’s writing but also in much of the engaged aesthetic praxis at present seems to rise not least from the derivative capitalization of negativity. Its visibility rests on (self-)exposure, on confessions of absent subjuxtaposition. Where negations no longer offer extrication, modes of radicalization cannot do without self-expropriations, communizations of sorts, discontinuations of our very own lineages, alignments, identifications.

Buuck lives in Oakland, and the events around the riots and the general strike that effectively shut down the city’s port in the beginning of November 2011 are overtly present in his prose—without being narrativized much, they are stenographically present, in their own syntax, without being brought into a definitive form. He does not restage what briefly ensued in Oakland as a literary interpretation of a past success—or a defeat. There is nothing heroic in Buuck’s dealings with the prose of these times, nor in his transformation of that prose into poetry. To the extent that Buuck addresses a certain heroism that has a life outside of language,
that heroism is repeatedly forced to appear as life’s effective derealization; heroism is introduced as a life-threatening trait becoming apparent as exposure to the state’s executive powers, to the potential abolition of the self by an Other. Language here is set up as a register of physical, affective experiences that remain stored in the bodies that found themselves in proximity to these events—bodies like Buuck’s own. As these stored experiences come to infiltrate all other areas of life, they effectively—in Buuck’s writings, as in that of others around him, like Juliana Spahr or Jasper Bernes—break down the disciplinary and social boundaries that so very neatly arrange the relentless reproductive functions of our lives for the catastrophic epistemology of capital. The struggle for the discontinuation of that system becomes poetically bound up with our own struggle to continue, in a mode of discontinuing, in a mode of de-disciplining, in a mode of confession. It is a struggle not least for our own discontinuation, a struggle against our future, or rather, against our present futurity. In Buuck’s writings, an awareness takes shape that recognizes that the forces acting upon us are homologous to our own perceived strengths. But this is a cognition that does not bring actions to a halt; instead, it gives way to a heightened dynamism of imbalance, an over-exposure of (our) form, an enthusiasm of (our) defamiliarization. But it also, for now, abolishes the future as a referent, since, as indicated in the essay’s epigraph, we ultimately hope to render ourselves obsolete.

Instead of stabilizing a literary body of resistance, Buuck, like Spahr, seems to prioritize a literary destabilization of the boundaries safeguarding the continuation of our (aesthetic) subjectivities. Both propose a perception of what is with us now, of a present that cannot and quite possibly should not know a future, and of a past that must lose its naturalized subjects, that must effectively incapacitate them in order for a future to become speakable in the present. Within today’s political reactionaryism—in which we are (un)willingly implicated—the only desire directed toward the future might be for the fabrication of its absence, though not within the horizon of a self-abstracting heroism of frustration. Instead, it will be concocted in a confessional mode of shared material impossibilities: a mode that Buuck twists and turns, making apparent that what we are looking at might not be a disabling self-reflection, but an enabling self-infliction. In Buuck’s writings, these self-inflictions are bound to a moment of physical struggle contemporaneous to our lives right now; the intellectual form of this struggle, however, is still doomed to fall back into its historical legitimations, reinstating a social role of critique that remains the point of departure of all confessional overextensions. What, then, are the clues to our own positioning, our allocation within this picture?
Life-Metaphorizing

In the first decades of the twentieth century, a debate ensued among Marxist and other types of intellectuals in Europe about the social role of the intellectual: between 1903 and 1936, Rosa Luxemburg and Clara Zetkin, and Bertolt Brecht and Carl Einstein, among others, were engaged in these debates, albeit in different forms. Already in 1903, Luxemburg had written about intellectuals’ inability to understand their own role in relation to economic and political times of crisis.20 And in her 1924 address to the Fifth Congress of the Communist International, Zetkin argued that the formation of intellectuals as a class, which had been the result of the economic crisis, had to be systematically undermined for good. Only if intellectuals instead understood themselves as workers could they avoid becoming the isolated bearers of a capitalized truth claim.21 While implications of this debate for what Gorsen characterized as the self-destruction of phenomenology seem all too obvious, my argument here takes a slightly different direction. In the 1930s, both Brecht and Einstein centered their work around the question of the fascistization of society, demonstrating that the political fungibility of a pseudoclass of truth-bearing intellectuals was nothing short of catastrophic. Brecht’s, and even more so Einstein’s, targeting of intellectuals did not, however, attempt to remodel the autonomy of critical thought. Quite the contrary: Einstein discredited the “vanity of negativity” and exposed the progressive reaction entailed in critical intellectualism itself.22 Consequently, in his incomplete polemic Die Fabrikation der Fiktionen (The Fabrication of Fictions), written before 1936, a text that is both aesthetic theory and political attack, Einstein uses modes of confession throughout to instigate the self-expropriation of his own institutionalized intellect.23

And again, to make any future that might arise from this given present imperceptible, the intellectual mode of critique is forced into an affirmative rather than a critical mode of confession, because the proletarization of revolutionary aesthetic praxis that was attempted by intellectuals like Brecht and Einstein in the 1910s and ’20s failed. The materialization of critique as physical praxis was relegated to the arts and left the Tui, as Brecht calls the social strata of intellectuals in which he himself is included, in a political situation of progressive reaction (or self-aesthetization). In Fabrikation der Fiktionen, Einstein again and again uses the figure of the critical “metaphor” to explicate the capital-abiding effects of intellectualism:

The metaphorical strings contain another archaism. The different conditions and things slip into one another and are evaluated evenly. One sign can replace the other randomly. And so the
mana wanders serenely from humans into things, from animals into stones. A similar neutralization of concrete things or persona is administered by the capitalist. He defiguers humans and objects by the means of abstract money, which is his mana. Poets and capitalists are dynamists and are seeking out a maximum of mobility.

The metaphor is ultimately a figure of critique, an intellectual figure, an idealist and idealizing figure. In attacking the role of metaphor in modern thought—here it is poetry specifically, but Einstein returns to this in relation to philosophers and artists on different occasions—he traces the idealism contained in such metaphorical homologies. Buuck’s poetry, for one, is not metaphorical; it does not homologize, but rather specifies, differentiates, isolates. In Einstein’s writings, metaphor as a figure of capital—its boundless ability to homologize all things living and dead under the value of form—returns as a figure of intellectual critique. In the first volume of *Capital*, Marx characterizes the appearance of capital as that of an *automatisches Subjekt* (automatic subject), a perpetuum mobile of its own making. This appearance is a fiction that overrides the actual material processes of accumulation, the capitalization of (human and nonhuman) matter. Whereas the metaphor contents itself with refiguring these social relations in a homology, thereby making them visible—just think of the critiques of capital in contemporary art theory that rest almost exclusively on such metaphorical approximations, the most popular one still being “cultural capital”—in Einstein’s view, it at the same time reinstates the very relation it exposes. Metaphors are in that sense themselves unwillingly “capitalizations”—reinforcements of that general exchangeability, of that dematerialization of (in)human relations—that characterize life under capital. Metaphors are based on property forms. Just like Buuck in *Noise in the Face Of*, Einstein attempts political and aesthetic disruptions of these property forms, and thereby of the disciplinary debilitating of his struggle for de-capitalization. But these struggles largely depended on the possibility to establish material and affective relations; they are temporally and spatially specific, cutting through the abstraction of capitalist time and space, bringing aesthetic forms into lived forms in order to not become just Tui.

**Life-Nationalizing**

At present, our outlook on the future hardly seems to offer any less restricted perspective, or, differently put: the fascism and the National Socialism that Einstein and Brecht faced may have been terminated by
the Allies in 1945, but neither their enabling factors nor their social repercussions have ceased to exist. What today presents itself as futurity still remains bound up within the same political categories that both enabled fascism and then conserved its brutalism at the core of postwar Europe. The European nation-state, which Cedric J. Robinson has mapped out as the systemic center of modern racism, remains the naturalized convener of all political form. In this sense, as Robinson remarks, “the universality of capitalism is less a historical reality than a construct of the ‘language of error.’” Robinson illustrates the emergence of what became known as European state-form as the belated ideological cover for a vile capitalization in which brutal competition leads to the ongoing mutual economic annihilation of competing capitalist entities. The late harmonization of the relation of these vile state entities—under the heading of the nation(alization) and with the bourgeoisie as its ideologically central subject—leads to a genuinely colonial and racist (one might also add misogynist) understanding of the modern sense of what figures as political: a setup in which the becoming-fascist in Europe is almost a logical intensification of this dynamism. Fascism comes into view as an inherent trait of the modern nation-state, and its obliterating racism and misogyny as enablers of its capacity for capitalization. It is this “language of error” that Buuck renders as erroneous. In another poem, “We Do the Polis,” he writes:

Uneven
development

uneven
poetics

we were
the crisis

now we’re
the consequence

Buuck characterizes the situation as “police realism.” This differentiates contemporary life from a mode of critique into one of being “the consequence,” an aesthetic self-expropriation of the “vanity of negativity.” This is not a form of life characterized by the naturalization of its perpetual reproduction. The “language of error” remains our juridical frame—identified by Robinson, but already tried by the likes of Brecht and Einstein, and Luxemburg and Zetkin, in their struggles against the institutionalization
of fascism all over Europe. And even if Buuck writes from Oakland, the historical passage of states into nations, of competing capitalists into a unified citizenship pitted against workers, the nonworking, women, the colonialized, the nonnational that Robinson traces through Europe’s history has made itself felt all over the world.

The modern European dream of emancipation has reached yet another point at which the costs presented as redeemable (i.e., the colonization of non-white lives and the ongoing capitalization of difference that secured it, the misogyny of the modern two-gender model with the procreative fatalities stabilized through it, and the brutalization of nonhuman life as economized resource with the humanism that justified it) are again understood as immanent to modern life’s emancipation. It has also become apparent that the modern history of the social acceptability of these brutalizations as mere costs has once more rendered emancipation itself inhuman. The emancipation of the modern subject became once again unthinkable, unspeakable: it became obscene—an obscenity that Einstein, for one, was not prepared to contain within the form of intellectual criticism. Stopping his work on writings such as Fabrikation der Fiktionen, in which he attempted to write himself out of the equation of European intellectual culture, he traveled to Spain to fight in the Durruti Column in 1936. Buuck, in his poetry, maps moments of confession, of communication, offering poetry as a means to demetaphorize our language of struggle. I keep writing on them, on others seeking out ways to write “me” again, to find an entry point to a confessional form that breaks my time, my space.

Here and now self-expropriation turns into an act impressed upon us as widening the struggle, as reidentifying through it. Not even the violent attacks that the modern subject of emancipation is subjected to by today’s resurgent fascisms—which are gaining more and more political momentum on governmental levels—can be invoked to foreclose the necessity of the confessional desecration of its form. It is in this historically as much as contemporaneously compromised situation that the model of critique itself has become, as Einstein already remarked, an unintended mode of stabilization, a perpetual self-limitation, a Tui-esotericism. Still, critique remains entirely irreplaceable when faced with a world organized according to capital. Critique speaks Capital; confession does not.

Life-Catastrophizing

In 1921, Rosa Luxemburg characterized catastrophe as “capitalism’s vital principle.” She proposed for the 1910s what Maurizio Lazzarato would later propose for the 2010s: that the concept of crisis no longer
matches a present in which crisis’s other, normalcy, no longer seems graspable.32 Already in Marx’s writings, the catastrophe had figured as the “regularly recurring” result of the “antagonistic character of capitalist accumulation.”33 Catastrophe thus never really implied the downfall of capitalism, but rather, as the entry on “catastrophe” in Wolfgang Fritz Haug’s Historisch-kritisches Wörterbuch des Marxismus (Historical-Critical Dictionary of Marxism) notes, it erodes the basis of any modern administrative sense of politics for good and for bad, as “the dialectics of long-term and short-term objective are immobilized.”34 In Luxemburg’s writings, such a catastrophic understanding of capitalist temporality corresponds, on the one hand, with her insistence that “primitive accumulation” characterizes a permanent process of capitalization, not just its historical origin, and, on the other hand, with her emphasis on “spontaneity” as the core of any collective revolutionary conscience.35 In Luxemburg’s early critique of the Bolshevist segmentation of Russian society, written in prison in 1918, political “spontaneity” is identified with a social and economic process of consequential “de-appropriation,” in which the ongoing catastrophe of “primitive accumulation” is reversed, disengaging all individual forms of property.

And here, once more, vitalism reenters the stage: not as capitalism’s other, an ontological a priori of life(lines) that Gorsen sees self-destruct, but in the forms of catastrophic capitalism’s dysfunctional irritations, struggles, breaks, or what Jenny Nachtigall has termed “damaged vitalism”—a insistence of life against the present and its future.36 In Buuck’s prose of discontinued communizations we arguably find moments of exactly that spontaneity, of such a damaged vitality. In largely lacking consistent forms of de-capitalizing collectivity, spontaneity today appears as a possible form of experience that cannot but fall back into a mode of confession: a shared attempt to render our “self-ad-/ministered prosthetics” obsolete, to get over ourselves.

I livestreamed it
to myself with my own fucking eyes
& then GIF’d that shit
out thru the aftermirth37

2 See Benjamin Noys, “The Fabric of Struggles,” in Communication and Its Discontents: Contestation, Critique, and Contemporary Struggles, ed. Benjamin Noys (Wivenhoe, UK: Minor Compositions), 10. Noys writes, for example, that in communication theory “the negativity of the proletariat consists in the fact [that] it can only operate by abolishing itself.”

3 See, for example, Endnotes, “What Are We to Do?,” in Noys, Communication and Its Discontents, 23–38.


6 Ibid.

7 Buuck, “A Swarming, a Wolfing,” 78.

8 Endnotes, “An Identical Abject-Subject?”


12 Danny Hayward and Marina Vishmidt have importantly staged the inherent problematic of the topos of self-abolition within fascist-leaning literature like Luis-Ferdinand Céline’s Journey to the End of the Night (1932), which they discussed in the frame of a talk and workshop at the Academy of Fine Arts Nuremberg on January 18–19, 2018, entitled “Dissolution to the Left of Me, Dissolution to the Right: A Political Glossary of Self-Overcomings.” Here, the problem of a negative idealism, which is only touched upon in this text in passing, becomes overtly apparent, as self-abolition here turns into the inversion of Hegel’s figure of “sublation,” a nihilistic universalism.


15 David Buuck, “Distance Now Closed Between,” in Noise in the Face Of, 40.


17 I have discussed this question of confession as an aesthetic figure rising from financialized capitalism in more detail in “Ende: Eine degenerative Produktion,” the final chapter of Kerstin Stakemeier, Engenzer Formalismus: Verfahren einer antimodernen Ästhetik (Berlin: b_books, 2017), 315–336.

18 Not only in this book but also in An Army of Lovers (San Francisco: City Lights, 2015), which he co-authored with Juliana Spahr.

19 Together with Joshua Clover, Bernes and Spahr were also the authors of the short but poignant intervention, “The Self-Abolition of the Poet,” Jacket 2, January 2, 2014, https://jacketz.org/commentary/self-abolition-poet, the first in a four-part series.


24 Einstein, Die Fabrikation der Fiktionen, 311 (my translation).

25 This is a returning trope in Die Fabrikation der Fiktionen (see, for example, 59, 106, and 310), but also in Einstein’s incompletely Handbuch der Kunst (Handbook of Art), which Einstein worked on in parallel to Fabrikation der Fiktionen, and in which he writes: “The anxiety of identification—performed by the mystics by means of metaphor […] the heterogeneous as instrument of identification.” See Anselm Franke and Tom Holert, eds., Neolithic Childhood: Art in a False Present, c. 1930, (Berlin: diaphanes, 2018), 41, published in conjunction with exhibition of the same title, Haus der Kulturen der Welt (HKW), Berlin, April 13, 2018–July 9, 2018.


28 Ibid., 18–19, 37.

29 David Buuck, “We Do the Polis,” in Noise in the Face Of, 59.


33 Marx, Das Kapital, 675 (my translation).


The Dreamer as Producer
(of Passivity)

A Dreamer Always
Wants Even More

“It’s not a bad time to be dreaming”: Rolf Schwendter, the leftist scholar of folklore and subcultures and performer-activist was a regular at the pop music festivals of my teenage years, tambourine always in hand, and that was the message he drummed into us. The dream, the guarantor of a better future, enjoyed a fine reputation. We simply synthesized the two definitions Jorge Luis Borges offered with reference to The Aeneid: dreams that anticipate the future, and dreams that were the invention of sleeping humans.¹ Put the two together, and you get the future invented by sleeping humans. Ernst Bloch’s solemn and almost pompously serious pronouncements held immense appeal to the so-called “undogmatic Left” of my youth. In today’s perspective, their utter lack of humor and universalist aloofness could not be more alien to the blend of irony and identity-political specificity that is the rhetorical hallmark of the contemporary debate and especially the contemporary arts. The gnome about the insatiable dreamer—“A dreamer always wants even more”—is the epigraph introducing the fourth section of volume two of Bloch’s Principle of Hope (“Outlines of a Better World”).² The Principle of Hope must still be the book title most frequently cited in fair-weather speeches about utopia, though Bloch is otherwise mentioned and quoted far less often than his Frankfurt School critical theory colleagues, including Adorno, Benjamin, Horkheimer, and Marcuse. I’ve always had mixed feelings about Bloch’s Marxist-preacher affectations, but when the discussion turns to the future, as in these pages, one is bound to run into church dignitaries. So instead of bolting, I decided to snatch his favorite topic from him: the dream. In Bloch’s mind, it’s not primarily a metaphor for illusion but rather a utopian
force, a form of knowledge in the vatic tradition. That’s the angle I want to pursue, the dream as related to a future, but unlike Bloch, I don’t believe dreams, being fed by the repressed and unspoken, can generate utopian—content. To my mind, it’s the form of the innovation, new—content. To my mind, it’s the form of the dream that’s a model for a form of art, of culture and communication, and in a way hinted at in the observation that a dreamer always wants even more. It’s the dream’s form, rather than its content, that’s revolutionary.

_When I Dream_  
_I Dream about You_

“When I dream I dream about you,” Julian Cope sings in his Liverpool new wave act the Teardrop Explodes’s classic hit. What I like about the line is its categorical quality: make that _whenever_ I dream I dream about you, the confident and yet (or therefore) poetic voice declaring that the object of the dream—you—is the necessary prerequisite of dreaming. Unfortunately, Cope falls for the temptation of a rhyme: “And when I scream I scream about you,” which would seem to make short work of my theory, in which there’s no link between dreaming and screaming, between impression and expression, especially since the “you” the two lines have in common would then be a perfectly conventional and specific love interest and not the embodiment of a universal necessity, which is what I’m after. We all know that the stuff of our dreams was selected and compiled by ourselves or an agency within us—called, depending on the makeup of one’s theory, the unconscious or subconscious—for the purpose of working through something we experienced recently or a long time ago. But I’m less interested in the idea of the dream as a psychological repair station than in its media construction or architecture.

When I dream I’m in receptive mode, but I can sustain the state of dreaming only as long as I avoid the realization that I’m my own receiver, that the dream’s source is I myself. There are three narratives that plausibly frame this fact. One, we think of the dream as the result of a dissociated cause, an external author has programmed it, someone who seeks to manipulate or train me: God, fate, multinational corporations, the Matrix. The lack of a medium in dreaming—the fact that I can’t turn down the dream’s volume or shut it off—can only be understood as violence and subjection. Two, the dream is my truth; only here, in this immediacy, this I am. Wet dreams and nightmares with their manifestation in physical symptoms stand for immediacy as truth. Both of these versions can be associated with Freud. The third possibility is Julian Cope’s dream taken
to its logical conclusion: to dream about you means that the dream has always been caused by someone else, that it represents the other person’s agency within the self. The dream is the responsibility of a functional you that takes the form of another person, a counterpart, even when genuine encounters are no longer actually at issue. It’s the theater of dialogical thinking, the overcoming of solipsism, installing the social at the heart of the self. And that’s not so much an initiation to dialectics as a necessary condition for sustaining the dream, the illusion of its holistic integrity. You have to be shown around the oneiric paradise or scene of guilt as Dante was shown around by Virgil. Only the constant presence of an interpreting, producing, negotiating other, only the interpellation of the social, sustains the dream illusion. To dream is to bargain.

*It Dreamed upon Me*

And these negotiations are about understanding passivity as activity; having something shown to oneself. In an antiquated German construction, the verb *träumen* is used impersonally: *mir träumte*, it dreamed upon me. My main point here is that the dream is nothing but the formula, the anthropological and cultural genre, that allows for articulation of the wish, the desire, to be a passive receiver who can be surprised, shocked, delighted as though he weren’t himself the producer of all these gifts and the prerequisites of such pleasant passivity. The dream is the purest form of our desire for something to happen to us, for us to be told something—but not by us, and then ultimately by us after all. When we wake up, we still want that, but now we can no longer believe in the paradox—we now need performers, producers, authors, and, most importantly, media to believe that the dream isn’t simply our own production.

*An Aesthetics of the Dream*

Glauber Rocha’s 1971 manifesto for an aesthetics of dreaming is in some ways a riposte to his own earlier manifesto for an aesthetics of hunger. The so-called Third World, Rocha asserts, is plagued by poverty and hunger, but it also has its magic and rituals. By categorizing the specific magical and ritualistic practices in Brazil as “Afro-Indian,” Rocha sketches a nexus between poverty and the country’s Afro-diasporic and Indigenous cultures. He never explains the bond between them in any detail, but one thing these overlapping material and cultural formations arguably have in common is their connection to the dream—if the latter is defined primarily in three ways:
Consider, one, the transformative nature of what is called magical thinking—all those worldviews in which souls and spirits play a part, so that with or through them humans can enter into a dialogue with the forces of nature to influence these forces in the register of an encounter between soul and soul. These dialogues and their structure are characterized by a passivity similar to the construction of dreams. Most rituals have a pragmatic meaning, but the priest or shaman often needs to perform the role of receiver—magic often relies on a performative display of passivity rather than activity.

Two, the extreme urgency and violence that is hunger, the subjection of all subjectivity to this urgency that negates all agency, and the consequent deprivation of means, tools, and instruments compel an immediacy of the wish, a blind faith in immaterial forces—in the end, they’re the only salvation. This compulsory passivity of the dream is notably different in several nuances and perhaps comes closer to prayer than to ritual and the performance of passivity.

And three, hunger and extreme indigence result in a kind of unreality because they sever the connection between the subject’s own actions and his success in coping with the world, obliterating the basis of physical reproduction, the core of all cause-effect relationships: the bodily functions. What’s left is the dream—“the only right that can’t be taken away,” as Rocha puts it. But, he argues, the resulting mysticism of the poor is capable of overcoming the rationality of oppression and hunger when it becomes communal: when people dream together.  

Rocha ties these three ideas of the dream together and identifies their constellation as the heart of a non-Western culture of resistance—the subject of his films.

A Bourgeois Newsweekly

How, then, are these conceptions of dreaming as the ultimate form of resistance connected to the familiar Western notion of the dream as a formula for desire management? And how do both relate to the folkloristic, or culture-industrial, metaphor of the dream as utopia that’s often associated with Martin Luther King Jr.—a pragmatist who, it should be noted, didn’t actually put his faith in dreams at all? *Die Zeit*, a German newsweekly that caters to a cultured, upper-middle-class readership, has a regular column titled “Ich habe einen Traum” (I Have a Dream). The paper asks celebrities about “their” dream, and they usually reply either by recounting the plot of a dream they compulsively keep having, or by revealing a heartfelt wish they’ve harbored since childhood (I’ve always wanted...
to dance, play the piano, etc.), or by explaining how the world should be organized and how they’re contributing to the realization of said dream by supporting one charity or another. These three definitions—obsession, ambition, utopia—don’t map onto the three ideas we’ve taken away from Rocha, but the two sets have something in common: they leapfrog over the mediation bar, the media barrier; what they share is directness, immediacy, the absence of a (technical) medium. The celebrities sidestep their biographies, history in general, and the workaday business of politics—for these are obstacles, not altogether unlike media or tools, the instruments that are absent when extreme poverty makes instrumentality impossible. Skipping over the sequential logic of your biography and the lack of instruments owing to your poverty: both represent the same type of leap, of saltus, that revolutionaries and magicians have always proposed against the classical wisdom that natura non facit saltus. Deployed in the discourse of the dream someone has “always had” as tokens of an individuality and uniqueness that are not the subject’s choice but acquired by virtue of a dream received—compulsively and repetitively—from somewhere, they generate an authenticity and dedication that, in the West, is a favorite trope, contrasting with the alienation of “others” (the educated, etc.). Although the true opposite of alienation would be not authenticity but the subject’s engagement with his world in labor and the ability it would bring to choose something else (rather than the mere realization of the given as authentic) and take responsibility for his choice.

In contemporary colloquial parlance, dreams are regarded as unreal and impractical; at the same time, it’s noble to have a dream, which is to say, to feel a consistent and unwavering allegiance to a political-cultural utopia. It’s what sets the idealistic, ethical, upstanding advocate of definite values apart from the hardheaded, cynical, phony creatures of neoliberalism. What happens when we apply this understanding to the two conceptual constellations I extracted from Rocha and the bourgeois newsweekly? Aren’t the loss of instrumentality born of utter destitution and the leaps over obstacles in time and space, poverty and narcissism, equally incompatible with such staunchly held convictions?

“In Dreams Begin Responsibilities”

Needless to say, another difference that’s at issue here is the one between the dream as thing and as practice; the latter’s constant is dreaming as-activity, while the dream content (say, the utopian vision) remains a mere variable. So pace Freud and the prophetic revelatory dreams in
ancient fairy tales, we should note that any such content is utterly irrelevant to the present context. Or is it?

Delmore Schwartz wrote poetry and short prose, working in the larger orbit of the Jewish so-called New York Intellectuals of the 1930s and 40s, a circle around people like Irving Howe. In his best-known short story, “In Dreams Begin Responsibilities,” the protagonist dreams that he’s sitting in a movie hall, watching a film in which his father will propose to his mother. So there are several dreams within the dream: the cinema is a dream, but we also read that the father, in a kind of reverie, pictures the proposal; the “real” scene in which he will pop the question on the silver screen will be very different. At the crucial moment, the spectator-narrator-protagonist jumps from his seat and shouts: “Don’t do it. It’s not too late to change your minds, both of you. Nothing good will come of it, only remorse, hatred, scandal, and two children whose characters are monstrous.” We begin to understand that this dream is a kind of Oedipal time travel whose ultimate aim is an act of suicide—or at least that’s the content. But perhaps the setting is in this instance more important than the plot. There are two characters who offer a running commentary on the dream and the dreamer’s actions, an elderly lady in the next seat who consoles him in his suffering and an usher who asks him to keep it down and explains that he needs to get a grip on himself: “You can’t act like this, even if other people aren’t around.” This dream has a private and, to some degree, interchangeable content. What’s key is that we’re witnessing someone who is passive in more than one respect—as a sleeper and as a moviegoer—having to endure his dream in order to become a subject and agent capable at least of protest and acting up (the classic Oedipal options). The subjectivity the story outlines is unheroic and circumscribed, finding itself only through passive contemplation. We experience a weak variant of this sort of subjectivization by way of externalization of the self into an interlocutor (whose demeanor can be distinctly authoritarian) in the daily stream of consciousness when we dramatize our working through issues and deliberations as dialogues with others (often superiors, antagonists, elders) so as to develop and test our subjectivity.

**No Reproduction, No Retention:**

Dream Music

The dream is the weapon of the poor—or their last source of power. That’s not the only thing it has in common with music. Music-making can be described as a dreamlike mode of production. Taking an idyllic solitary stroll through a forest and whistling or humming an improvised tune, we
are in the position of receiver and listener, enjoying something we ourselves have actively created. Unlike when we dance by ourselves, balance on a wall, or in other playful activities with which we keep ourselves occupied when there’s no one around, making music just for ourselves is an act in which passive reception is no less important than active production. Like a dream, this self-communication functions without a medium, and also like a dream it vanishes with no possibility of being recorded. There’s no way to store it, and so it can’t be turned into a commodity; it can’t even attain value, since value requires exchange or retention. This immediacy (lack of medium) and imperviousness to commodification and commercialization has tempted artists to wonder whether the dream’s media properties can be harnessed for a utopian form of creative production. For example, one goal of the legendary group around La Monte Young, Marian Zazeela, Tony Conrad, John Cale, and Angus MacLise, who worked together under a variety of monikers between 1963 and 1965, was to play sustained drones such that the music would be at once inside and outside the bodies making it. The five kept producing the same note even though it was already “outside” and audible as well so that, as in a dream, they would be producers (with their violins, violas, and voices) and receivers at the same time, but now collectively rather than individually.

Yet this utopian constellation quickly ran into a specific problem that’s readily suggested by the variance over the quintet’s name. Numerous anecdotes circulate about it, most of them collected in Beyond the Dream Syndicate, Branden W. Joseph’s book on Tony Conrad, but there’s one I once heard on a TV documentary that’s difficult to track down—probably James Marsh’s portrait John Cale (1998)—and have been unable to find anywhere else. As I remember it, we see Cale in conversation with his biographer, Victor Bockris, and he remembers how he and La Monte Young came up with the idea of calling what they were doing “dream music.” They were at a bar, and the Everly Brothers’ “All I Ever Do Is Dream” was playing on the jukebox. They decided to label their music after the line, knowing full well that the song is a thinly veiled paean to the joys of masturbation (another kind of mediumlessness). Later on, there would be the well-known conflicts between Cale and Conrad, on the one hand, and Young and Zazeela, on the other, in part over the bizarre question of who should be seen (and credited) as the composer when five people sustained a drone or bourdon for seven hours: the one who proposed the interval or the entire collective that not only performed the piece but was also responsible for the decision to do this sort of thing in the first place? The question of the ensemble’s name played into this squabble: Young, who claimed composer credit, called it Theatre of Eternal Music—effectively
attributing the eternity of the drone to the non-mediumless representa-
tional and hierarchical logic of a theatrical stage—whereas Conrad, who
came up with Dream Syndicate, associated the immediacy of the dream
with the political terminology of trade unionism.

Feminine Men:
The New Mutants

This dream music is perhaps not the first—but certainly an early—
example of someone parsing the dream with reference not primarily to
its content but to the fact—which most theories of the dream acknowledg-
edge—that, in dreaming, the human mind is occupied with an unreal con-
tent that’s experienced as though it were real, and with the emphasis on
the identity of producer and receiver. Yet the quintet took this practice a
step further by objectifying their respective experiences of self-stimula-
tion through shared music-making: they turned dreaming, mediumless
self-play, into a communal act. Similar stories about the union of per-
former and audience are told, for instance in Ben Ratliff’s biography of
John Coltrane, about the early days of free jazz, when the main point seems
to have been playing oneself into a collective vibration inhabited by the
producers-as-receivers: “Coltrane was somehow referring to a way
of making and receiving music that was almost ritualistic.”9 Leslie A.
Fiedler’s influential essay “The New Mutants,”10 which first appeared in
the Partisan Review in 1965, portrays a new rising generation of Ameri-
cans; though they’re not yet called hippies or radicals, he already sees them
as passivized and feminized in a way that defies conventional gender roles.
One of his examples is what he calls a “beatnik café” in Venice, California,
that the local authorities want to shut down because of the behavior of its
clientele. When a neighbor brought in to testify before the town coun-
cil is asked what that particular behavior consists in, she answers that the
patrons aren’t really aggressive or scary—they’re simply there, letting
themselves be observed, milling around, doing nothing, showing them-
selves. In Fiedler’s perspective, this passivity is a combination of “cool,”
which he associates with what he calls “Negro culture,” and femininity,
“the wish to be beautiful and to be loved.”11

Forever, Forever

At this historical juncture—1965—the dream, the active produc-
tion of passivity, is something between a political metaphor for utopianism
and a utopian function: a non-mediated and self-directed enjoyment of the
self as other and others as parallels of the self (the latter being exemplified by free jazz and dream music). That same year, Lou Reed—who, it should be noted, studied with Delmore Schwartz—writes these lines: “I am tired, I am weary / I could sleep for a thousand years / A thousand dreams that would awake me.” They are from his song “Venus in Furs,” loosely based on the novel of the same title, by Leopold von Sacher-Masoch (the eponym of masochism), which narrates the slave Severin’s dream. The “thousand years” refer to an endlessness that is, in a sense, the mediumless medium’s third pillar. When Ernst Bloch’s dreamer “always wants even more,” it doesn’t mean he just wants to keep accumulating more objects. The dreamer’s active passivity is not the consumer’s; he or she wants it longer, for it to never stop. It’s not about wanting something specific, not about satisfaction or gratification. As Alan Vega, another artist from the same milieu, sings in “Dream, Baby, Dream”: “Forever, forever.”

Wet dreams and nightmares—I’ve mentioned them—are merely rationalizations of this yearning for unendingness. Both sexual gratification and the nightmare’s menace displace the logic of the dream toward definite content, which, though obviously not irrelevant, is secondary. A correspondence that is paradoxical only at first glance links this endlessness to the profoundly social character of dreamlike practices: when I dream I always and inescapably dream about you. The dream is the format that transforms my necessary internal mental output into an event, a show, or a dialogue. It tests and expands on the substance of that output, a solipsistic production, by dressing it up as conversation, an experience shared, usually, with lovers, friends, or relatives, a kind of exercise in sociality as enjoyment (i.e., thoroughly unrelated to labor and production). The social, however, is governed by rules and laws, steeped in a symbolic order and its normative demands, and they threaten the dream and its enjoyment. The dream producers are very good at evoking and presenting persons, landscapes, and entanglements, but not very good at abiding by the rules that ensure the dream’s worldliness; maintaining the required level of contingency, in particular, is not their strong suit. Whenever the producers need to make a choice about which way the plot will turn next, they founder, simply repeating what came before, dramatizing or slowing down (music resorts to similar expedients). They know people and things—content—but they’re unfamiliar with the dream logic they’ve gotten themselves into, and so they never get right the surprising turns, interruptions, and deferrals that are key aspects of the normal (real) flow of events. (The term “workflow” as used in techno-neoliberal planning of the production process is hobbled by the same weakness.) All they can think of are grotesque leaps to salvage the dialectic of continuity.
and discontinuity—but those bore their audience, the dreamer, and he or she wakes up.

In the 1960s (or even earlier, perhaps already in Surrealism), artists started trying to understand the logic of the dream—on the one hand, how the right kind of variety, digression, montage, and flow lets a dream prevent the dreamer from waking up; on the other hand, the identity of performer and receiver. They sought to transmute, say, subject-oriented, composer-centric art into collective dream labor. In the intervening decades, this project has spawned a number of genres in which performers try to stay “inside and outside the sound” at the same time, as Tony Conrad once put it. These include ambient, dark ambient, noise, and many other musical or sonic genres and subgenres working to refine the logic introduced or invented, or at least reinvented, in the early 1960s. Is this development merely one among several that came into being as specific minoritarian practices in the 1960s and were then honed over the years? Or is there an immediate affinity in terms of directness and the circumvention of media with cultural practices such as performance art or—strange to say—shamanism that likewise evolved out of ancestors from the 1960s and are currently flourishing or being rediscovered?

Another Summer of Shamanism vs. Transformative Aesthetics

The so-called “Pavilion of the Shamans” at the Venice Biennale; the spectacularly uncritical Joseph Beuys biopic that ran to great acclaim in movie theaters in Germany and abroad, and that was screened as part of the Athens division of documenta; the art of various documenta participants—2017 was the year of the shaman’s return, a trend that would seem to blend two earlier retro fashions, the logic of the dream and performance art, obviously with a presumably novel admixture either of Eurocentric orientalism or of anti-Eurocentrism. Writing “retro,” I don’t mean to be polemical. Sometimes a return is more than just a reflection of the contemporary dereliction of another issue, more than sentimental nostalgia: it may be the necessary reemergence of a process that was never fully worked through—in this instance, the discovery and analysis of a dream logic understood in terms of a performative aesthetics, from the dream music of the early 1960s to the Western world’s “ethno boom” in the late 1970s and ’80s, which also involved categories of visual art like Harald Szeemann’s invention of the “individual mythology.” Needless to say, the latter were driven by regressive wishful thinking and mythmaking as much as histori-
Let me be a bit more precise. When Glauber Rocha identified his aesthetics of poverty with an Indigenous and Afro-Brazilian aesthetic, it may have been more than naïve idealism and political romanticism, a white left-wing projection in the spirit of the “patchwork of minorities” (Lytard): Rocha may have had good materialist reasons. To begin with, what is an aesthetics of poverty supposed to be? It’s hard to imagine it spelled out as a set of worldviews and content; rather, one would expect to find techniques and strategies of transformation and change. And precisely in this sense, the survival and relative success of several of his examples, such as Candomblé, need not be described in substantialist terms, as being due to the strength of a specific tradition and its content; they may well be more simply a matter of a relatively successful strategy. Over time, that strategy accumulated certain narratives and content, certain orixás (deities) with their Yoruba precursors and their linkages to aspects of Catholicism. But one should not emphasize theology over liturgy: if Candomblé and its relatives on both sides of the Black Atlantic have thrived, it is because of their shared transformative liturgical aesthetic. In this perspective, Rocha’s proposed “Afro-Indigenous aesthetic” no longer sounds like a fanciful fiction: its success may, to some extent, even be described without reference to the specific histories of those involved, and obviously has something to do with the way that aesthetic speaks to their circumstances, including, notably, their poverty.

The Medium Specificity of What’s Outside Media

I’m not trying to denounce the perfidy of an expropriation or a reification-by-way-of-abstraction of non-Western cultural techniques. Rather, I’d like to gather the parallels between transformative aesthetics and the aesthetics of the dream logic, by seeking to identify not so much the substance of traditions and local conditions but something that used to be recognized, also in the West, as a prerequisite of successful cultural artifacts and of so-called works of art in particular. Suppose we agree that a creative practice guided by the dream logic complies with a formula, or paradigm, for a certain directness, an artistic communication in the absence of any medium, a live connection between producer and receiver, that has long existed in all sorts of solipsistic practices—dancing in front of a mirror, singing to oneself. Wouldn’t one be able to address this specific absence in the same kind of self-reflection in which modernism scrutinized the specificity of the media of art?
If there's anything to this speculative hunch, here's my two-pronged proposal. On the one hand, such critical reflection on specific mediumlessness would have to examine the innumerable projects in the art world that try to break through the symbolic (fourth) walls of the art institutions and their white cubes to exert direct influence. Magical (and often simplistic) ideas about such directness are evident in many of these projects, which are nonetheless highly successful and cannot be ignored, be they in the visual arts "proper" or in the theater, in performance art, in media performance or lecture performance. In these instances, we would need to locate the dream logic of (solipsistic) directness in the larger framework of the social situation more generally, as in the value form or the personal computer. The normative metaphor of the workflow—it describes one action fluently segueing into the next, letting production (including immaterial, affective production) flow unimpeded (without ever being mere repetition, as in Fordism)—no doubt owes its omnipresence in contemporary capitalism to observation of the dream logic.

On the other hand, the same question would need to be applied to the dichotomy of Western vs. non-Western art and the deconstruction of the naturalness of museum-based art. This doesn't lead to an inevitable, or advisable, conclusion that directness is, in this age of political urgency or in general, better than a dispassionate contemplation of autonomous art. What it does mean is that all practices between the extremes of direct action and reflective-contemplative enjoyment of purposeless purposiveness need to be subjected to an evaluation or general review, without any preconditions, be they Eurocentric traditions or perspectives, be they moralistic appeals based on political or social urgency. The dream logic prohibits equating directness with simplicity—with the attendant conventional ideas about agency and subjectivity. On the contrary, the great advantage it offers is the conjunction of activity and passivity, the (active) production of passivity; the conjunction of an inward-looking directness oriented toward the self and techniques that have conducted just such mediumless self-concern in collective ways and turned it into the tool of a certain resistance. This conjunction has yielded an abundance of more or (considerably) less desirable practices, many of them rarely discussed: from experimental music and sound art to esoteric workshops and the yearning for the artist-as-shaman. The question remains which criteria can be worked out in a sustained reflection on these phenomena to distinguish between, and articulate a critique of, the forms of transformative, direct, and mediumless aesthetics that today mostly serve to mobilize consumers, of art and of other products.


6 Ibid., 6.

7 Ibid., 9.


11 Ibid., 104.
2. Speculations

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Student in James R. Murphy’s mathematics class at LaGuardia High School, New York, early 1960s. © Robin Moore
Fish and Fire; or, How to Spell the Fight

What will the (future) study group for liberation from autonomic computational governance look like?

James R. Murphy, a math teacher at LaGuardia High School, in New York, has also been teaching the subject to students since the early 1980s. Murphy regards mathematics as the most powerful and manipulable abstract language available to humans. Sadly, he says, students are often “math shy” and therefore fail to acquire the ability to think in abstract terms and appreciate complex consequential phenomena. Murphy describes the blankness in students’ faces when they are asked to describe the additive or multiplicative inverse three weeks after beginning algebra. The amnesia produced by simple yet seemingly inaccessible concepts is notorious; I remember how, in fifth grade, I decided my brain was incapable of ever grasping mathematics. The teacher at the time confirmed my fear with an indifferent shrug.

During class, my head was elsewhere while my hands kept busy hatching repetitive patterns or androgynous faces with very European noses. The drawings filled every margin of my exercise book, leaving the center awkwardly abandoned. Murphy, however, successfully overcame his students’ disenchantment with algebra by using string figures involving their hands to access and unfold the brain’s potential. As a teacher at a prep-school program for minority students, he has been using string figures to acquaint students with abstract and systematic thinking.

By using simply string and one’s fingers, a figure is made from a succession of elementary operations, or simple movements. The sequence is usually accomplished by passing the looped string between sets of hands until a final figure is created. Sometimes, intermediary positions in a sequence also constitute figures. To teach the concept of inversion, Murphy
usually starts with a simple design called the Trap, which itself begins with
the common procedure known as Opening A. In the next step of the Trap,
a volunteer’s wrist is first caught in the string, and then set free by repeating
the move of Opening A.

Opening A:
Hold a loop of string in your right hand and place it behind and around your left thumb and little finger. Repeat the above step with the right hand. This is the starting position. Now bring your right middle finger to scoop up the string from your left palm and pull the string back. Then with your left middle finger scoop from your right palm and pull the string back. This is called Opening A, the most common base figure.

The concept of inversion is also found in a more complex series of figures named the Ten Men, where weave A followed by another weave A’ results in a return to the original loom; the erasure of the two weaves indicates the existence of reciprocals. Mathematically, reciprocals are necessary for a system to qualify as a group, one of the central organizing principles of modern mathematics. And this is how Murphy introduces math to his students. He considers string figures mathematical objects, and refers to Marcia Ascher’s 1991 definition of mathematical ideas as any idea “involving numbers, logic or spatial configurations and even more significant, combinations or organisations of those into systems or structures.”

Ascher is a co-founder of ethnomathematics, which regards weaving practices and other patternmaking in oral societies as mathematics, and therefore goes beyond the constraints of Western notation.

Making string figures is a ubiquitous practice that goes back to prehistory. Although its beginning is unknown, it was introduced to Europe as a global practice in 1888, presumably through anthropologist Franz Boas. Recording and description in print started in 1902, when the anthropologist-ethnologists W. H. R. Rivers and Alfred Cort Haddon developed a language for recording the sequences that lead to a string figure. Anthropologists immediately began to look for patterns, collecting and mapping figures from around the world. Through potential similarities in form, they wanted to trace and “prove” that prehistoric contact occurred. Whether or not the practice spread through contact is still disputed; similarities between designs can be found in places as far apart as the Pacific Islands, North America, Australia, Africa, and Asia, even though names for the figures often vary. For example, a figure known as the Fish-Spear
on Murray Island, or Mer, north of Australia, is identical to the Pitching
a Tent of the Coast Salish and Sea-Egg (sea urchin) Spear of the Nuu-
chah-nulth, both from the Pacific Northwest Coast. Often, words are mut-
tered or songs sung while the figures are being made, which, according to
Haddon, were often impossible to make sense of.²

While anthropologists and ethnologists at the time considered string
figures to be an expression of “primitive mentality” and there-
fore “prelogical,”³ the interdisciplinary ethnomathematics, founded in the
1970s by Brazilian mathematician Ubiratàn D’Ambrosio, looks at them as
a profound visuospatial mathematical activity.⁴ Ethnomathematics stud-
ies cultural variations in mathematics, especially in geometrical forms and
patternmaking abilities, and more recently promotes the teaching of math-
ematics in connection to Indigenous knowledge. Based on the string fig-
ures collected by anthropologists around the world, mathematician Eric
Vandendriessche identifies string figures as the result of genuine algo-
rithms, or sets of elementary operations that are organized in procedures.
Moreover, he suggests that the production of string-figure algorithms is
of a “geometrical” as well as a “topological” order, insofar as the algorith-
mic practice at its base investigates complex spatial configurations with
the aim to display either a two- or three-dimensional figure.⁵ This topo-
logical aspect is also confirmed by how, during the procedure, one figure
(or drawing) transforms into another.

I want to attempt a hypothetical leap. While I look at my fingers
twisting and stretching string into figures, I can’t help but observe the re-
semblance to the navigation of virtual spaces, both two-dimensionally,
using handheld devices like phones, and three-dimensionally, using data
gloves and other VR controllers. Virtual surfaces are designed to reflect
what hands are used to handling and fiddling with. They often display
mimetic translations of spatial configurations like knobs or sliders into
visualized algorithms. Yet the interface between my hands and the abstract
space of the device’s command language guards its algorithmic layers.
Instead, it shows me streams of friends’ selfies, Google search results,
shopping items, or news, upholding the convenience of result-oriented
interaction instead of engaging on more abstract levels. This window
format, I suspect, de-skills not only my hands but also my cognitive
ability to understand my involvement. I lose my sense of “whereness”
in relation to what I do; I lose the relation, or entanglement, between ob-
jects and procedures, and enter a state associated with topological dis-
orientation.

Getting back to the string in my hand, I wonder what the resem-
bance tells me. If there is a topological operation in bending, twisting,
deforming, and weaving a loop of string into algorithmic figures—which act as images and stories as well as somatic storage of abstract ideas—what does it mean for the spatial relation between my fingers and my phone, or in the stack of the right now, for example, the keyboard of my computer? In the stack of computational order, the interface is the location that constitutes a rare, and precious, intersection of the micro and the macro in computation. While the spatial totality of the stack is difficult to grasp, it is a site of direct interaction between algorithm and individual body in the service of big-data patterning. Both infrastructure and design are expressions of the forces that govern this space.

The interaction of my index finger and thumb with the algorithms on my phone appears as an emulation of the bending of a string. In response to my movements—similar to string-figure making—it produces a continuous flow of algorithmic suggestions in the form of images, stories, and ideas. And reciprocally, the space between the hands in the presentation of string figures looks uncannily like a display, a window into abstraction—as if someone took away the string from my hands and replaced it with a phone, without me noticing. Or rather, did the string turn into a phone? How did the practice of visuospatial cognition fold into the ever transforming touch between my fingers and an algorithm in my phone? Is the somatic memory of the old practice still stored in my muscle tissue, my movement patterns, my fingers trying to form a thought? Even its addictive potential seems preserved. The algorithms know that my hands want to stay occupied. (String-figure making was generally embedded into systems of prohibition and prescription. For example, in Inuit societies, making string figures was prohibited in sunlight, and so eagerly playing all night was common. The Netsilik Inuit recount the story of Tuutannguarjuk, the dangerous spirit of string figures who challenged a child making string figures at night, and who would have taken the child had not one of the grownups woken up, causing Tuutannguarjuk to flee.)

Observing the resemblance releases a hollow pain. I find difficult to pinpoint where it originates. Is it in the ligaments or the muscles or the dense nerve endings in my fingers? Or is it somewhere between my hands and my brain, in the branching nervous tissue that starts to bend because of the sudden knowledge of a loss, or collapse, of space? I’m not sure what is lost, what has collapsed.

The general understanding of topology points to how space is preserved under conditions of duress, incursion, and folding. One of the conditions of duress that my hands sense lies in the destructiveness and ignorance of the modern project itself. In its course, it excluded practices
it considered to be "primitive" while at the same time absorbing them into its machinic order. In this order, a practice like string-figure making was considered worthless by colonizers and scientists, as it served no purpose, belonged to an informal, domestic realm of children and elders, and did not fit the definitions of Western mathematics. But the modern project still collected and analyzed string figures while at the same colonizing the space of Indigenous societies, forcing them to crumble and fold. On top of that, scientists used string figures as a universal, low-threshold entryway to access the Indigenous communities they wanted to explore. As anthropologist Louis Leakey was advised by Haddon: "You can travel anywhere with a smile and a piece of string." The violent incursion here, the duress, is acted out in a piece of string, and the string extends into a line and the line becomes an apparatus of the industrial age and finally the code that operates the application that my fingers fiddle with today.

Fiddling the line from string to geometric drawing to the vertices of the internet, I try to understand the power of geometry, the language of the line, "a language full of ambition [...] with the power to conjure the future," as art historian Molly Nesbit says. Every generation grows up in a different time of the line. When one line loses its abilities, the next one thrives. And every line comes with a new motto beaconing the educational doctrine of the present, leading the hands and the brains of a generation toward a purpose (or product). At school, the line always extends into the future.

While anthropologists started harvesting string figures, a new curriculum was introduced in French schools as part of the so-called Ferry reforms. It made the language of the line in the form of drawing a compulsory skill, answering the calls from industry to forge a generation of engineers. As Nesbit describes in "Ready-Made Originals," although drawing instructions were designed by an artist, the sculptor Eugène Guillaume, the curriculum, introduced in 1880, taught the subject not as a poetic or artistic language but foremost as one of business. Industry and art were merged in geometric drawing, and the common language was the geometric line, taught through repetitious and laborious drills. Perpetually, the students had to draw straight and curved lines, circles and squares, hexagons and trapezoids. Drawing after nature was not part of the curriculum, which intended to build a non-retinal view of the world: cylinders, cones, spheres, planes, elevations—all of which resulted in utilitarian household objects like chairs, rakes, pots, umbrellas, windows, and coffee grinders. In 1909, modifications were made, and color theory and drawing from nature were reintroduced. Yet the utilitarian view prevailed and shaped thinking as a nonambiguous, logical activity.
Marcel Duchamp, who grew up with the vocabulary of the Guillaume method, subverted its alphabet by adding an illogical contradiction: “I did a coffee grinder which I made to explode; the coffee is tumbling down beside it; the gear wheels are above, and the knob is seen simultaneously at several points in its circuit, with an arrow to indicate movement.” Duchamp drew the object in defense of a choice beyond the predictive, commodified options provided by the shop window; he insisted on the poetic liberation of the line:

When one is interrogated by shop windows, one is also pronouncing one’s own sentence. In fact, the choice is a round trip. From the demands of the shop windows, from the inevitable response to the shop windows, comes the end of choice. No obstinacy, out of absurdity, hiding the coitus through the glass with one or more objects from this shop window. the sentence consists in cutting through the glass and regretting it once possession is gained. Q.E.D.

He ends the statement with quod erat demonstrandum (what was to be demonstrated), revealing that geometry is used to implement a wicked plan. Q.E.D. points to the geometrical construction of the shop window and its commodifying space that f*cks with your eyes through the glass.

In queer experimental filmmaker and artist Derek Jarman’s 1977 film Jubilee, Amyl Nitrite (named after a drug, also known as “poppers,” that relaxes the muscles and blood vessels, and causes a rush of oxygenated blood to the brain) lectures at a future underground, female-punk study group. She starts her lecture by citing the school motto, “Make your desires reality,” explaining that once artists do this, art becomes redundant. She herself prefers “Don’t dream it, be it,” taken from The Rocky Horror Picture Show. Amyl is a radical style icon of anarchic individualism and the No Future generation, which makes her a novelty. She is quickly absorbed by the system as she signs with media mogul Borgia Ginz (“What can I do for you, or rather what can you do for me?”) to perform “Rule Britannia” at the Eurovision Song Contest. Ginz is a Malcolm McLaren–like figure; today he would be the CEO of a start-up or incubator like Google, or rather Alphabet Inc. Ginz introduces himself:

You wanna know my story babe? It’s easy. This is the generation that grew up and forgot to lead their lives. They were so busy watching my endless movie. It’s power babe, power. I don’t create it, I own it. I sucked and sucked and I sucked. The media became
their only reality and I owned their world of flickering shadows.

Sucking and absorbing are equivalently led and fed by desires and weave the alphabet of the commodity.

Jump forward to 2033. In Zach Blas’s film Contra-Internet: Jubilee 2033 (2017), the artificial intelligence Azuma describes a flat geometric world consisting only of vertices and edges. Echoing Jarman’s Jubilee, Blas shows us the next generation of the study group, a squad of queer guerrillas led by an art professor. They have just taken over the Silicon Zone and turned it into an anti-campus, killing Peter Thiel and taking all start-up techies hostage. Their lecturer is Nootropix, a contra-sexual AI prophet who sits behind a glass desk in front of a liquid backdrop and reads from their latest publication, “The End of the Internet (as We Know It).” Nootropix reads:

Do you remember when internet evangelists rewrote our alphabet and invented the world anew as a total reticular geography? Our lives dripped with internet, in a process that was more like saturation—doused and drowned. But the earth dematerialized, and our bodies became geometric prisons. Suddenly, conquests were much easier in front of a screen. The future could be modeled, predicted.

The school motto during Nootropix’s formative years was “Don’t be evil,” which was Google’s ubiquitous motto and the opening of their code of conduct until it was changed to “Do the right thing” during the company’s restructuring in 2015, under the new parent company, Alphabet Inc. It was finally removed from the preface in April of 2018. The phrase was also the Wi-Fi password in the company’s shuttle busses.

Nootropix closes their lecture by activating a 3-D rendering by pressing a button. They start to dance on the flat, geometric weave of vertices and edges. The mesh devoid of textures carries the memory of the shop window, the display, the screen, but also of the string figure as inner writing. Nootropix’s dance bends the vocabularies of yoga, gym posing, and Paul B. Preciado’s dildotectonics from his “contrasexual” manifesto.

Their erect, blue, 3-D-rendered strap-on dildo pisses an endless stream of liquid digital video onto, or into, the hollow surface of waves and ripples; the constant stream of data-piss submerges. The movement of the dancing body curves, bends, twists, and stretches the parabolic line of the piss. All possible images are in that line, all possible stories, all possible.
geometries, all possible school mottos, educational doctrines, social differentiations, and worldviews. The world as image in an endless stream of Bild and Bildung, mere busyness, the Californian everything is everything, a blend of digital and carnal fluidity.¹³

As Nootropix tries to take back space from beyond the limits of the geometric prison, the pain comes back. All movements are flickering shadows of desires that have already been absorbed. I’m not even sure what I’m breathing. The body is so saturated with geometry—in Nootropix’s words, “dripped with internet” and “drowned and doused beyond saturation”—that the line excretes from every pore, every orifice. Bodies weep, drool, drive, and exude predicted lines, vertices, and edges of and into the total geometric order. While this order pretends to be constructive, endlessly additive, and limitlessly receptive, in short, “doing the right thing,” it has actually absorbed and coerced all voices and spaces, and thereby violently disrupted, crunched, fragmented, neutralized, and collapsed all thinking that matters. A geometry without world.

In search of spaces of companionship, intimacy, and experience, the urgent need for new study groups, for reverse engineering of the geometry without world, emerges. And by now we all know that it’s not going to happen at school, or maybe it does but not institutionally. Throughout the past 150 years the alphabets have been written and rewritten by ever more corporate forces, and now, under algorithmic governance, they write themselves. Voilà, end of story.

Or we ask James R. Murphy to teach us how to do additive and multiplicative inversion with our hands again in order to unbuild, untie, undo the planetary-scale computational prisons, algorithmic institutions, and enslaving logistics. Stefano Harney suggests that thinking and making algorithms might teach us alternative infrastructures we urgently need today.¹⁴ I suspect that the future study group will need to learn string figures urgently for this very reason. Donna Haraway has already conveyed the assignment: “Think we must!” she urged.¹⁵ And she points to string-figure making as a way to change the cognitive conditions of and for thinking complexity, patterning, and entanglement. By thinking with “fingery eyes,” a topology can be developed that ties infrastructure to joy.

The future infrastructuralist, joyfully militant, reverse-engineering study groups will have gathered soon in many places, I suspect, as the sky is closing in on us pretty much everywhere. They will have studied string figures together and the topologies of worldmaking again. They will have fought the agnosia produced by never-ending suggestions and predictions, and they will have taken back life from the sucking vacuum of the colonial order. Haraway has taught us that the worlds of SF—that is, string
figures, science fiction, speculative fabulation, speculative feminism, science fact—are not containers but instead patternings, risky co-makings, and propositions, relaying, thinking with, becoming with in material-semantic makings. Learning to think together in the future study group will therefore include relaying the patterns of one hand, or pair of hands or mouths or feet or other body parts or other beings, and holding still to receive something from another, and then relaying again by adding something new, by proposing another knot, another web.

Take the word algorithm itself. Its story is buried in the workings of agnosia but reappears as a string figure: the Fish-Spear.\textsuperscript{16}

The Persian mathematician Mohammad ibn Musâ Khwarizmî (محمد بن موسى خوارزمي), or Khorazmi, was born around 780, in the oasis region of Khorazm, and worked most of his life in Baghdad. His book\textit{ On the Calculation with Hindu Numerals}, written around 825, was translated into Latin in the twelfth century as\textit{ Algoritmi de numero Indorum} (Al-Khorazmi on the Hindu Art of Reckoning). From the name of the author, rendered in Latin as\textit{ Algorismi}, originated the term algorithm. Khorazmi’s books were responsible for the introduction of Hindu-Arabic numerals and algebra in Europe.\textsuperscript{17} And while in today’s mathematics and computer science “algorithm” is used in reference to a set of rules that unambiguously specifies a sequence of operations, it simply means number in Portuguese and Spanish.

Various opinions have been expressed about the root of the name of Khorazmi’s birthplace. According to a legend told by physician and astronomer Zakariya al-Qazwini, known for his cosmography\textit{ The Wonders of Creation}, the kingdom was challenged by four hundred elders, who the king then exiled to a place far away. When visiting the exiles, the king asked them how they were holding up, and they responded, “We have fish, we burn firewood, we grill the fish and eat it” (ما ماهی داریم و هیزم، ماهی بریان میکینم و میخوریم). The word خوار meant eat or meat, and هیزم means firewood. Together، خوار و هیزم means fight, or رزم in the language at the time. Hence the place was called Khorazm—fish and fire, or simply fight, thereafter. The narrative obviously does not have a scientific basis, but many historians and geographers refer to it. Khorazm (or Khwarezm, or Khawarizm) is located between Uzbekistan, Kazakhstan, and Turkmenistan, south of the (former) Aral Sea on the Amu Darya river delta. The abundance of water that led to the richness of fish is a condition of the past, as the Aral Sea, formerly the fourth largest lake in the world, first shrunk and finally dried up because of cotton irrigation, hydro projects, and oil exploitation. The disappearance of the sea caused toxic dust storms and catastrophic changes in the microclimate
and ecosystem, which gave rise to poverty owing to the collapse of the fishing industry. It also generated agnosia of a language of a landscape that yielded the name Khorazm. A string figure of complex entanglements that unfolded in the algorithm, or the fish and fire, or the fight. Learning to think and therefore act within topological, processual patternings entails not only tracing what turned fish and fire into algorithm, but also spelling them as one topology, one inner writing.

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4 Visual-spatial skill is the cognitive ability to represent, analyze, and mentally manipulate two- and three-dimensional objects. It helps to fathom distance between, or to reach for, objects in the visual field. According to autism researcher Michelle Dawson, atypical cognitive mechanisms cause visuospatial peaks in autistic cognition. Amanda Baggs, an American writer who has been diagnosed with autism, demonstrates this distinctive visuospatial ability and language in the video “In My Language,” January 14, 2007, YouTube video, 8:37, https://www.youtube.com/watch?v=JnyLMhl1jcE. In contrast, visuospatial dysgnosis is a loss of the sense of “whereness” in the relation of oneself to one’s environment and in the relation of objects to each other. It is often linked with topological disorientation.
7 Fred Moten explains that “black topological existence is about the making and preservation of space under conditions of duress.” It is a form of worldmaking and it includes mobilizing joy as a specific modality of social existence in the interest of its own self-protection. See “Robin D. G. Kelley & Fred Moten in Conversation,” University of Toronto, recorded April 3, 2017, YouTube video, 2:13:29, https://www.youtube.com/watch?v=JP–2F9MjxjRE.
13 “Der Grundvorgang der Neuzeit ist die Eroberung der Welt als Bild. Das Wort Bild bedeutet jetzt: das Gebild des vorstellenden Herstellens. In diesem kämpft der Mensch um die Stellung, in der er dasjenige Seiende sein kann, das allem Seienden das Maß gibt und die Richtschnur zieht.” (“The fundamental event of modernity is the conquest of the world as picture. From now on the word “picture” means: the collective image of representing production [das Gebild des vorstellenden Herstellens]. Within this, man fights for the position in which he can be that being who gives to every being the measure and draws up the guidelines.”) Martin Heidegger, “Die Zeit des Weltbildes,” in *Holzwege*, vol. 5 of *Gesamtausgabe* (Frankfurt am Main: Vittorio Klostermann, 1977), 94 (my translation).
16 Thanks to Kodwo Eshun for introducing the term agnosis as a “work of forgetting” in his lecture at the conference “We Have Delivered Ourselves from the Tonal—Of, with, towards, on Julius Eastman,” Savvy Contemporary, Berlin, March 24, 2018.
17 The introduction of algebra was tremendously significant as it moved away from Greek concepts of mathematics and replaced mere calculation by introducing variables to be able to work with unknown figures. The word algebra is interesting as it means both duress or coercion and joining broken parts in the Arabic original, al-jabr (الجبر).
Accumulating Futures

For the practical law itself signifies nothing other than that empty form of time.
—Gilles Deleuze, Difference and Repetition

Time is often understood as a material to be accumulated, whether we are looking at labor time and the commodity, the packaging of risk in financial instruments, or the value imputed to artworks. Marx saw control over time, or rather, its optimization in the control of labor time, as pivotal to the capitalist mode of production. Value is comprised of labor time, which eventually comes into contradiction with the development of science and technology as it drives to cut down on labor time and jettison the worker from the production process by encoding her skills into technological equipment. More recently, Moishe Postone underlined how control over time is also key to capital as a mode of social domination, noting that inasmuch as the abstraction of labor as a commodity is historically specific to capitalist societies, rather than natural and inevitable, “abstract time” is another de-socialized process that this value abstraction needs in order to cement its appearance of social necessity, or “value-objectivity.”

All our activity appears to us as increments of time, and be it located in the past, present, or future, activity is already allocated as the most personal of metrics: a lived connection to the abstraction of money, experienced as blocks of quantified time. From this short introduction to the inseparability of time and production in capitalist accumulation, we can thus start to see that capitalist time appears as not just a measure of productivity but also itself a product, exhibiting the dual character of being both a commodity and a measure of commodity production, as tidily encapsulated in the adage “Time is money.” Time must thus be standardized and
rendered formally equivalent, easily divisible at all scales. From that formless intuition that for Kant enabled all human perception and cognition, the formatting of time by value-objectivity secures the "empty, homogeneous form of time" that so appalled Walter Benjamin as a far-reaching fetish of modernity.\(^2\) Thus historical time is also subject to this logic of accumulation, discounting, and surplus.

On the other hand, recent political theory reads time as a resource that is affectively charged by being positioned in a threatened future, a "to come" that may never come about. This reading implies a future that is not so much a quantitative progression in neutral time but a qualitative change, which must be different from or better than what currently obtains. We hear about futurity as stolen, subject to a "slow cancellation" (Fisher), stalled (Rosa), or otherwise evacuated by or in thrall to a crisis-shocked present.\(^3\) If speculations on the future are viewed as an expression of the surplus social imagination of the present, then it seems that this surplus has run out. From bioengineering to biomimicry, we seem to be hostage to a dystopian view of the future as disaster management, resigned to the impossibility of any deviation from the destructive tendencies of the present, with one obvious mark of continuity with this impossible present: a horizon of possibility reliant on technological interventions. Given that this kind of orientation to the future is immanently connected to an affirmative dissociation from what the present has become, it also hints at the evacuation of any possibility of emancipatory historical praxis in that present. Paradoxically, however, this attempt to already live in the future by abandoning the present can only project futures that reproduce the present—characterized by exponential trends of inequality, technological acceleration, and social and climate chaos. Dominant visions of futurity thus give up hope in the present, only to posit a future just as dystopian, since it is a continuation of precisely this present. Any material critique of such futurism will thus have to dismantle not only the violence of its technosocial determinisms (as it always has to), but the violence of the future as an alibi for the immutability of the present—an endless arc of accumulation and waste. Such stupification in the face of a temporal sublime dovetails with the dim sensation of ecological catastrophe and social dereliction, both of which poignantly combine in the antirecycling discourse of touchy white neofascism ("we will not be replaced").

There are in fact quite a few contemporary social and political phenomena which can be and are read as indicators of a fear of the future. Much liberal or even left-liberal media analysis of the traction of right-wing populist tendencies in the past several years (not to mention the more ideologycrude analyses of the left populism of the Greek
referendum in 2015, or those of the political eruptions of the Indignados, Bernie Sanders, or Jeremy Corbyn, for example), offers a diagnosis of the bewildered masses longing for return to the safe and simple. Typically, as the traditional manipulators of popular paranoia, the UK Conservative Party, had it (before they lost it), this would be a “strong and stable” time of yesteryear, when things in general seemed to be improving rather than being in a manifestly downward spiral. The elites win when their risky, incompetent, and power-hoarding political maneuvers sow chaos, which the elites then step forward to resolve (with more of the same): the traditional strategy both of organized crime and its increasingly familial corollary, the nation-state.

In this light, fear of the future breeds conservatism, especially when the future looks like the present with extra war-zone filter. The journalistic orthodoxy has maintained that this is a strategy that seems to succeed with confused and disempowered groups seeking protection. Or, as can be gleaned from historical and current experience, those who are currently relatively empowered but feel precarious, their systemic advantage threatened by inchoate “others” (migrants, minorities, elites, supranational organizations), and often in a context where politics operates in a vacuum comprised of a fossilized neoliberal common sense and the absence of realistic-seeming alternatives (which would be realistic exclusively in terms of that common sense). In these terms, the fear of the future is also a fear of the present slipping away, of losing what one has. The phenomenon of populism thus presents itself as primarily a desire centered on the future—either to stop the future or to find those culpable for stealing “our” future. This question of ownership in relation to envisioning the future is at the core of the future-oriented discourses at issue in the remainder of this essay.

Many of these discourses counsel the embrace of uncertainty in the face of the all-too-immutable certainties of capitalist power and authoritarian political modes. This was to some extent also the case at the inception of “futurology” in the late 1960s, though the ebullience of those Aquarian times managed to inject skepticism about the durability of “industrial civilization” into establishment epistememes in a far more pervasive manner than the pragmatic nihilism that plays this role today. This epistemic paradox of a hopeful openness to a future already predetermined in all the ways that matter by the present could be analyzed in terms of Steven Shaviro’s ideas of open and closed speculation, where the open form is speculative thought, which proceeds autonomously, and the closed form is speculative finance, which is goal-oriented, quantitative, and accumulative: a speculative process as abstract time, whose homogeneity makes its
One kind of speculation (financial) generates the "speculative" aspect trivial.⁴ One kind of speculation (financial) generates the social conditions that make it impossible to do the other kind of speculation (sociopolitical), triggering a feedback loop of fear and hope. Here is the idea of time as a resource of accumulation, extracted from the present to reproduce it in the future. This is the basic structure of financial instruments such as derivatives, options, and futures—they extrapolate from the present and the past to model the future on their premises. On the other hand, there could be a radical change, but it too has to be contained in the models or it won't be a profitable option.

This accumulation and commodification of time depends upon it being envisioned as a form of abstract value, not unlike the "pure and empty form of time" discussed by Gilles Deleuze in *Difference and Repetition*, or the philosophical iterations already noted above.⁵ "The future" thus emerges as already a reified category. We then shouldn't be surprised if this "future" is one of brand cycles for capital (objectified or human), evoking the immaterial but seductive combination of global production chains and personalized control embodied by the gadget. Fetishism is being cut off from reality, especially from labor, meaning reality becomes reproductive rather than speculative, as in making other futures seem possible and tangible. The omnipresence of the future as resilient present can be equated to being cut off from having any role in the future. Being cut off from having a role in the future is nothing more or less than being cut off from having a role in the present, that is, from social and political power. In response to this predicament, the directive often comes that "we" need to recapture the future or invent it. On the other hand, perhaps a more effective response, which takes the fear of the future as a general affect and inverts it, is to see what it is about the present that is blocking the future.

**The Production of Nature**

However, we might need to think a little bit about what kind of historical temporality we see the future as being inscribed into. Marx talks about the current capitalist social formation, the civilization of the global market—still only expanding and not yet dominant at the time he was writing—along with all the social formations prior to it as a sort of "pre-history," with history to begin when humans can consciously and collectively plan their social and productive lives and find emancipation from the imposed necessities of class society. In 1859 he notes in the preface to *A Contribution to the Critique of Political Economy*,

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⁴ See Chapter 11 for a more detailed discussion.
⁵ For a deeper analysis, consult Chapter 12.
The bourgeois mode of production is the last antagonistic form of the social process of production—antagonistic not in the sense of individual antagonism but of an antagonism that emanates from the individuals’ social conditions of existence—but the productive forces developing within bourgeois society create also the material conditions for a solution of this antagonism. The prehistory of human society accordingly closes with this social formation.6

While we may wish to query the historical determinism operative in this idea, though not in all of Marx’s work, the notion of history at issue here is one that’s worth unpacking a bit. Here, we see history as a goal, as something not yet attained. History is something that is made, not just interpreted; it has to be actively shaped, in accord with the eleventh thesis on Feuerbach, namely, “Philosophers have up till now only interpreted the world, the point is to change it.”7

Humanity having some degree of control over its social conditions is when we know that history has started, and the whole notion of humanity itself would have to have been redefined in practice, so that its definitive whiteness, maleness, and coloniality are not so much gradually distributed as eradicated. Part of this move is to approach terms like “the human” but also “the body” and “matter” as abstractions—as “simple abstractions” that can only be understood in their specific historical and social contexts, ones that are produced for particular reasons and implemented in specific agendas. In historical materialism, the idea of going from the abstract to the concrete is that you start out with an abstraction—like population, in Marx’s example, or the terms listed above—and then you dig into how such an abstraction is produced—epistemologically, politically, historically—until you arrive at a complex and concrete mapping of circumstances, contradictions, libidinal economies, relations of production, social hierarchies, and so on, which of course also include and implicate the investigator and the mode of inquiry. Importantly, this inquiry is open-ended, or never-ending, which amounts to the same thing.

Keeping all this in view brings us to the critical notion of “real abstraction” or “social abstraction,” that is, the lived abstractions of capital (money, value, commodity, exchange—but also race, gender, sexuality). Contra some formulations of “new materialism,” the politics of abstraction does not consist in proposing one abstraction to counter another—say, the neglected side of a dualism to overcome the hitherto epistemically privileged side of that dualism—but rather it is more about understanding the defining nonidentity and the materiality of abstractions, how abstractions both produce and cancel difference.
Here I would come back to another Marxian concept, that of “species-being,” which basically means the human has no essential nature except for change. It can even be proposed, if not necessarily for the first time, that Donna Haraway’s figure of the cyborg is not entirely unrelated to this notion of species-being. There is nothing natural about any historically contingent human body, and the ones who have never been considered quite human—the feminized, the racialized, the queer—have the least to gain from any of these naturalizations and normalizations. Michel Foucault is of course one of the chief practitioners of this kind of inquiry, and he was drawing on Georges Canguilhem for his method of history, the genealogy of epistemes, or ways of constructing common sense as scientific tool. It also aligns with the Spinozian (and later, Deleuzian) imperative to realize that “we don’t yet know what a body can do.” What has “the body” been used to do, what is it being used to do now? How can it be used otherwise? And does it need to be a body at all?

This notion of the historical as a collectively planned relationship to conditions of existence is further characterized by change, by self-reflexivity. The human is part of nature and shapes nature as part of its historical agency, and is shaped by it, though grammar also enforces the duality between these two subjects. This is the sense of interaction with nature as constant and reflexive change, as metabolism. The capitalist mode of production can be seen as causing a break in this metabolism, which is the ecological and social crisis we are living through, one that is escalating at many different, noncongruent scales right now. More accurately, we could say it is the industrial mode of production, since it is not exclusively capitalist modernity that has produced these phenomena, even if capitalism was the most influential driver for the differentially life-expanding and life-destroying economies that modernity established at the planetary scale. The systems ecologist Jason Moore, however, critiques the idea of the “metabolic rift” because it tends to reproduce the split between nature and society, rather than seeing nature in society: “Among Nature/Society dualism’s essential features is the tendency to circumscribe truth-claims by drawing hard-and-fast lines between what is Social and what is Natural. Here is a rift: an epistemic rift.” He prefers the “metabolic shift” in its capacity to signal a sociohistorical dimension to the separation rather than a necessary gap between a monolithic nature and an equally compact human culture, a problematic that simply recasts, without directly undermining, the narrative of the Anthropocene.

This materialist approach to ecology implies a systemic thinking, which seems indispensable for an ecological thinking, given that it is concerned with scales and the relationships within and between them. Here
we can think of anthropologists, biologists, and information theorists from the 1960s and '70s up to the present day, starting with Gregory Bateson or Humberto Maturana and Francisco Varela, working on the reflexive relationship of any organism with its environment, all the way up to ideas around the swarm and emergence in the 1990s and early 2000s, and to the enormous variants of “smart environments” today. Moore’s systemic approach proves that ecology need not always be hostage to the conservative and naturalizing motives of most social theory that puts a naturalistic spin on the social—from Darwin to the Whole Earth. The Marxian conception of the totality needs to also include the production of nature; not a timeless nature that can be technologically fixed, just like a naturalized social (“let’s fix poverty!”), but a nature inconceivable outside of social process in historical time. And it is precisely through this historicization of nature that the various dubious naturalizations of the social in the temporal debates that go under the heading of “futurism” should be addressed, given that many of them appeal to a nature as well, be it a human nature or an engineered “nature outside us.”

**Left and Right Futurisms: The Idea of Resilience**

Here we arrive more directly at the future as a question of property relations. This is where we encounter a broad range of right and left futurisms in the media and political landscape, at least the way it looks from the Western side of global capital. What they have in common is an accumulative view of the future.

The “right”—and increasingly neoreactionary and neofascist—visions of the future are most influentially articulated in cyberlibertarian positions that filter vile modernist dogmas such as racism and eugenics behind a semiopaque screen of engineering discourse. Here the intimate connection between aesthetics and quantification becomes apparent. Intuitively, the aesthetics of the digital often appear as the techno-sublime, whether it’s data visualizations, Sophia the robot diplomat, or the acres of shipping containers discussed by aesthetic theorists such as Jacques Rancière. Yet this aesthetic impulse is not just one we are familiar with from modernist and postmodernist aesthetic theory, that is, of being exceeded or ruptured as a subject. There is also a more classical, or classicist, aesthetic impulse of control, appropriateness, and functionality. ¹⁰ This is a propensity that is hardly new, at least in the annals of modernist reaction, which some have recently traced as the link between engineering and authoritarianism, or at the very least, a close-up focus on the
management of people and things or people as things. Aside from noting
the overrepresentation of engineers in historical right-wing movements,
David A. Banks also notes how much of our technosocial environment is
the outcome of engineering’s literal rather than critical appropriation of
popular culture, especially the dystopian kinds:

The engineers’ worldview and the fiction that is created as a cri-
tique to engineers’ creations forms an Ouroboros of destruction
in the name of engineers’ own job security. Engineers’ work be-
gets fiction, begets new engineering projects, begets fiction again,
which in turn begets position papers about the possibility of it all
going wrong. Each step requires additional funding, that cannot
wait because the latest threat is already overdue. Charlie Brooker
makes a Black Mirror episode about it, and then another engineer
reads dystopia as a new product idea and so on. The engineers are
still operating the siege engines, but they are also the ones build-
ing things back up, all the while warning us of the new siege en-
gines they’re building.¹¹

Speaking more ideologically, it hardly needs repeating that cyberlibertarian
and Ayn Randian perspectives have captured transhumanist discourses
on the social graph, and they land objectively on the conservative spec-
trum, as surely as Peter Thiel has landed in the inner circle of the Trump
White House, or Nick Land bookmarks in the edgelord aspirations of art
and academia theory hustlers. These are visions of the future that locate
it both as an extension of present trends like the quantification and net-
working of everything, and a nostalgia for bygone times—from colonial
modernity to Dungeons & Dragons feudalism—which will provide the
service infrastructure for this meritocratic vista. It can be suggested that
such orientations are marked by a purely formal, ideological notion of soci-
ety that dominates many of the public imaginaries of technoscience, for
its producers and consumers alike. We can also note the salience of aes-
thetics in far-right, racist, and misogynist discourse—it is always about
a visceral disorientation by a disgusting body or set of bodies that have to
be eliminated. Quantification, then, is simply the infrastructural layer that
testifies to the objectivity of these visceral reactions, as in algorithmic pro-
filing and policing. Meanwhile, poor James Damore thought he was an op-
pressed conservative, part of a statutorily disadvantaged group at Google,
while his employer scrambled to distance itself from what he articulated,
which his employer scrambled to distance itself from what he articulated,
The nominally “left” version of this, often found subscribing to similar libertarian and technocratic principles as the “right,” is often set out in terms of “effective altruism,” as with figures like the “global resilience guru” Vinay Gupta, a software engineer and planner who has worked for the US government prototyping tent cities for the majority of near-future humanity and is prone to saying things like “Fixing problems by changing the technology base, and the buying options available to the public, seems to be a fairly painless way to move us forwards, but political change on all of these issues is basically a dead end” and “What if the objective isn’t to level out the game between winners and losers, but to make life as good as possible for the losers?” Gupta has in the last few years moved away from consulting on disaster relief for the US Agency for International Development and is now a project manager for strategy and communications at Ethereum, the smart contract platform, and a high-profile cryptocurrency researcher. Unfortunately, his greatest disaster-relief invention, the hexayurt, a flat-pack collapsible structure that generates less waste material than a geodesic dome, was not widely embraced by NGOs.

Here we have a consensus on the future as disaster management—the question is how the disaster will be distributed. Resilience here is another byword for getting used to the fact that things will be much worse, and any collective attempt to improve them will make them outright nightmarish, so perhaps technology is our last hope to make all of this somewhat bearable. This is basically present-day futurism in a nutshell. These speculative futures are better called reactionist futures—with reactionist as a neologism capturing both the right-leaning political tendency and the fact that their imaginary is one of reacting exclusively to the currently established parameters and never proposing or even fictionalizing anything else—which would of course require some kind of political imagination beyond the technolibertarian.

For Art

How could this analysis reflect on possible orientations for art today? It can be observed that the modernist notion of art as the space of speculative, unknown, inchoate futures has lately pivoted toward, or rather blended into, the affirmative speculation now offered to “creatives” across the board. It should go without saying that content, critical or otherwise, is secondary in this analysis. It is the social relations of the production and mediation of art that are in question here. A critical operation of this type, however, has to be wary of positioning its object of analysis in ways that aspire to capture a share in the marketplace of ideas rather than
explanatory adequacy. In other words, it is not necessary to prioritize art. This is to prevent the positioning of art as a driver rather than a symptom of a “becoming-speculative” of the subject and the social, symbolic, and “real” economies in the current era.

Lessons on why not to do this are readily offered by any number of critical takes on the finance industry published (not only) since the great financial crisis, especially those that affirm the finance industry as the ontological model for understanding contemporary art. What we do see when we take a more structural approach are a number of shifts in the fetishized relation that art has represented between autonomy and heteronomy so long as it has existed as an “independent” variable in global modernity—a new nexus between automation and hyperindividualization, perhaps. While art (in form, content, and platform) trades on the subjectivities of self-optimization and quantification to launch unknown futures both as stimulating aesthetic models and as market commodities, the regressive hold of authorship, originality, and genius stays enthroned as the grammar of brand identity in this cultural space. This evokes the oscillation between open and closed speculation delineated by Shaviro. The narration in João Enxuto and Erica Love’s video Institute for Southern Contemporary Art (ISCA) (2016) captures this in the format of a promotional video for a new genre of fully privatized art-education-cum-production institution that offers an edge on emergent dispensations of tackling
uncertainty in art markets with algorithms by extending datafication to the processes of art production and critical discourse as well. The video features bright-voiced, deadpan narration that speaks of cutting-edge critical practitioners-in-residence feeding their exhibition data to a collecting algorithm, preceded by luscious shots of Damien Hirst’s golden mammoth skeleton in a vitrine on a Miami beachfront (Gone but Not Forgotten, 2014).

Such comedies of extinction flicker only faintly on the horizon for the acolytes of data exceptionalism in the art space, like Simon Denny or Daniel Keller, with their schematic dramas of overidentification, not to mention the far more traditional artistic projects of many who have either been designated as or embraced the designation of “post-internet.” Institutionally speaking, there are a number of arts administrators, commentators, and producers who embrace the venture-capitalist mindset, as it crosses over weakly with the more activist predisposition to envision a utopia of speculative strategy games as the kind of futurecasting art is uniquely adapted to do. What passes for futurist speculation in upper echelons of the art institution can seem little distinguishable from the US State Department or Mountain View, California. Projects unfolding over the past few years can be cited, many subject to a burn rate similar to other start-ups: the Åzone Futures Market at the Guggenheim or the unMonastery project promoted by the Serpentine Galleries’ head technologist. Both peaked around 2015. This is not to say that the mystification of the creative, protean individual and the fungibility heralded by the latest technology is much of a historical novelty. This knowledge has been embedded in popular cultural awareness for quite some time, given that in many ways this conjunction is covered, if not exhausted, in the culture industry chapter of Dialectic of Enlightenment, with its contradictory potentials limned elsewhere by Walter Benjamin.

Technology historian Orit Halpern has recently written incisively about the resilience worldview and its nihilist humanitarianism, one that relies on the aesthetic charge of optimized natural beauty. (Adorno: “The more purely nature is preserved and transplanted by civilization, the more implacably it is dominated.”) She links the emergence of the resilience ideology and the spread of financialization to the same cultural moment. This is a moment in which it is acknowledged that there is no way to stop extraction and accumulation as the permanent dynamic of our social and organic life, but the system can be optimized to withstand the shocks this dynamic keeps generating on a larger and larger scale. Thus speculative futures understood in these terms are all about finding ways to make sure the present continues indefinitely. They are also speculative, of course, in terms of financialization, as we can see with the ecological niche of
financial instruments, with its climate futures and ecosystem services. As she notes: “Resilience has a peculiar logic. It is not about a future that is better, but rather about an ecology that can absorb constant shocks while maintaining its functionality and organization. [...] It is a state of permanent management without ideas of progress, change, or improvement.” The future is accumulated as asset by a narrow group—“sequestered,” like carbon—instead of experienced as historical time subject to large-scale social determination. Further, she observes that “there is a new sentiment emerging of positive affect for negative futures. [...] Resilience and technology create a form of preemptive infrastructural governance that naturalizes precarity, sacrifice, and violence as a necessary economic value, rather than as a politically derived option.”

So here we can see that resilience entails the reallocation or displacement of the costs of capital’s cheap nature. (Raj Patel and Jason Moore talk about the four cheap: cheap energy, cheap labor, cheap raw materials, and cheap food.) Coming back to notions of the human, here we can also add that the category needs to be seen as not just an epistemic problem that can be addressed by thinking in terms of the posthuman or the transhuman, but the whole discourse of the Anthropocene problematically centers the human, even as it supposedly highlights the “constructed” and fully social nature of our current biophysical reality. The emphasis on an undifferentiated “human” influence or destiny in its impact on the natural world links directly to resilience discourse in the way that it naturalizes the imperatives of capitalist exploitation, accumulation, and production of ruins as simply the human condition, and something we all need to get used to. As István Mészáros noted already in a 1971 lecture—the last time it seemed so many crises were coming together in the West—capitalism’s ecological concern always means business as usual with technological fixes, because it’s not about humans adjusting to climate crisis, it’s about humans continuing to adjust to capital’s needs that lead to massive climate and social crisis. Marx, he writes,

already fully realized then that a radical restructuring of the prevailing mode of human interchange and control is the necessary prerequisite to an effective control over the forces of nature that are brought into motion in a blind and ultimately self-destructive fashion precisely by the prevailing, alienated and reified mode of human interchange and control.
Corollary to this, the development of current algorithmic logics and mechanisms of profit and control is seen as playing a positive role in the very phenomena that are being exacerbated through these means. In terms of pre- and posthumanity, a good example would be the “resilience” of self-quantification in the degradation or absence of socialized health care, and in fact this is the business model of most platform capitalism: both pushing and taking advantage of the privatization not just of public resources, but of collective desire. The “quantified self,” perhaps not so incidentally, also recalls the ideological structure of eugenics—the perfection of the individual through technologies (whether it’s racial science, Apple Watches, or property values)—creating a climate in which the engineered death of those who have had the means of life deliberately removed from them becomes not only normalized but ethical. We can call it “Silicon Valley necropolitics.”

In response to such predicaments of futuristic stagnation, the directive often comes that “we” need to recapture the future or invent it. On the other hand, perhaps a more effective response, which takes the fear of the future as a general affect and inverts it, is to see what it is about the present that is blocking the future. One way to block it, of course, is to generate futures aplenty that are simply quantitative, futures that affirm the status quo as extension of the present and knowingly substitute quantitative for qualitative change. The biggest fantasy of the future, AI takeover, is nothing if not a fantasy of reaching a qualitative tipping point by quantitative means. In regard to this question of what it is about the present that blocks either the emergence of a future or a clear grasp of what a future is, Evan Calder Williams notes that rather than being led by critique to imagine a future, we need to find the limits of our imagination instead—that the futures we can imagine are only the futures our blocked imaginations are capable of, and critique is similarly restricted. The example he provides here is racism; another one is debt, which engenders a closed loop of time; even more are climate crisis and civil war. These are all crushing residues of the past that operate in the present—not to say that they are not continuing to grow, not just linger, in that present—and block the future. The future cannot be operationalized through them; they block it, they block it absolutely.

For this, we have to come back to fear of the future—who fears the future? Futurologists fear the future. Finance fears the future. Art fears the future, with its speculative negativity turned into a deficit rather than an asset, to be stabilized by algorithmic rationalities capable of making it risk-neutral in the “no-futures” market. As the voice-over in Enxuto and Love’s film amiably reflects:
Contemporary art is a multibillion-dollar unregulated market with unclear criteria just waiting to be harnessed. And the ISCA algorithm is just the instrument to do it. It isn’t a perfect, deterministic model, but at ISCA, we didn’t get into the art game to just optimize for market performance. The goal of automating contemporary art is to become emancipated from it.

The neat turn there in the idea of an “emancipation” from contemporary art through technology throws up an ambiguity between accelerationist and critical futures, or perhaps the deployment of the former to achieve the latter. Whoever accumulates the future is terrified of the times getting out of control, of the blank swans of (anti)social antagonism. Perhaps it can be proposed instead that thinking about the future should rather be about how to change the circumstances of the present so that futures become possible and thinkable. Perhaps then the future appears as not so much a time or a state than a dynamic of (violent) separation. Returning to Williams: “Nothing clearly marks a passage into the future without undoing the forms that bind lives, materials, and systems, in variably punitive ways, to a mode of time designed around the continuity of the present. […] By future, we may well mean just that sensation of coming unstuck in and from the present.” While it is clarifying to think of the ways in which the closures of the present not only make certain futures and not others tenable, but also block our ability to even have a future that is not an exacerbation of the present to begin with, there is a sense in which this Jamesonian proscription of futurism aligns with an emergent consensus that the future is a category of seeing best left to the past. But perhaps in the rush to jettison all modernist narratives as inherently violent and oppressive, the redoubled emphasis on simple survival—or resilience—prevents thinking or organizing against a present that is increasingly sustained only by the exertions of its victims.


8 This metabolic understanding of the relationship between humanity and nature, the social and the environmental, is where the critique of political economy starts to cross into political ecology, and also starts to anticipate later, quite different epistemologies, such as systems theory and cybernecstics. Clearly there are more than a few divergent histories and mediations at stake here, which would need to be developed carefully in order to arrive at a fuller picture than the standard Cold War history of cybernecstics descending in a direct line to the “Californian ideology” and Silicon Valley.


10 In other words, the kitsch modernism of the universal contemporary interior.


20 Williams, “Volcano, Waiting.”

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Johannes Paul Raether, Transformella (4.4.5) Inhuman Cryo Communisat, Kassel, 2015. Photo: Holger Jenns
Repro-communal Manifesto

4.5.2 [Reprovolution]

Reproduction technologies such as in vitro fertilization (artificial insemination and test-tube babies), surrogacy, and pre-implantation diagnostics are no longer new technologies, but their use and their recent geographic distribution have grown to an industrial scale. Theorizing them requires new horizons.

Reproductive medicine has become a global industry in which humans wishing to become pregnant, donors and surrogates, ova and sperm, circulate the globe in the form of commodities.


4.5.2 [MetaMother in Uterofactory]

Reprovolution enables and enforces new and social models of reproduction. One example is baby Manji, who was commissioned by a Japanese couple to be produced by surrogacy in India, and who became internationally known for being abandoned by her intended parents. She now has five parents: a genetic mother and father, a gestational mother, and two social parents who raise her.

We call the doctor who oversaw the process and who “produced” not only Manji but also their social form—their relation of five parents—a sort of mother, a MetaMother. Her name is Dr. Nayna Patel. In her fertility clinic in the small city of Anand, in India, she once inseminated a woman
with the fertilized egg cells of the same woman’s daughter; thus, she gave birth to her own granddaughter.

Overseeing some of the first surrogacies in the developing world for couples from abroad, she became midwife and MetaMother of a globalizing reproductive industry. Today, Dr. Patel’s clinic produces babies on an almost industrial scale, because American and European health clinics are in direct competition with her clinic in India. She can underbid the price for the production of a baby by paying the Indian surrogate mothers less than their counterparts in the US and Europe for their reproductive labor.

When Transformella visits Dr. Nayna Patel in February 2013, in India, we talk at cross-purposes. Dr. Patel sketches a hyper-individualized bioethics, regulated by market forces only—a kind of gated community of conscience, affordable only to those living within a white, genetically privileged society.

### 4.5.2 [Really Existing Repro Colony]

The rest of the world, however, seems to become *Repro Colonies*. It is often in developing countries that we can find the workers of Reprovolution; those who Nayna Patel, as one of the first *Uterocapitalists*, doesn’t want to speak of.
The factory of the nineteenth century returns as the *Uterofactory* of the twenty-first. In this context, pregnancy—the time and physical labor that the production of a baby demands—expresses itself entirely in economic categories.

Natural, biological, and local procreation is assigned value, becomes a commodity, and therefore a product to choose from among many on a globalized fertility market.

“Normal” heterosexual procreation is currently the *Reproduct* that is technically simplest and cheapest to produce. This is the reason why infertile or homosexual couples with a desire to have a child are regarded as tragic, sick, or perverse even while being forced into the value-generations mechanisms of the globalized fertility markets—as repro tourists.

Transformella, on the other hand, does not think of these clients as being either deficient or simply the clients of their normalized desires; they are the the unconscious repro-technological vanguard of socialized reproduction in the future.

### 4.5.2 [Sexual Liberation from Reproduction]

After the Russian Revolution, there was a small window in which human reproduction was thought of not as private but as societal and technological. This historic attempt is symbolized by Alexandra Kollontai. She became a high-ranking diplomat, fought for women’s rights in the Soviet Union, and was involved in the legalization of abortion. Kollontai stood up for extracting all reproduction from the nuclear family and organizing it in specific communal housing. As a side effect of her politics, she describes the liberation of human sexuality from reproduction: “Sex should be as easy as drinking a glass of water.”

On the other hand, what does the “liberation” of reproduction from sexuality under the conditions of global capital mean? What if we imagine that for heterosexual and healthy women in industrialized countries, the production of children will seem too time consuming, painful, and hazardous if—for a small additional charge—the same baby can be gestated in the Global South? What if the “Western” lean, sporty, and paranoid beauty standard further amalgamates with high performance economies? What if the seemingly “natural” fixation on individual genetic progeny and capitalist technological progress mesh again even more?
4.5.2 [Uterosourcing]

Dr. Nayna Patel has already received requests for surrogacy by healthy, heterosexual, and single clients. They seem to prefer surrogate gestation as a means to realize a super-romantic and hyper-individual procreation.

This means that currently, in the West, the gender-specific biological parameters of reproductive labor dissolve to some extent, whereas, on the contrary, in the Repro Colony those gender-specific means of reproduction mutate into means of production and are thereby even more exclusively engraved into women’s bodies.

The concept of “outsourcing” physically challenging, hazardous, or simply time-consuming labor to production sites in the Global South repeats itself in the outsourcing of human reproduction to deregulated reproduction sites—as uterosourcing.

I am the Avatara of Reprovolutionary Vanguards. As a researcher in repro-tech’s progressions (the constellation called incessant optimization), I am interested in the consequences of this updated form of so-called primitive accumulation. I am interested in what I see as the biotechnological subsumption of the reproduction of life under the principles of Uterocapitalism.
4.5.2 [The Well of Life as Optimization of the Reproduct]

Incessant improvement of production brings forth an optimization of reproduction. Improvement of the product yields optimization of the reproduct. The eugenics program of National Socialism was called Lebensborn—an old German expression for the Well of Life. With it, reproduction was put into the service of the “people’s body” and the nation. Single women constructed as genetically German were bred with ideologically German men. The program thus functioned as human-genetic-material optimization by way of selecting parents; this state-run and authoritarian program currently finds its ghostly revenant in globalizing repro-tech industries.

For each in vitro fertilization, between twelve and twenty-four stem cells—also called single-celled embryos—are produced. Today, they are already routinely screened for hereditary defects by means of pre-implantation diagnostics (ePID). Only genetically “healthy” embryos are implanted, and hence ePID functions as a quality control for a constructed “normal” in reproduction: again, an insurance against those constructed as deficient and unfit for the reproduction of humanity.
4.5.2 [Remaking Eden]

In his book *Remaking Eden*, repro-geneticist Lee M. Silver speculates about the time when single-celled embryos are not merely selected but optimized. He hopes for "liberal eugenics," a set of practices that allows individuals to improve the genome of their progeny without amounting to a state-run program for the reproduction of a new master race.

Silver projects that liberal eugenics will grow at an unimaginable speed, not only because of increased computational power, but precisely because in the sites of reproduction in developing countries the state is mostly absent, its laws guided only by economic criteria such as growth and competition for foreign investments. As a result, he predicts the emergence of the "genetically rich," meaning enhanced, and the genetically poor, as in "natural."

According to him, investments into one's own reproductive materials might lead to a point in which any gene flow between these two classes of humans is first frowned upon socially and then biologically impossible, as the new genetic bourgeoisie and the genetic proletariat cannot reproduce with one another anymore without technological assistance.

Similar to the emergence of classes from various distinct social milieus in the nineteenth century, the current formation of genetic classes sees the species of *Homo sapiens* breaking apart to form a new, technologically produced species.

4.5.2 [Repro-communism in the Context of Societal Reproductivity]

In this mythic present, I return as a figure of the past: I declare myself a communist. A communist with futurist training, with no anachronistic fixation on *WorkerMen*. A communist without fetishizing industrial production, its love for steel, coal, and cotton.

I am Transformella, a repro-communist. I am a Reprovolutionary of Ovufactories—Avatara of Reprovolutionary Vanguards.

When the airplane was invented, moving on the surface of the earth became one option among many. As in vitro fertilization is here for humans to use, bio-children are just one among the many ways to reproduce the species. The way we gestate children in the future will be determined not only indirectly by forces of production but also by its direct means of reproduction. Accordingly, we need a new term, which we will call reproductivity.
As a futurist communist, I as Transformella have a different idea about how to deal with techno-enthusiast yet dystopian desires to optimize humankind. Beyond the traditional Left, Lenin’s question remains: What is to be done? I as Transformella suggest that it is not enough to become Luddites of biotech’s repro-machinery. As communists we should appropriate it for our ends.

4.5.2 [Repro-communal Tribes in Reprovolution]

Let’s start to research new models of reproduction by means of these machines.

Let’s think procreation once again in the context of society, rather than confined to the privacy of the nuclear family.

Let’s reproduce beyond romantic relationships and beyond two-person couple relations.

Let’s form multisexual, polygendered, technologically assisted parenting tribes featuring three, four, or more individuals.
Let’s collectivize our genes in these tribes and liquefy progeny as property instead of optimizing it.

Let’s invent actualized, libertarian, repro-communal tribes to face the heteronormative family model and capitalist liberal eugenics.

Let’s meet the productive forces of biotech at eye level with social experimentation instead of distributing the unequal technological reproductivity among global societies.

Let’s pit the width of our social and political imagination against the narrow accelerations of technological progress.

Socialize reproduction!
For repro-communal reprovolution!

This text is adapted from Transformella generalis’s version 4.5.2 (2014).

1 In 2018, India outlawed commercial surrogacy.
Running Out of Time:
On the Long Now
and Microfutures

“You don’t see yet, Genry, why we perfected
and practice foretelling?”
“No—”
“To exhibit the perfect uselessness of knowing the answer to the
wrong question.”
—Ursula K. Le Guin, *The Left Hand of Darkness*

After World War II, the Belgian politician and theorist Hendrik
de Man proposed that humanity had entered a stage of *posthistoire*. A for-
mer socialist who had turned fascist sympathizer and collaborator, de Man
noted that history is man-made and that it no longer appeared pos-
sible to assert human agency in the wake of WWII and Hiroshima.¹ In
theorizing this notion, de Man invoked the nineteenth-century mathe-
matician Antoine Augustin Cournot, a theorist of chance who had intro-
duced probability into economic analysis. Cournot argued that society
keeps getting more organized and therefore more predictable, until it op-
erates “like a beehive, a virtually geometric pattern.”² If Marx identi-
fied the “end of prehistory” with the end of the “antagonistic” bourgeois
mode of production and the proletariat’s assertion of conscious historical
agency, then Cournot likewise posited an end to antagonism, but it took
a very different form: that of a society of permanent feedback and self-
regulation.³ De Man interpreted this vision as a dystopia, as Perry Anderson
has stressed: “In de Man’s version of post-history, rational administration
is emptied of its reason, and Cournot’s sceptical meliorism turns into nu-
clear pessimism.”⁴

The historicisms and futurisms that have proliferated in modernity
are two sides of the same coin. The past may be history, but history cannot
be relegated to the past. In the modern conception of history, it is regarded as unfinished business, as an ongoing process, as Raymond Williams has emphasized. Not even the most ardent nineteenth-century idealist or Marxist would have assumed that the future possesses the same degree of historical reality as the past—though the latter is, of course, always subject to reinterpretation on the basis of traces that historical events have left behind. Future history may be more or less teleologically preordained, but it still awaits actualization. The council communist Anton Pannekoek, for instance, acknowledged that while the “significance of Marxism is often expressed, by saying that it presents, for the first time, a natural science of society,” this expression has to be taken with a grain of salt:

Through the immense complication of social relations “laws” of society are much more difficult to discern, and they cannot now be put into the form of exact formulas. Still more than in nature they may be said to express not the future but our expectation about the future.

What, then, is the relation between the performative aspect of such “expectations” and the unfolding of history?

Fredric Jameson has long insisted on the weakening of the “sense of history,” or of “historical consciousness,” in postmodernity, which is marked by a spatialization of culture and by a focus on presentness over long duration: “In this new dialectic of omnipresent space and the living or temporal present, history, historicity, the sense of history, is the loser: the past is gone, we can no longer imagine the future.” The sequence “history, historicity, the sense of history” is intriguing: it is not quite clear whether these are meant as synonyms or as a progression. Can history be equated with “the sense of history”? This very decline, with the concomitant short-termism and blindness to consequences, produces a history devoid of futurity, a history beyond human agency. What we see today is history racing forward, downward, despite, or because of, the decline of historical consciousness.

One symptom of this decline would be the cartoon futurism known as accelerationism, which in some cases presents a caricature of a caricature of Marx: the development of capitalism has to be accelerated before breakdown and radical change become possible. For Maurizio Lazzarato, this means that the accelerationists have picked the wrong century: they apply a linear, teleological, nineteenth-century approach to the present—history as a train rushing into the future on a straight track. In fact, if one traces accelerationism’s antecedents, it becomes clear that it is a version
of nineteenth-century historicism. Both in its liberal-capitalist and in its socialist and communist versions, it ideologizes the transformative power of modern technocratic rationality. As good posthumanist and postcolonial post-postmodernists, we may reject accelerationism’s “train theory of history” model, but our theoretical objections will not stop the train from hurtling down the tracks. The weaponized, transformative, operational logos of modern technoscience has redesigned the world, and increasingly unmanageable side effects proliferate.

Today’s expectations of the future—and current methods for assessing future scenarios and risks—have a performative effect; they can challenge or perpetuate a seemingly entrenched present. Our graph culture revels in showing the accelerating crisis in the form of rising CO₂ levels and temperatures. Much neo-futurism and neo-futurology is in fact a disguised presentism: it is designed to prolong a privileged present into a predestined future that is the property of the Peter Thiel and Jeff Bezoses of this world. What, then, are the intellectual, cultural, social, and political effects of contemporary strategies for projecting futures? As aesthetic strategies, how do they make sensible particular forms of historicity and futurity? What forms of aesthetic politics are at stake in the various historical mappings and forecastings?

**Acceleration and Long Duration**

In the 1930s, Alexandre Kojève interpreted Hegel’s master-slave dialectic as the fundamental principle of history, and posited an “end of history”: the cessation of conflict between masters and slaves and the realization of the “universal and homogenous state.” In claiming that Hegel had been convinced he’d witnessed the end of history at the Battle of Jena, Kojève attributed a theory to his predecessor that was actually his own. Hendrik de Man, too, acted as a theoretical ventriloquist when he introduced the notion of posthistoire, for Cournot had never used the term. However, de Man does not misread Cournot as radically as Kojève does Hegel; Cournot did, in fact, argue that history as une histoire, chronicling deeds by heroic individuals, was ending as society approached a state marked by statistical data, regulations, and nominations to be logged in an official gazette. While Cournot’s view of society sometimes seems to prefigure later forms of socialist planning, it is also striking that his beehive metaphor foreshadows contemporary notions of swarm intelligence, pattern recognition, and forecasting on the basis of big data. For de Man, it was clear that all of Cournot’s calculations and patterns do not amount to conscious human control over society. Hiroshima signaled that posthistoire
would not be the end of history-as-conflict, but conflict unchained from any all-too-human sequence of events.

At the time when de Man wrote his pessimistic late works, Norbert Wiener and others were developing the discipline of cybernetics. Drawing conclusions from their work in the war (on self-guided missiles, for instance), these intellectual technocrats sought to develop analytical tools and protocols for the “steersmanship” that was needed in the new age of communication and control. As Orit Halpern notes, the central cybernetic notion of feedback as the adjustment of future conduct by past performance was supposed to have put an end to causality, but not to telology: rather than a causal universe ruled by intentional acts, Wiener’s cybernetics posited a probabilistic world of effects. The question of the extent to which the cybernetic paradigm was compatible with dialectics would preoccupy many during the 1960s and ’70s: could cybernetic feedback be “dialecticized”? In any case, de Man would likely have regarded cybernetics as a doomed attempt to control what was now a nest of hornets rather than a beehive.

While Cournot limited history to human history, and even to a “properly” historical phase between early primitive societies and the coming era of statistical control, this anthropocentric perspective was challenged in the nineteenth century by the discovery of geological deep time and the reconstruction of extinct species. In the understanding of nature, time’s arrow triumphed over time’s cycle (to invoke Stephen Jay Gould’s classic study): the historicity of the nonhuman world was asserted. While this led to a certain Darwinian naturalization of nineteenth-century capitalism and colonialism, it was only with the widespread acknowledgment of anthropogenic climate change in the early twenty-first century that, as Dipesh Chakrabarty put it, the collapse of the distinction between natural history and human history was sealed. Deep time accelerates; time’s arrow begins to burn mid-flight. De Man’s book Vermassung und Kulturverfall (Massification and Cultural Decline) contains a schema of this acceleration of history: from the formation of the earth (two billion years ago) to the atom bomb (seven years ago, at that time), history progressed ever faster, with the periods becoming ever shorter once human life emerges (some 650,000 years ago, according to de Man’s diagram).

For de Man, the data shows an accelerating movement that spirals even further out of control after Hiroshima, and must be near its end. It is a graphic illustration of a world running out of time after having reached “peak history.” The fact that de Man acknowledges the doubtful accuracy of his ancient data only makes their inclusion more striking: clearly
something compelled him to begin his chart two billion years ago. Having recently worked for the Belgian branch of the “Thousand-Year Reich,” de Man must have been acutely aware of the ephemerality of world-historical projects in the vastness of time and space, and as his timeline runs out of history—human history—it surreptitiously becomes more anthropocentric, and ultimately “anthropocenic.” Today, of course, the first successful atomic bomb test at Trinity Site, New Mexico, in 1945 is widely regarded as a crucial marker of the Anthropocene—or, to counter the problematic aspects of blame on “the human species” rather than on a certain mode of production wrought by the West upon the world: the Capitalocene.19

The speeding up of time, the shortening of intervals, has been addressed by a number of artistic and other practices from the context of neovanguard and counterculture. In the 1960s and ’70s, when the instant annihilation of all life on Earth had become a real geopolitical possibility, the temporal horizon of contemporary art started to expand drastically—even beyond the stone age. Robert Smithson’s speculations on deep time, dinosaurs, and entropy in works such as the photo essay The Monuments of Passaic (1967) and the film Spiral Jetty (1970) placed art on timelines so extremely different from those of conventional Western art history, spanning from the Big Bang to the heat death of the universe. An extreme example of the “deep time turn” of art in this period is On Kawara’s One Million Years, a chronological list of two million years in two parts: One Million Years (Past) and One Million Years (Future), the former dedicated to “all those who have lived and died” and the latter to “the last one.” Physically, the work takes the form of twenty volumes, each of which contains binders of page after page of consecutive years. The piece was conceived in 1969 and finally published as an edition in 1999; the Past volume contains the years 988,031 BC through 1969 AD, while Future comprises the years 1993 AD to 1,001,992 AD. There is a curious gap between 1969 and 1993: a blank space that one could characterize as the piece’s present, which happens to be coterminous with a period that marked the transition from the emancipatory upheavals of the late 1960s to the fall of the Berlin Wall and the triumph of neoliberalism.

Significantly, during this interim Kawara began to give the piece a different kind of temporal presence: in 1993, beginning at the Dia Art Foundation in New York, he started to organize public readings (and recordings) from the volumes in museums and other art spaces.20 Something is happening here: the museum of the past becomes a museum of the present. Reading aloud Kawara’s past and future millennia contributes to a presentist event culture that is all about the modulation of time to create zones of intensity. These microevents do not mark a rupture,
which is what historical macroevents do. The historical event is necessarily anachronistic, an interruption of the scripts that manage the present. Peter Osborne has defined the true event as the dialectical negation of the expected. The event is, then, a crisis of any understanding of the dialectic as a predictable unfolding of historical logic. Hence the importance of the notion of the event in contemporary theory at a time when the future is in doubt and appears to be beyond conscious human control—or certainly the control of progressive forces. In Kawara’s piece, time continues to elapse, seemingly the same as it ever did, but the work’s suggestion of vast duration is somewhat undercut by the readings and their part in the culture of microevents that negate the negation of the expected: a culture of short-termism, of bite-sized nuggets.

If Kawara’s piece stages a disjunctive synthesis of represented deep time and microevents, Danny Hillis and Stewart Brand have attempted to make the slow march into the distant future sensible in real time by constructing a mechanical clock that would run for ten thousand years. Created in the late 1990s, their Long Now Foundation argues that society is suffering from myopic short-termism:

Civilization is revving itself into a pathologically short attention span. The trend might be coming from the acceleration of technology, the short-horizon perspective of market-driven economics, the next-election perspective of democracies, or the distractions of personal multitasking. All are on the increase. Some sort of balancing corrective to the short-sightedness is needed. This line of questioning is clearly indebted to the 1972 Club of Rome report, *The Limits to Growth*. The project team at MIT developed a “world model” called World3, which was used for computer simulations of various futures—usually on the basis of expected exponential growth in population and pollution, and depletion of resources. Depending on what kind of feedback the world model was given, the seemingly unavoidable ending could be faster or slower—but on a planet that, in terms of resources, constituted a closed system, the depletion of resources was impossible to prevent altogether. The team sought to curb “the positive feedback loops that are generating the growth,” which meant reducing population growth and the growth of industrial capital. Different scenarios were calculated and turned into graphs. Once technological
innovations were added to strict restrictions on population and industry, a “stabilized world model” resulted; a state of equilibrium in which resources decline at a slow and constant (rather than accelerating) rate, but in which the other factors are in balance. The chapter on “the state of global equilibrium” adds a final figure after the graph that showed how sustainable equilibrium could be achieved. This was based on the assumption that the relevant policies would be instituted in 1975; the final figure, on the other hand, showed the consequences of delaying this until the year 2000, by which time “the equilibrium state is no longer sustainable.”

Brand has undercut his “long now” stance in various ways: by advocating space colonization in the 1970s, suggesting that the whole earth was destined to be left to its own entropic fate by an elite of (American) space pioneers; and, more recently, by his TED Talk—compatible pleas for “de-extinction” as a viable strategy for bringing back everything from dinosaurs to the dodo. Deep time becomes instant time; within the Anthropocene, millions of years become reversible. As if to dispel the uneasy sense that we might ourselves be dinosaurs, we dream of bringing back the T. rex and diplodocus. Perhaps the name “Long Now” is more apt than its authors realized; the logic at play here is ultimately one of prolongation of our now. Brand’s universalizing abstractions barely gloss over the fact that what is proposed is the temporal extension of a corporate-liberal status quo. It is more urgent to reverse engineer extinct dinosaurs or to prepare an escape from the current planet of primates than to address ever exacerbating inequalities. Tellingly, Brand’s old pet project of space colonization has been taken up once more by Silicon Valley entrepreneurs such as Elon Musk. The long now belongs to the global superelite, which is already preparing to shed an uninhabitable Earth while the rest of us are living from day to day on a dying planet.

Trevor Paglen’s 2012 project The Last Pictures, which involved shooting a collection of images into orbit around Earth on a communications satellite, forms an intriguing counterpart to Brand and Hillis’s endeavor. For all his critical claims, Paglen has a techno-sublime fetish for the computational prowess of algorithmic intelligence, and for the monumental vastness of a posthuman future: “Our communications satellites will, in all likelihood, really be in orbit around Earth for the next four or five billion years.” Paglen characterizes his orbital archive, which contains images of cave paintings as well as of twentieth-century life and events, as a collection of images in orbit for the “descendants of future dinosaurs or giant squid to find.” Yet although Paglen aims explicitly for a posthuman future—a contrast to Brand and Hillis—the project’s real intended audience does not, in fact, consist of future cephalopod astronauts.
Produced by Creative Time, *The Last Pictures* is part of today's attention economy; those viewers who don't have access to private bunkers, islands, or space pods get the thrill of their own obsolescence.

**Forecasts and Scenarios**

Brand and Hillis's Long Now is informed by two developments in which the duo has participated: the emergence of futurology and "scenario planning" in the Cold War, and the rise of high-speed computing. Brand and Hillis's consternation at short-termism was all the greater as they had placed much stock in the emancipatory potential of the digital revolution—with Brand, of course, being the key mover behind the *Whole Earth Catalog* in the late 1960s, and the WELL (Whole Earth 'Lectronic Link) in 1985. By that time, Hillis, the clock's designer, was working on parallel computing, which is at the basis of today's superfast computers that enable algorithmic trading; Hillis is a veteran of acceleration. The Long Now is thus a direct response to the preponderance of algorithmic trading: banking with and on timespans beneath the threshold of human perception, measured in micro- or milliseconds. The future is ever shrinking, moving even closer to the micro level, and short-termist microfutures are everywhere: in finance and economic policy, in climate politics.

With "microfutures" I refer not only to financial speculation on the scale of milliseconds but also to the general reversal of futurity into a series of "shorts," momentary advantages to the detriment of anything that might constitute a bigger picture. The general logic of techno-financial microfutures has also asserted itself in the rise of options and futures markets (in contrast to futures, options grant the right—but not the obligation—to buy shares at a fixed price on a set date). Joseph Vogl has pointed out the importance of Milton Friedman's 1971 plea on behalf of the Chicago Mercantile Exchange to use the end of the Bretton Woods system, and the resulting volatile exchange rates, as the basis for the "creation of new financial markets and futures trading in foreign currencies," specifically markets for currency futures contracts. It was not only currencies that were subjected to this second-degree abstraction; stocks, too, became the basis for financial derivatives such as options. Today's options markets rely on algorithms based on the mathematical model developed by Fischer Black and Myron Scholes in the early 1970s. They devised a formula that calculated the average volatility of stock, thus allowing investors to predict a future price. This made the options market much more attractive. The model had a performative effect on the construction of derivates
markets. As Brian Holmes has put it, the Black–Scholes model was in effect a “world model” that became a reality. Yet the reality created by the model is limited and fragile. It assumes a statistic regularity and continuity based on the past; it cannot predict crashes, or any of the social, political, and ecological upheavals that might have an impact on the seemingly autonomous and automated sphere of finance. As Warren Buffett noted, it is also not accurate on large time scales: “If the formula is applied to extended time periods [...] it can produce absurd results.” Meanwhile, algorithmic trading can trigger flash crashes.

The Black–Scholes model became operational in the context of the Chicago Board Options Exchange, which opened in 1973; Holmes points out that Fischer Black sold traders paper printouts of his estimates. Zachary Formwalt references the opening of the options exchange in Chicago in his film An Unknown Quantity (2015), which was shot in architect H. P. Berlage’s 1903 Amsterdam exchange building. Formwalt scanned the empty hall of the former grain exchange, and later options exchange, with a GigaPan camera, generating a hyperreal panning and zooming movement through frozen space. Part of Formwalt’s voiceover concerns the development of the stock index. The index is a representation of the movement of prices on the market. However, its indexicality is a mediated one: it is an abstraction based on cumulative results. The old stock ticker has been digitized, and the stock index itself has become an option, traded on the options market. Market movement becomes speculation on future movement; microfuture eats itself. Though Formwalt’s film appears to be based on a rather familiar narrative about a shift from concretion to abstraction, from grain trade to rarefied financial products, the film shows how technoscientific abstraction reshapes concretion itself—literally so in the GigaPan remapping of Berlage’s space.

In 2011, Andrea Fraser published the graph Index, which shows a correlation between the rise in the Mei Moses All Art index and rises in US income inequality and the S&P 500 Total Return index during the same decades. Financial indexicality times two. Correlation may not be causation, but it seems clear that forms of “deregulation” have been good for the 1 percent, or the 0.1 percent, and, as a consequence, for the art market. In other words, “what has been good for art has been disastrous for the rest of the world.” Now that growth has been replaced by ongoing wealth redistribution and by “jobless recovery” after each crisis, resulting in a prolifération of both surplus populations and surplus capital and a breakdown in the reproduction of the capital-labor relation, the autonomy of art has been perversely realized as the autonomy of finance: art as a financialized product seemingly immune from crisis. However, as Eric de Bruyn notes
concerning Formwalt’s work, with reference to Joseph Vogl, as much as financial (media) technology may attempt to suppress noise, the “radical contingency of an uncertain future” will end up reasserting itself over algorithmic risk management—in art as in finance, and in art-as-finance. Financialized art’s seeming autonomy from crisis is in fact dependent on a careful concealment of the heteronomous factors that enable it.

Elena Esposito has argued that human forecasting of the future (for instance, in the form of Marxist projections) is ultimately impossible; we keep projecting present futures but cannot arrive at the future present. Nonetheless, in a more recent lecture, Esposito has sketched a Cournot-style probabilistic world in which algorithmic prediction is perfectly feasible and operational, and far outstrips human forecasting. By processing vast quantities of data, algorithms can detect patterns such as “vegetarians miss fewer flights.” Find the correlation, and you don’t need a theory. Forecasting might provide a reasonable estimate of how many ice cream cones will be sold in Berlin next summer, but prediction will tell interested parties which Berliners will buy an ice cream, and when. Or indeed, which Facebook users might respond to which form of microtargeting during an election campaign. Consumers already get suggestions on a daily basis about what they may want to buy next, and each purchase makes the predictive apparatus more accurate.
The conceptual pairing posited by Esposito needs to be treated dialectically. In her previous work, Esposito has in fact emphasized that the lack of information in economic decision-making and the non-acknowledgment of circularity (of the projection of the future influencing the actual future) and the resulting indeterminacy. As Esposito suggests, prediction’s blindness to its recursive effects frequently ends up producing unpredictability—thus reintroducing an element of forecasting into prediction. As a model, Black–Scholes produces forecasts, not predictions in Esposito’s sense. The model is a matter of risk management. It does not abolish risk, obviously, but rather seeks to tame it, making the future less uncertain by forever updating the model and adjusting strategies accordingly. To return to the ice cream example: What if terrorist attacks lead to a collapse of tourism? What if the uncontrollable dynamic of human-induced climate change makes it more difficult to anticipate consumer demand, or makes cooling systems collapse? Such volatility can have consequences for art (for instance, for a biennial) as well as for ice cream.

Global warming models project various likely and possible futures, with varying predictions concerning rising sea levels, depending on the smaller or greater rise in temperatures. For a number of years in a row now, each summer has been hotter than the next, but there is no guarantee that there will not be a temporary interruption of the trend. The complexity of the climate as a system generates barely predictable meteorological events: this is the nonlinearity of climate change, in which an increase in one factor (say, CO₂ levels) does not necessarily result in an equivalent increase in the other (temperature) on a yearly basis. Furthermore, accelerating and compacting trends may lead to cascade effects and tipping points. Faced with such uncertainty, better to run through different possible scenarios.

The World3 model depended on factors being constant or increasing or decreasing with some regularity; it has to exclude the contingent. By the early 1970s, however, Royal Dutch Shell was already engaging in Planpiele that focused precisely on predicting the unpredictable. In corporate histories, this is often presented as a temporal extension beyond Shell’s own previous computer model, which only predicted developments over a period of six years. The key difference, however, is not in the temporal scale but in the method. With the charismatic Pierre Wack as its key intellect, the scenario planning team at Shell did not feed data into a computer but imagined likely and unlikely plots that included one with a sharp decrease in oil delivery from OPEC countries. This is said to have helped Shell master the 1973 oil crisis better than their competitors, and scenario planning remained part of Shell’s corporate culture. Peter Schwartz took over from Wack in 1982; later, Schwartz authored The Art of the Long View:
Planning for the Future in an Uncertain World (1991) and became a sparring partner for Brand and Hillis in the Long Now Foundation.45 Brand and Hillis’s long now, then, has strong connections with the corporate version of postwar futurology.

Schwartz was critical of the futurological emphasis on extrapolating from trends, insisting instead on plotting multiple scenarios to prepare for an uncertain future. This is long-termism within the framework of disaster capitalism. For the scenario planners, World 3’s suggestion of rigorously scientific long-term prediction was a sham, and not conducive to meeting any actual challenges. Was it not the final manifestation of a postwar Keynesian capitalism with its focus on planning? Had a new world of neoliberal volatility not been inaugurated in 1971? Rather than weaponizing statistics along the lines of the Black–Scholes formula (which might work for options prices under certain conditions, but not for a company navigating an excessively complex world), scenario planners used the writer’s craft to prepare for future crises, trying to get decision-makers to consider “alternative images” rather than “extrapolate the trends of the present.” “Scenarios are not predictions,” Schwartz maintained.46 Scenarios are about surviving unpredictability. If the long now is suffused with the spirit of corporate idealism, scenario planning is capitalist realism.

**Flatlining**

All critiques notwithstanding, the World 3 approach of extrapolation and visualization has proven to have considerable agency. We seem to live inside its world model. Anthropocenic capitalism—the Capitalo-
cene—has seen a resurgence of timelines, of attempts to plot long-term developments in their seemingly inexorable linearity. With “linearity” I do not refer to linear as opposed to nonlinear graphs in a mathematical sense, but rather to the fundamentally linear nature of all graphs in which data are plotted on a temporal axis, on time’s arrow—whether they show regularly climbing lines, exponential curves, or wild oscillations. Nonlinear processes, too, follow the direction of time’s arrow. Temporal graphs have their own efficacy, agency, and allure. They can project future scenarios with a suggestion of spellbinding inexorability, even as they present several alternatives and seek to promote political action to prevent the worst from happening.

Today’s graph-strewn visual culture validates the World3 model on a daily basis while we reproduce the response to the Club of Rome’s diagrams in the 1970s: one of fascinated petrifaction. In Pedro Neves Marques’s animation The Limits to Growth—made for an exhibition with Mariana Silva—the lines from the World3 model projections become purely abstract, colored lines moving from left to right, drooping or climbing without giving any information about what is supposed to be represented by them.47 They make sensible the pure fascination of linear time, of curves spanning decades, or centuries, that unfold in seconds—a fascination that doubtless contributed to the success of Al Gore’s An Inconvenient Truth (2006), and which has profoundly ambiguous results; after all, these curves appear to move autonomously, beyond human agency. This is the fetishism of graphs; curves forecasting various futures continue to cast a spell in scientific as well as popular contexts.

What mattered to the authors of the Club of Rome report was the adoption of policies that would slow down undesirable developments to a pace that would benefit at least the next few generations. Four decades later, this liberal-technocratic appeal to reason and moderation has evidently been an abject failure. As Will Steffen and his co-authors demonstrate in a 2015 article, the “Great Acceleration” that truly kicked the Anthropocene into gear around 1950 shows no sign of abating.48 The timeline in the accompanying graphs always starts in 1750. A page of graphs of “socio-economic trends” show accelerating population growth, GDP, energy use, water use, tourism, and so on. A similar picture emerges from the graphs showing “Earth System trends”: the carbon dioxide curve merrily keeps on climbing, as do the lines for nitrous oxide, ocean acidification, and surface temperature. If a curve flattens out, like the one for marine fish capture, it is not necessarily a good sign, it does so not because of quota but because of overfishing.
A longue durée view that begins in 1750 minimizes a recent trend foregrounded by Marxist theorists such as Gopal Balakrishnan, who argues that “the latest phase of capitalism got an ersatz form of growth, primarily through credit-card consumerism and asset bubbles,” and that China alone cannot make up for the decline of the West. In any look at societal deep time, this registers at most as a blip at the end. In a 2014 article, Wolfgang Streeck likewise foregrounds a persistent decline in the rate of economic growth in industrial or recently deindustrialized countries, aggravated by the events of 2008, by using graphs that focus on the last half-century. Streeck also tracks related trends, such as an equally persistent rise in “overall indebtedness in leading capitalist states, where governments, private households and non-financial as well as financial firms have, over forty years, continued to pile up financial obligations,” and finally, a rise in “economic inequality, of both income and wealth.” One of Streeck’s charts shows the average annual growth rates of twenty OECD countries since 1972—the year of The Limits to Growth, which is somewhat ironic, given Streeck’s neglect of ecology and his focus on economic data.

Perversely, the long-term graphs by Steffen et al. seem to show a system that is healthy from a purely economic perspective. Steffen’s graph of the “real GDP” of OECD countries, BRICS, and the rest of the world shows a tiny halt, or decline, at the very end of the curves for all three blocs—so small that it barely seems to register or be relevant for the overall trend, which spans more than two hundred and fifty years. Streeck’s shorter time span and focus not on real GDP but on declining growth suggests a different picture. With some ups and downs, this curve plummets from 4.5 percent to 0 percent. Thus, for Streeck, the slowing down or stopping of growth (at least within the OECD) signals a possibly fatal crisis of capitalism; on the other hand, in conjunction with all the other data visualizations, Steffen et al.’s climbing GDP curve is part of a global catastrophic picture. That I’m comparing the incompatible is precisely the point, or the problem. Capitalism has always depended on the relegation of key resources into the seemingly extra-economic realm, with the latter attaining a dubious autonomy: this is the logic of “cheap nature,” in Jason Moore’s term.

In his 2013 work Monument to Capital, Jonas Staal focuses on finance capital as materialized in successive “world’s highest buildings.” Rising in defiance of anything that would make social or ecological sense, these constructions seem to embody the autonomy of finance:
The British multinational Barclays, which provides banking and financial services worldwide, annually publishes the Skyscraper Index. It was first developed in 1999 and according the Barclays it shows the “unhealthy correlation between construction of the next world’s tallest building and an impending financial crisis: New York 1930; Chicago 1974; Kuala Lumpur 1997 and Dubai 2010.”

Alongside a photomontage in a light box, *Monument to Capital* consists of a digital animation that shows a line standing for the Dow Jones index unfold across the screen, accompanied by the relevant skyscrapers. This animated timeline shows the unfolding of a frighteningly linear history—but with cyclical elements of bust and boom, as each new peak in the “Monument to Capital” that can be formed by lining up these buildings is a symptom of crisis. For the moment, the monument peaks in the Burj Khalifa in Dubai, at least as far as actually built buildings are concerned: “The competition between countries to shape the expansion of the global Monument to Capital has in itself become completely speculative, in which new, higher designs are constantly announced without any one of them actually being built.” The shift into a virtual register of pure speculation is disconcerting, yet the realized buildings are of course also material indicators of spoliation and exploitation. In contrast to a Dow curve, these concrete abstractions can be linked fairly directly to ecological folly, autocracy, and brutal working conditions. Staal proposes a desublimation of the global skyline by constructing the Monument to Capital in reverse:
To force a turning point, I propose to build against growth: to start building downward. Step by step, from the Burj Khalifa on, we formalise the Monument to Capital and force history to a halt; a break-through out of history, against history:

Next to the Burj Khalifa we build the Taipei 101.
Next to Taipei 101 we build the Petronas Towers.
Next to the Petronas Towers we build the Sears Tower.
Next to the Sears Tower we build the World Trade Center.
Next to the World Trade Center we build the Empire State Building.
Next to the Empire State Building we build the Chrysler Building.
Next to the Chrysler Building we build 40 Wall Street.
Next to the 40 Wall Street we build the Woolworth Building.
Next to the Woolworth Building we build the Metropolitan Life Building.
Next to the Metropolitan Life Building we build the Singer Building.
Next to the Singer Building we build Philadelphia City Hall.
Next to Philadelphia City Hall we build the Park Row Building.
Next to the Park Row Building we build the Milwaukee City Hall.
Next to Milwaukee City Hall we build Manhattan Life Insurance Building.
Next to Manhattan Life Insurance Building we build the New York World Building.
Next to the New York World Building we build the Auditorium Building.
Next to the Auditorium Building we build the Equitable Life Building.

We complete the history commemorated by the current Monument to Capital by extending its history into the future.55

Reversing the timeline in this manner, countering its suggestion of accelerationist and possibly posthistorical fate, is no fantasy of “turning back time” along the lines of “de-extinction” plans. Rather, it is an opening-up of historicity, of becoming. Staal’s reversal suggests instead that history is reversible—that time’s arrow can be rewound. In literal terms this is absurd, but the proposal of retracing steps along a linear path is clearly an invitation to recover alternatives never considered, timelines branching off into alternate histories, into real histories. “Actually existing history” is a nightmare from which we have yet to awake. It is a history of capitalist
imperialism, colonial violence, cultural erasures, and ecological destruction—and the Anthropocene, or Capitalocene, is its proud product. In the accelerating Capitalocene, microfutures are complemented by various “long now” projections that seek to perpetuate that same short-termist society, somehow magically stabilizing and “civilizing” it, and by grim graphs that show the seeming impossibility of achieving this. The project of rethinking and remaking historicity and futurity has barely begun.

In a discussion on “the post-contemporary,” theory hucksters Armen Avanessian and Suhail Malik claim: “We no longer have a linear time, in the sense of the past being followed by the present and then the future. It’s rather the other way around: the future happens before the present, time arrives from the future.” The Left can only see this “speculative complexification of time” as “an extension of the present rather than its thinning out by the forcing of the future or the disestablishment of the past,” which means that it won’t have “traction on the speculative present.” While this may seem like a supercharged version of the celebration of nonlinearity and anachronicity that has been prevalent in theory for some time, it is striking that Avanessian and Malik have a kind of alliance with the self-identified leftist accelerationists Nick Srnicek and Alex Williams, whose projections and demands would seem to be an extreme example of linearity. In contrast to Avanessian and Malik, the Thomson and Thompson of accelerationism still accord their readers the privilege and the duty to “demand the future,” which is indeed the only form of agency they appear to have left. As much as the alliance between the two duos may be due to a shared habitus of gaming the art world with theory bites, there is a more fundamental complicity based on a tendency to posit and glorify “the future” as de facto inevitability, as something that is beyond real contestation and thus beyond human agency.

Still, in their mythifying register, Avanessian and Malik get it exactly right. Future tipping points cast ripples in the present. A future dominated by Musk, Thiel, Trump, and Putin is indeed all but pre-given; with accelerated linearity, history has been made before most of the world has caught up with it. Scientific projections mingle with utopian and eschatological imaginaries: the space colonization beloved by Musk and Branson is a case in point. Meanwhile, Indigenous movements insist that they are not part of the anthropos that made the Anthropocene, and that there are different temporalities, different futurities. In contemporary art, a certain “indigenism” often seems to function like a “woke” version of early
twentieth-century primitivism. As the obverse of speculo-accelerationist neo-futurisms, this indigenism can be equally one-sided. Nonetheless, while the futurists exhibit great pride in knowing all the answers to the wrong questions, it is on the side of those who were traditionally not given tickets for the train of history that a futurity beyond the Future can be glimpsed: a futurity after the end of the world, on the wrong side of the frontier.

4 Anderson, A Zone of Engagement, 325.
5 Raymond Williams, Keywords: A Vocabulary of Culture and Society, rev. ed. (New York: Oxford University Press, 1983), 146–147.
9 Not surprisingly, Robin Mackay and Armen Avanessian’s #Accelerate: The Accelerationist Reader (Falmouth, UK: Urbanomic, 2014) starts with Marx’s “Fragment on Machines” (31–66).
12 Cournot, Traité de l’enchaînement, 443–444.
13 Wiener’s influential Cybernetics, or Control and Communication in the Animal and the Machine was published in 1948.
15 One attempt to use cybernetic notions such as feedback in a materialist/ Marxist manner is Harun Farocki and Hartmut Bitomski’s film Die Teilung aller Tage (1970).


22 http://longnow.org/about/.

23 http://longnow.org/clock/.


29 Ibid.


31 See Hillis’s bio at http://longnow.org/people/board/dannyo/.


36 Holmes, “Information’s Metropolis,” 35.


38 Andrea Fraser, “L’1,9 % C’est Moi,” Texte zur Kunst, no. 83 (September 2011): 122.


41 Ibid.

42 Elena Esposito, The Future of Futures: The Time of Money in Financing and Society (Cheltenham, UK: Edward Elgar, 2011), 9–14, 18–35. In this sense, “Blindness and the Power of Algorithmic Prediction” represents a regression in its somewhat Baudrillardian response to the rise of big data, metadata, and predictive algorithms. Stating that “we cannot know the future, but algorithms can” does not really get us anywhere, even if it a striking articulation of the rise of machinic prediction.
Ibid., 31–35.


54 Ibid.

55 Ibid.


57 Avanessian co-edited #Accelerate, which prominently featured Srinicek and Williams’s manifesto, and Avanessian and Malik also included a contribution by Srinicek and Williams in their Der Zeitkomplex: Postcontemporary (Berlin: Merve, 2016).

58 James Clifford has applied the term indigenism to the international Indigenous resistance movement that has emerged since the 1990s; see James Clifford, Returns: Becoming Indigenous in the Twenty-First Century (Cambridge, MA: Harvard University Press, 2013). In art, this has led to forms of aesthetic indigenism that range from the neoromantic/primitivist to sustained and cogent attempts to remake artistic and curatorial practice.

59 The reference is to Déborah Danowski and Eduardo Viveiros de Castro, The Ends of the World (Cambridge: Polity, 2017), and to Vivian Ziherl’s curatorial platform Frontier Imaginaries.
3. Science Fictions

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Film still from NASA, Space Colonization, 1975
In September 2017, Representative Jim Bridenstine, Republican of Oklahoma, was nominated by President Trump to head the National Aeronautics and Space Administration (NASA). On November 8, after a contentious hearing, the United States Senate Commerce Committee voted 13–14 (along party lines) to send the nomination to the full US Senate for confirmation. His appointment was confirmed on April 19, 2018, and he assumed office four days later, becoming the first elected official to head NASA.\(^1\) With no scientific or technical training, Bridenstine’s qualifications for the appointment ostensibly derive from his experience as a Navy Reserve pilot and his position as executive director of the Tulsa Air and Space Museum & Planetarium. But perhaps more important than his military or entertainment profile, he is a vocal denier of climate science, refusing to acknowledge the impact of human activity on climate change. Moreover, in a flashback to a proposal launched in the mid-1970s by Princeton University physics professor Gerard K. O’Neill, Bridenstine announced that Earth’s moon should be mined for fuel and that it should serve as a “proving ground” for travel to Mars, the latter a key aspect of Trump’s “Make America Great Again” space agenda.\(^2\) But if O’Neill claimed (somewhat cynically) that strip-mining the moon would be in the interest of saving Earth’s environment, Bridenstine makes no such claim. We might recall, here, that among Trump’s earliest post-election-victory announcements was a plan to cut NASA’s budget for Earth science research—environmental monitoring and climate change studies being rejected as “politicized science”\(^3\)—and to redirect the agency’s attention back to outer space exploration. Responding to perceived threats to US security born of resource scarcity, pollution, and population growth in the developing world, NASA had switched focus from outer space to Earth in
1976, after closing the heroic Apollo program in 1972 and manned expeditions to Skylab in 1974.

Seeking to reverse that reversal, and proposing to boost the role of private companies such as SpaceX and Blue Origin in NASA’s future space missions, Bridenstine sponsored the American Space Renaissance Act (ASRA) in April 2016, announcing that “the purpose of this bill is to permanently secure the United States of America as the preeminent spacefaring nation.” If Britain was the preeminent seafaring empire at the height of colonial rule on Earth, the US would update this paradigm for a neocolonial world order. Alluding to the shock of the Soviet Union’s 1957 launch of Sputnik, Bridenstine recently declared, “This is our Sputnik moment.” The ASRA bill breaks down into national security, civil, and commercial goals, each calling for architecture and infrastructure research. Although details have changed—notably the unanticipated importance of space debris and satellite communication—I want to suggest that the military, psychological, and economic agendas at work in this “renaissance” are informed not just by NASA’s heroic period (although imagery of the first space race remains key) but by the complex of nationalism and privatization fostered by Professor O’Neill under the seductive language of providing technoscientific aid for global humanity. As reported in Scientific American with some alarm in July 2017, “Echoing Trump’s ‘America first’ theme, [Vice President Mike] Pence said Trump intended to carry nationalism into space with renewed emphasis on human space exploration and discovery ‘for the benefit of the American people and all of the world.’” Reversing NASA’s decades-long participation in international partnerships, the Trump administration now calls for “American boots on the face of Mars.”

In the following, I want to offer vignettes from a larger project on space colonization in the mid-1970s, which act as a partial prehistory of this recent turn of events and a demonstration of the manner in which these futurological fantasies continue to haunt the present, making claims to alternative futures and the subjects they subtend. Here I want to focus, in particular, on claims to self-sufficiency and self-governance as they played out within architectural and political imaginaries, making claims in turn about the instrumentality of infrastructures as they operate as financial, legal, and semiotic forces. In seeking to uncouple people not only from their place of citizenship but from Earth (and hence from the terra in territory) and relocate them in a post-planetary domain, O’Neill’s vision of space colonies rendered social, psychological, political, legal, and even geographic factors all potentially subject to redesign and technoscientific management. We also find a struggle between reviving
archaisms and projecting unstable futures, for which architecture is not incidental. The fact that space colonies existed only in a distant future meant they were often cast through an “estimate of probabilities,” a profoundly unstable ground.6 Revealing limits to architectural projections, the artificiality and uncertainty of these vast environmental machines solicited competing claims about the forms of life they might sustain, about how to imagine, script, and even secure the human subject as a productive force within an environment or territory.

Although dating back to 1968, O’Neill’s vision for space colonization first made headlines in May 1974, when he convened a conference on space colonization, the first of two conferences on the matter at Princeton. As reported by Walter Sullivan, a prominent science journalist for the New York Times, O’Neill envisioned that space colonies would be liberated not only from gravity and friction but also from inhospitable climates, material scarcity, “large scale governments,” and other Earthly threats.7 The colonies, according to O’Neill, were initially to take the form of a pair of giant cylinders rotating to simulate gravity, with alternating strips of land areas (valleys) and windows (solars), the shells fabricated from metal cables “bunched to form a coarse mesh in the window areas” and subdivided into smaller glass or plastic infill panels.8 The interiors of these man-made habitats would replicate, or so O’Neill insisted, the most beautiful parts of Earth, exemplified for him by Carmel Bay, California; the Grand Teton mountains in Wyoming; the island of Bermuda; and “attractive villages in Italy and Southern France.” With an abundance of material goods, endless sunshine, “virtually unlimited” resources harvested from the moon and outer space, freedom to circulate, and as he repeatedly underscored, “independence from large-scale governments,” pioneering colonists were promised attractive, self-sufficient, profitable, Earthlike environments.9 Yet, unlike Earth, there would be no unproductive workers, no pollution, no limits to energy consumption, no garden-destroying pests. Fresh strawberries would be available throughout the year.10

Confidently pitching science-fiction-like narratives as rational scientific solutions to the world’s problems, O’Neill offered truly fantastic projections of the emigration rates, population growth, and (through an avowedly “bootstrap” plot) rapid self-replication of space communities.11 Starting with the small, higher-density Model 1 colony (soon to be called Island One and from which the others would be fabricated), he estimated that by 2074 “more than 90% of the human population could be living in space colonies” such as his models. Although not necessarily desirable, he speculated that there would be room to expand the human population by a factor of 20,000.12 Here was an exponential growth curve that did not
herald an imminent doomsday, unlike neo-Malthusian systems studies like Jay W. Forrester’s *World Dynamics* (1971) and the Club of Rome’s *Limits to Growth* (1972), both critical interventions into the 1972 United Nations Conference on the Human Environment in Stockholm. O’Neill’s diagrams indicated Earth’s population numbers decreasing while those in outer space spiraled upward on account of unlimited resources. With industry and populations relocated to outer space, Sullivan reported, Earth would be left with “few permanent residents. It would be ‘a worldwide park, a beautiful place to visit for a vacation.’”

As evident in the *Times*, this rosy vision was haunted by a constellation of contemporary anxieties: the Columbia physicist Professor Gerald Feinberg, Sullivan reported, “said that in a world threatened by nuclear devastation or catastrophic pollution effects, colonies in space would provide insurance for the continuity of the human race and other life forms.” That is, life itself was at stake. Feinberg, too, mobilized the Jeffersonian appeal to self-sufficiency and self-government, drawing analogies to the colonization of the Americas to suggest that space colonies would “tend to be independent” and “could provide a haven for dissidents and would offer the advantages of small, independent political units.” Sullivan concluded by alluding to another specter: “Within the solar system, Dr. O’Neill pointed out, there is plenty of room for colonization without shooting any Indians.”13 “In contrast to our experience with expanding civilizations on Earth,” O’Neill had explained, attempting to distance himself from colonial violence, “in space colonization there would be no destruction of indigenous primitive populations; nothing corresponding to the Indian wars of 19th century America.”14 Space colonization was repeatedly likened to European discovery of the New World and the ideology of Manifest Destiny associated with the nineteenth-century American frontier: at a moment when US expansion and economic growth seemed threatened by resource scarcity, environmental degradation, nuclear fallout, or political pressures both at home and from developing countries, including the oil-rich nations of OPEC, space colonization promised continuity in US economic supremacy and “pioneering” know-how.

In addition to outlining technical and scientific details behind his inflated claim that self-sufficient space colonies were achievable in the next decades, O’Neill’s 1974 *Physics Today* article underscored that colonization held the promise of solving not only the US’s but moreover the world’s major problems by offering an abundant clean energy supply, the protection of the biosphere, the expansion of living space, and even the equalizing of living standards. Adding the question of security to that of scarcity, territory, and population, he claimed nothing less than world peace to be at stake:
I hesitate somewhat to claim for space-colonization the ability to solve one other problem, one of the most agonizing of all: the pain and destruction caused by territorial wars. Cynics are sure that humanity will always choose savagery even when territorial pressures are much reduced. [...] Yet I am more hopeful [...]. The history of the past 30 years suggests that warfare in the nuclear age is strongly, although not wholly, motivated by territorial conflicts; battles over limited, nonextendable pieces of land.  

It was powerful rhetoric. NASA, with its federal funding in decline, recognized an opportunity and in May 1975 co-convened the second Princeton conference, “Space Manufacturing Facilities (Space Colonies),” expanding the roster from university physicists to include experts from large corporations, the US government, and military agencies, as well as from legal, diplomatic, social-scientific, and management realms.

I want to turn briefly to how architecture fitted into this picture before returning to economic and geopolitical concerns. Two presentations at the 1975 conference stand out: MoMA curator Ludwig Glaeser’s “Architectural Studies for a Space Habitat” and systems scientist Magoroh Maruyama’s “Diversity, Survival Value and Enrichment: Design Principles for Extraterrestrial Communities.” Both appeared in the section “Human Considerations,” and both were unillustrated, albeit for different reasons.

While the commonly assumed role for architecture is that of designing spaces for human protection, comfort (physical and psychological), and sociability—imagining forms and organizational logics that might script new forms of life within a space colonization apparatus—Glaeser refused to offer any such visualization, also refusing O’Neill’s simulation paradigm. While astutely aware of their marketing value, he dismissed “images of the fabulous interiors of space habitats” as premature, much to O’Neill’s frustration. “It may well be,” Glaeser posited, “that the very artificiality of such a simulation approach would be a source of stress in itself—the stress of a schizophrenic existence in which the inhabitant is asked to accept the illusory as the real.” 16 Glaeser insisted, instead, that architects shift from aesthetic to regulatory modalities, that they recognize the strategic importance of capturing the colonial subjects’ imagination and productivity in a more everyday, but also more dispersed, invisible, and totalizing fashion than representational strategies might be able to do. Indeed, we might say, he understood that the locus of power had shifted from the disciplinary realm to more variegated and dispersed domains of subjective regulation and control. Glaeser acknowledged the potential stress caused by the “unprecedented perceptual phenomena” born of
an inside-out world, including the evident curvature, peculiar topology, and scale distortions of an enclosed space, along with the reflected lighting, mechanical control of day and night, and artificial atmospheric pressure and climate. In his view, the architecture within this new New World would function not visually but as a “mediating mechanism” between the outer shell of the space colony (what he called “an unadorned, large void,” designed by engineers) and what he called the “existential requirements” of its carefully selected population. He cast the shell and the population as two sets of “givens” that had to be “brought together into one functional system” through design: it was a hyperfunctionalism conceived for an artificial milieu; an architecture integrating not just material but also physiological, cognitive, social, communicational, and cultural parameters into an apparatus that would serve to more effectively govern—manage might be a better word—the subjects suspended within it.

Having rejected forcing outer space environments to conform to the “conception and habits of a population raised on Earth,” Glaeser offered two scenarios. The first was to train the space colony population to adapt physiologically and cognitively to an artificial environment, using behavioral control techniques such as biofeedback, transcendental meditation, or operant conditioning. If, as he optimistically posited, a social engineering approach “provid[es] optimal predictability about the behavior of the inhabitants,” it “raises the specter of creating a society designed to fit the constraints of life in Model 1, but potentially ill-suited for life in larger models or on Earth.”17 His preferred direction was to conceive of the architecture as an “open-ended opportunity system, one capable of facilitating the greatest number of activities in space with the greatest amount of flexibility in time.”18 Here, he posited (seemingly without irony), lay the “closest possible fit between the habitat and its population,” both now understood as subject to continual change. Refusing modernist desires to “plan a single environment which anticipates and details all possible needs,” and channeling experimental architects’ obsession with cybernetics, Glaeser proposed that the architecture be open to spatial alterations over time, the whole system regulated not like a disciplinary institution but, in effect, like a post-Fordist system of production. “Mechanical details must be designed to accept flexibility [...] social governances must be developed to direct and control the alteration of the environment.”19 He didn’t specify how such governing mechanisms would come into play, but the rhetoric is that of self-organizing systems.20

Maruyama also sought a nondeterministic but nevertheless directed apparatus to sponsor new forms of subjectivity and social interaction, but unlike Glaeser he embraced O’Neill’s claim that space colonies
would have Earthlike landscapes. Organizer of the Symposia on Cultural Futuristics for the American Anthropological Association, he presented a thesis on diversity and parametrics. By invoking diversity, Maruyama was not celebrating or even tolerating difference but calling for a type of social Darwinism. Derived from the life sciences as well as second-order cybernetics, operations research, and systems science, his notion of diversity was conceived as a matter of “survival value,” “heterogenization,” and “symbiotization,” giving rise to higher rates of complexity and resource utilization, and hence of species survival in evolutionary terms, or so he imagined. In the late 1960s, he explained approvingly, “some sociologists began applying these models to the study of social evolution and social change.” For Maruyama the answer to designing space colonies was to be found by studying systems informing human life in multiple existing cultures—diurnal and annual cycles, shelter, clothing, food, spatial proxeics, architecture and landscaping, community and family structure, gender relations, notions of objectivity and subjectivity, decision processes and administration, communication, etc. The ensuing database would provide metrics and a framework for experimentation with creating new, supposedly complex forms of social life. Space colonies were to be, in effect, the petri dish for such biopolitical experiments, apparatuses for testing new human social systems. Potential immigrants would be selected by psychological testing, which he insisted would be without ethnocentric bias. Maruyama proposed four test communities, each with a distinct “hardware” for housing and urban planning—ranging from CIAM models to American suburbia—and each facilitating different social formations, from collective to individualistic. As he explained, “Temperature, humidity, seasons, length of day, weather, artificial gravity and atmospheric pressure can be set at will and new types of cultures, social organizations and philosophies will become possible.” He opted for Community C, wherein the overall design principle was “the harmony of diversity and the avoidance of repetition. […] All houses will be different, based on different design principles taken from different cultures and systems of family structure, including communes.” He underscored that people of different backgrounds would be “mixed and interwoven,” care would be taken “not to place together antagonistic combinations.” People would be distributed to ensure that everyone would agree to the same jukebox settings. Conflict was to be minimized in the interest of eliminating the need for political negotiation.

From the earliest days of O’Neill’s proselytizing, the promise of Earthlike landscapes in outer space was regarded as key to attracting future colonists and financial support. While he acknowledged that the concept
was still “very rich in future shock,” he promised colonists rather conventional dwellings, describing them as “equal to rather affluent suburban American living conditions,” with gardens and endless good weather, but no pollution or mosquitoes. Following the popularity of Apollo mission photographs, NASA understood that images were political weapons for scripting such a future, as they harbored a semiotic force beyond rhetoric or scientific data. After the Princeton conference, NASA contributed $100,000 for a summer study at Stanford University. When, in July 1975, O’Neill testified about the benefits of space colonization to the US House of Representatives Committee on Science and Technology, he arrived armed not only with his well-rehearsed verbal pitch but also with a space colony model, detailed artistic renderings by California artists Don Davis and Frank Guidice of the NASA Ames laboratory, and even a short film, *Space Colonization*, produced by NASA in association with the National Public Affairs Center for Television and Dolphin Productions, New York. The architecture was derived from the conference debates but
developed by Pat Hill, an architect from San Luis Obispo, during these summer studies. Hill adopted the aesthetic of modular diversity familiar from Moshe Safdie's Habitat from Expo 67 (an avowed reference), its components now distributed horizontally rather than stacked, following cues from the eastern San Fernando Valley.

I will come back to the 1975 conference shortly, but first I want to speak briefly to O'Neill's testimony before the US House of Representatives, which wavered between the language of plentiful economic development and that of the threat of scarcity, insurrection, and war. With characteristic rhetorical flair, it was pitched at the nexus of “American know-how” and appeals to freedom and economic opportunity, cast in distinctly nationalist terms and encouraging a shift from government funding of science to private industry. The moon landing, he proposed, would be better understood not as a scientific venture but as a “prospecting survey” for space colonization, much as a mining company might undertake.\(^{26}\) Moreover, we find his claims to the “promise” of a productive, profitable, isolated, normative, and distinctly American form of life, as illustrated in the NASA renderings, repeatedly refracted through American populations. In this sense the lush, protected suburban lifestyle in outer space was racially marked, as De Witt Douglas Kilgore cogently argues in Astrofuturism: Science, Race, and Visions of Utopia in Space, noting that “O'Neill's argument for future diversity therefore contains a catastrophic tension between an unmarked whiteness representing technological modernity and a marked blackness (racial/cultural others) representing the atavistic survival of preindustrial culture as tourist trophy or exotic spectacle.”\(^{27}\) Like a flashback to the America of the 1950s, space colonies sought a society wherein political challenges to extant social and economic hierarchies and injustices and to a culture privileging corporate profit—from civil rights struggles and protests against the unjust war in Southeast Asia, to calls to regulate the unchecked environmental pollution from industry—would be eliminated. Additionally, O'Neill alluded to the country's role in a shifting geopolitical landscape and its violent reshufflings of power in the wake of decolonization, testifying that space colonies were key to economic and resource security now that “both the oil-consuming nations and the underdeveloped third world are vulnerable to the threat of supply cutoff from the Middle East.”\(^{28}\) Promising to transmit solar satellite energy back to Earth via giant microwave beams, O'Neill stated that US energy independence would be assured without the political backlash caused, domestically, by strip-mining and nuclear proliferation, and in volumes far beyond the Alaska pipeline. Given the scale of the marketplace for the primary product—energy—the payoff for investors would also be enormous. “We can
put the Middle East out of business!” he exclaimed. Moreover, taking lessons from the cynical rhetoric of the development sector, he rehearsed the argument that what was good for the US was good for the world, claiming the US would be able to supply cheap energy to developing countries or even provide it as humanitarian aid, thereby overcoming growing hostility to the US as “exploiters of scarce resources.” Additionally, through promoting development, this energy supply would even reduce population growth in the Global South and with it, as was widely feared at this moment, threats to political stability. In both claims we find American nationalism taking its most brutally coercive, biopolitical forms and doing so under the language of the national good.

At the 1975 conference, O’Neill had encountered legal claims that this later testimony worked to refute. Under the title “New Options for Self-Government in Space Habitats,” his Princeton colleague, professor of international law Richard Falk, refused O’Neill’s libertarian goals, offering instead a model with aims of facilitating more robust international mechanisms—not just of management but of global coordination that respected international law, human rights, diversity, and solidarity. Falk began on an optimistic note, embracing the prospect of space habitats (he refused the word colonies) as “restoring confidence in the future” and reminding us that science and technology might actually contribute to the global good. Yet he quickly turned to the violence of contemporary capitalism, subtly challenging the celebration of private enterprise, American vanguardism, and the trickle-down mentality at work in this supposedly utopian vision, insisting instead on a different type of “global orientation” and a different ethico-political framework. For the venture to be legitimate, Falk insisted, it required the inclusion, from the start, of non-American and particularly “Third World” voices in conception and planning. It would also have to guarantee a role for the UN or other international organizations to mediate geopolitical rivalries and ensure the shift from a proprietary model to “something that benefits the world as a whole.” O’Neill overtly rejected any such “systematic global arrangement” in favor of technical solutions in line with the evolution of capital, regarding regulations as death threats to innovation.) After offering cautions regarding futurology—for one could not predict the political environment of 1996, nor account for the impact of lessons implemented from early experiments—Falk speculated upon global trends. Refusing with some precision the terms of O’Neill’s fearmongering, he problematized the neo-Darwinist approach and raised a different sort of threat: that of creating a coercive system of governance characterized by excessive surveillance in the name of security.
“Space habitats could be conceived as metaphors or models for new governance options on Earth,” Falk went on to propose, offering paradigms for dismantling the all too Earthlike hierarchies and paradigms of segregation implied in O’Neill’s vision. Space habitats, he wryly posited, might develop experimental constitutions or even sponsor new transnational movements geared not toward corporate profit or US technical, economic, and military supremacy but toward global socioeconomic and political justice. They might be conceived as philosophical acts and political experiments, and even foster new social contracts. Falk was challenged by an audience member, who insisted he had not taken into account the “extreme productivity per person in the construction of these habitats” and the way they would be “serviced by a system of data processing that will be beyond any capability we can conceive today,” leading to a “fantastic amount of power.” “Your suggestion of an elitist way of evolving these habitats is clearly one possibility,” Falk responded, “but I would regard it as a negative scenario for the future.” Continuing, he explained:

If social Darwinism really does prevail in the decades ahead, as it is quite likely to, then the habitats will be a further evolution of that kind of elitist world system. [...] What I’m saying is that equity is more important than efficiency in thinking about self-governance, and that we shouldn’t be misled by the assumptions of a materialistic civilization to think that what’s so great about these space habitats is that they will be so productive from a wealth-generating perspective. Glaeser and Maruyama had envisioned systems-based architectures through which to integrate those highly productive subjects into sociospatial and administrative apparatuses, believing that the techno-managerial ethos would act in the service of diversity, choice, and the global good or somehow remain politically neutral. Falk reminds us that politics and the need for political negotiation would, however, extend to extraterritorial spaces. Setting out his own strategic fictions, he believed space habitats would be better conceived not as gigantic control mechanisms aligned with dominant systems of power, but as postnational spaces geared toward “social and political justice,” operating through “intensive participation by the settler citizens,” and remaining open to ongoing negotiation, even of new forms of citizenship.

As Falk implied in shifting questions of governance from technocratic management paradigms to frameworks for political negotiation, for O’Neill and many other space colony enthusiasts, at stake (at least initially)
was the establishment of isolated, postsovereign territories, internalized spaces liberated from the constraints of government and the law (and potentially intergovernmental agencies such as the United Nations), and the promise of the expansion of “land” and resource pools for settlement and exploitation. “The self-sufficiency of space communities probably has a strong effect on government,” O’Neill suggested in *Physics Today*, going on to connect his libertarian ideals and rhetoric of choice to the defense of diversity. “A community of 200,000 people, eager to preserve its own culture and language, can even choose to remain largely isolated. Free, diverse social experimentation could thrive in such a protected, self-sufficient environment.”36 Instead of citizenship rights guaranteed by birth, indigeneity, or other government protocols, or the providing of refuge in the face of emergency conditions, whether born of warfare, environmental catastrophe, or economic hardship, space colonies would design “ideal” migration schema, deciding who would be included on the basis of their utility, productivity, and appropriateness to the community’s ambitions.

“I have always felt strongly a personal desire to be free of boundaries and regimentation,” O’Neill declared in his 1977 book, *The High Frontier*. “The steady state society, ridden with rules and laws, proposed by the early workers on the limits to growth was, to me, abhorrent.”37 Noting that he was still searching for a suitable name for these space manufacturing facilities, he suggested that the words community, habitat, facility, and frontier “fail to describe the economic rationale. ‘Colonization,’ he continued, ‘suggests drive and purpose, but in the past has often meant the exploitation of one group by another.’”38 The belief that no one would be exploited during processes of territorial expansion and settler colonialism was an old trope, whether we recall the habit of imagining new worlds as effectively empty territory, as in the colonization of the Americas or Australia, or claims that modernization or religious conversion of an Indigenous population was in their interest, as in the so-called civilizing mission. While by the 1970s such claims were increasingly forced to account for the rights of Indigenous and formerly colonized peoples, the rhetoric of freedom—the promise of spreading American-style freedom through free markets and commercial enterprise—speaks to a persistent blindness or unwillingness to recognize the cynicism at work in rescripting hierarchies of wealth and power at this historical moment. The appeals to humanitarian aid noted above tellingly remind us of space colonization’s epistemological alignment with the period’s developmentalist ideology, under the auspice of which poorer countries were remade in the image of the free world, now replete with massive debt and technologies that, whether appropriate or not, ensured their ongoing dependence upon
multinational corporations, which are almost invariably the primary beneficiaries of aid.

O’Neill never imagined an equitable scenario. “The human race,” he proclaimed in the book, “stands now on the threshold of a new frontier, whose richness surpasses a thousand fold that of the new western world of five hundred years ago.” It would be naïve to assume that its benefits will be initially shared equally among all of humankind,” he acknowledged, reassuring potential investors of his intent. “The world has never worked that way.” As noted above, and as clear to Falk, for O’Neill and his followers it seemed almost self-evident that, unlike the earthly struggles of recent decades, space for political negotiation, contestation, or conflict was to be absent. Instead, carefully screened subjects somehow would be smoothly integrated into a productive biopolitical apparatus. Indeed, O’Neill’s conception of labor remained ambiguous. Testifying to the US House of Representatives subcommittee, he noted: “The first space community will be economically productive only if talented, hard-working people choose to live in it.” Tied to the question of membership within such an industrious community (we cannot call it citizenship), access was to be highly regulated, with still-unspecified protocols instituted for differential control over mobility. When Penthouse asked in a 1976 interview, “What process of selection would you propose for potential settlers?” O’Neill acknowledged that it was “a real can of worms,” but insisted that while the first 10,000 would have to be carefully selected, it would eventually “develop into a situation where anyone who wants to go goes.” By 1977 O’Neill was even willing to acknowledge that, as with a sailing ship in open waters, the most effective governance structure for such an isolated group might be far from democratic: “A dictatorship is what works,” he noted in an interview with Stewart Brand, since “there’s nothing that produces conflict more than an ill-defined situation of authority.” With conflict comes the need for political negotiation, hence dissensus had to be banished. If space colonies were cast as a utopian multiplicity of potential domains, in which groups could maintain autonomy and diversity and assert their distinctions—not within a colony but between them—this selection process implicitly evacuated the possibility of opening democratic forms of political space, replacing them with a new form of territorial rule, one designed by scientists and engineers but increasingly governed by private capital.

In his Penthouse interview O’Neill again situated his post-planetary colonies at the chiasma of contemporary economic rationalities and geopolitical insecurities, calling them “a natural continuation of greater freedom, a greater amount of diversity and control over the environment.” That freedom looked, however, very much like boundaries. There would
be “much less reason for warlike activities than [between] countries on the Earth,” he posited, not only on account of self-sufficiency but since “their boundaries would be their own choice: if they don’t like the neighboring colony, they could move somewhere else. If they don’t like the land area they have, they could build more very easily without encroaching on anyone else’s space.” If offered endless territory and freed from geographical constraints, space colonies would proliferate a new generation of borders. In a world increasingly interconnected by communication and travel, the surfaces of space colonies sought to operate less like the borders between sovereign states—which came with international protocols—than a police or even private security checkpoint that could regulate flows and movements of people more tactically, managing the distribution of populations following a “rational” metric of productivity and profit. We might even suggest that the proliferating divisions among peoples were even more “Earthlike” than the promise of simulating earthly environments in space.

There is one last twist to this tale of encountering others, that I want to briefly recount by way of a conclusion. In June 1976, Maruyama traveled to Habitat: The United Nations Conference on Human Settlements in Vancouver, as part of the L-5 Society delegation, to spread word of space colonization’s benefit to developing countries. Attempting to synthesize O’Neill’s rhetoric of limitless extraterrestrial resources and to contain Falk’s claims regarding the necessity of including actors from the so-called developing world, the delegation stressed the importance of “participation in the guidance of the program by those who are familiar with the problems of the developing nations.” Detailing their “plans for worldwide impact,” they published “Human Settlements in Outer Space: Energy for Earth and New Lands for Humanity,” reiterating O’Neill’s dream of diverse Earthlike environments, which would support “totally distinct cultures, languages, and lifestyles.” Satellite solar-power stations (ssps) would beam “large amounts of safe, environmentally clean electrical energy” to Earth on a continuous basis, proceeds from which would rapidly repay initial investments.

Norrie Huddle reported on L-5’s participation at Habitat in L-5 News, explaining that they arrived with the ambition of “going international.” They set out a large table featuring space colony literature and the NASA renderings, behind which was a NASA Apollo mission photograph of Earth from outer space, and over which they installed a tiny door opening to display stars and a sign: “An Open Door for a Closed World.” Reflecting on responses to L-5’s display, Huddle recalled that something had bothered her:
Although our booth was getting a lot of attention, it was primarily visited by Canadians and U.S. citizens. I asked a few third-world people [...] their impressions of our literature. [...] "It sounds like you're supporting another U.S. attempt to control the third world [this time] by advocating space development," they responded. 49

Huddle believed that people from developing nations, or the so-called Third World simply had not "picked up on how it was relevant to them." The encounter left her haunted by possible affinities with neo-imperial tendencies. After discussing her concerns with other L-5 members, they drafted an open letter to government delegates at Habitat that reiterated UN treaties: first, the "need to avoid exploitation of any space program by military interests" or "misuse of the [solar power] by a single powerful nation" or voting bloc; second, the need for a broad-based, international management of the energy produced to avoid political and economic exploitation; and third, the importance of ideas from the international arena such that space colonization would "serve all the Earth's people, rather than just a privileged few." 50 Although we have no reason to doubt Huddle's and the other letter writers' sincerity, their agenda was distinctly at odds with O'Neill's rejection of any regulation, and the L-5 Society instead veered toward the political right, and its libertarian ethos soon aligned with President Ronald Reagan's SDI initiative, and with it the militarization and commercialization of space. O'Neill himself responded to such calls for international accountability by establishing the Space Studies Institute at Princeton, a lobbying arm to advance his own call for the commercialization of space at the UN, the international organization's treaties and political mandates now targeted as the key enemy of such a vanguard culture.

O'Neill, as we have seen, repeatedly appealed to US sovereignty and the national good, and to bettering international relations when pitching space colonization. When so doing he also marshaled a symptomatic transition toward the dominance of the private sector as a driving force—hence the shift in rhetoric from colonies to manufacturing facilities and from reading Apollo as a scientific mission to characterizing it as a prospecting survey. We thus need to ask again for whom the future was being imagined, a question remaining resolutely if strategically ambiguous in his accounts, but all too clear in retrospect. If the images of Earthlike environments suggested an extension of suburban life, the normative American subject and his form of life persisting as key tropes to conceive social, economic, and political relations to come, we are still left wondering who would profit from such an expansion, and against whom such an apparatus
might work, overtly or covertly. Positioning himself strategically within this battlefield during his July 1975 testimony to US Congress, O’Neill spoke directly to the language of private interest:

We have a product for which there is a big market, and which satisfies a need. Where there is a big market there is reason and justification for big investment. We’re talking about something that is more like the kind of decision a large manufacturing company has to make when it decides whether to invest in a new plant, than like the traditional idea of our space program: a research-oriented effort from which you never expected to have a direct-dollar return.51

Even if no Indians would have to be shot, to recall O’Neill’s blithe remark at the Princeton conference, the brave new world of space colonies and their almost endless potential for resource extraction implicitly came with its own form of violence, not only in the interest of the state but, to reiterate, and necessarily, in the interest of corporate profit, tying a semiotic economy ambiguously to a financial one, and fueling the imaginaries of and desires for such a potentially unjust future.

As evident in Bridenstine’s reconception of the moon as yet another site for resource exploitation to serve US interests (with which I began), aspects of the cultural imaginary at work in space colonization visions of the 1970s, with their neo-imperialist disposition—or clinamen, as Tiqqun would say—and their intimacy with the logics and temporalities of financialization, persist today.52 Moreover, in this new scenario the moon remains conceived as a potential way station for missions of territorial expansion to other parts of the solar system. However, in contrast to O’Neill’s dream of constructing giant lunar, post-planetary colonial territories, artificial landscapes upon which to erect new worlds, other planets, particularly Mars, are the primary object of such extraterrestrial colonizing missions today. Indeed, soon after the 2016 presidential election, Dennis Overbye reported in the New York Times that “we’ve been having a kind of Mars moment,” going on to position the moon as key:

Among the attractions of a lunar base, […] would be the ability to mine ice at the moon’s poles to produce rocket fuel. According to recent studies, refueling at the moon, or nearby, would be the cheapest way to get to Mars. It could be the mother of all infrastructure projects, perhaps a notion attractive to Mr. Trump’s developer instincts, in effect paving a highway to Mars and beyond.53
Mock missions simulating extended stays on Mars have also proliferated in recent years, including NASA’s ill-fated Hawaii Space Exploration Analog and Simulation, or HI-SEAS, missions, wherein mock astronauts retreat into a geodesic dome known as a “habitat,” on Mauna Loa, a Hawaiian volcano. Moreover, the detection of a “large, watery lake beneath an ice cap on Mars” made headlines on July 28, 2018. Now, a scientist proclaimed, “there are all the ingredients for thinking that life can be there, or can be maintained there if life once existed on Mars.”

The dream of an unregulated outer space continues as well. As detailed by Kenneth Chang in the article “Opportunity in Orbit,” to entrepreneurial American companies such as Moon Express, SpaceX, Blue Origin, and Planetary Resources, and initiatives such as the Google Lunar X Prize, regulating entities such the 1967 Outer Space Treaty and the Federal Aviation Administration continue to pose obstacles to commercial exploitation. The treaty, Chang posits, “may now be getting in the way of entrepreneurs with plans to push farther and faster into space than national agencies like NASA.” Jeff Bezos, Chang reports elsewhere, “talks about Blue Origin less as a business than as part of a glorious future for humanity, with millions of people living and working off the planet,” a path that “humanity must pursue if it is to continue to prosper.” With energy and raw materials derived from and heavy manufacturing moved to “elsewhere in the solar system,” Earth, Bezos “joked, would be zoned for residential and light industrial use, allowing much of Earth to return to a more natural state.” Beyond the rhetoric of humanity, prosperity, and environmental care, we find, too, the persistent mobilization of fear and claims to threat of war attending such colonizing dreams. As reported by Olivia Solon in the Guardian, SpaceX founder Elon Musk stated that “humans must prioritise the colonisation of Mars so the species can be conserved in the event of a third world war,” foreseeing the advent of a new “dark age.”

That we find ourselves again at a dangerous nexus of territory, private capital, and war was rendered all too explicit in President Trump’s declaration on June 18, 2018, to “direct the Pentagon to establish a sixth branch of the armed services dedicated to protecting American interests in outer space,” thereby replacing any potential for new forms of self-government, as proposed by Falk, by something closer to martial law. It would be, Trump announced, “great not only in terms of jobs and everything else, it’s great for the psyche of our country.” A New York Times editorial responded on July 28, reminding readers that this new military arm, called the Space Force, came also with the language of “dominance in space,” regarding space to be a “war-fighting domain” like the land, sea and air,” a reconception of outer space that was itself likely to “spur an
arms race in space and make war-fighting more likely.”60 Once again, conceptions of the future directed toward outer space are advanced as weapons or matériel in a battle to infl ect or control the path capitalism might take, and with that its dominant forms of life, to shift the global socio-economic, political, and environmental apparatus in a manner facilitating certain dispositions or tendencies. But as Falk reminds us, these tendencies remain unstable, subject to revalencing, reversals, and even being re-conceived in terms of new ethical and political frameworks, of justice, a task for history and theory, a task now seemingly ever more urgent as “Trump in Space” gains momentum.

This text derives from a talk given at “Existential Territories: Architecture and Subjectivity,” a remarkable conference organized by Adrian Lahoud and Godofredo Pereira at the Royal College of Art’s School of Architecture in November 2017. In addition to thanking Adrian and Godofredo, the latter offering an insightful response to the panel in which it was presented, I want to thank Michel Feher for his critical response. Aspects are also drawn from two related articles: Felicity D. Scott, “Earthlike,” Grey Room, no. 65 (Fall 2016): 6–35; and Felicity D. Scott, “Securing Adjustable Climate,” in Climates: Architecture and the Planetary Imaginary, ed. James Graham et al. (Lars Müller Publishers, 2016), 90–115. Thanks are also due to Eric de Bruijn and Sven Lütcktken for their thoughtful editorial suggestions and remarks.


10 Ibid., A10.

11 O’Neill expands on the bootstrap logic in “The Space Manufacturing Facility Concept,” in Grey, Space Manufacturing Facilities, 7–11.


17 Ibid.

18 Ibid.

19 Ibid., 178.

20 For a more detailed account of Glaeser’s presentation on space colonization, see Felicity D. Scott, “Earthlike,” Grey Room, no. 69 (Fall 2016): 6–35.


23 Ibid.

24 Ibid.


28 Future Space Programs 1975, 129 (testimony of O’Neill).

29 Ibid., 134.

30 Ibid., 135.


32 Ibid.

33 Ibid., 183.

34 Ibid., 184.


40 Ibid., 11.

41 Future Space Programs 1975, 123 (testimony of O’Neill).


44 O’Neill, “Penthouse Interview,” 175.

46. Dr. J Peter Vajk to Mr. J. G. van Putten, April 1976. Association in Canada Serving Organizations for Human Settlements, Habitat Fonds, University of British Columbia, Special Collections Division.
49. Ibid.
A Conversation on UIQ and Other Dark Matters

SVEN LÜTTICKEN: There are three drafts of Félix Guattari’s screenplay *Un amour d’UIQ*, his proposed science-fiction film about an alien life-form, the Infra-Quark Universe, or UIQ, which has striking effects on both technology and human subjectivity. The script’s final version, which you have published in the context of your project on UIQ, is from 1987. In dealing with this “film qui manque,” or missing film, you are dealing with a potential film that was never actualized—with a future that never was. You quote Guattari to the effect that “in every production, in every sequence, in every frame, a choice is made between a conservative economy of desire and a revolutionary breakthrough.”¹ Trying to realize this film now could result in a conservative pastiche with no redemptive power. Could you explain your strategies in dealing with this absent film? Your project has included a film (*In Search of UIQ*), a number of publications in different languages, a series of workshops you call “seeances,” and a sound work (*UIQ (the unmaking-of)*) that premiered in your exhibition at The Showroom in London, “it took forever getting ready to exist” (2015)—which also included elements such as a radio trailer and mixed-media installations.² How do you make Guattari’s unmade film tangible, actual, without sabotaging the qualities that may derive from its very lack of realization?

SILVIA MAGLIONI: On discovering the *UIQ* script in Guattari’s archives at the Institut mémoires de l’édition contemporaine, we immediately decided that the only way to reveal this unknown and unmade work while preserving its powers was through the very medium of nonmaking, or unmaking, a *désœuvrement* that seemed to inhabit it from the beginning. For us, this doesn’t constitute a lack. Guattari’s script concerns an invisible
and, above all, formless alien intelligence that, on establishing contact with a group of humans, is confronted with the problem of finding some kind of form (or forms) in which to manifest itself. We’re never sure just how much this has to do with its own will or how much it simply results from machinic entanglements, whether with bodies, psyches, technologies, or natural phenomena, all of which UIQ finds itself parasitizing or disturbing (and in turn being disturbed by) in some way. Its form is never stable, never final—something it shares with the script, which went through the three different versions you refer to, the first two of which were co-written with Robert Kramer. So there are a lot of potential films in there, clamoring for being. Our response was to elaborate a series of precarious forms parallel to what might be or might have been the film, each acting as a gateway to its and UIQ’s own manifold universe.

GRAEME THOMSON: Our own film, In Search of UIQ, is in part a reconfiguration of fragments of the project’s previous manifestations. Its first movement, “Cinebacteria,” concerns the prehistory of Guattari’s 1970s political cinema projects (the earliest scripts we discovered in the
archives were a short script on free radio, inspired by Radio Alice, set amid the 1977 Autonomia uprisings; and Latitante, a film project Guattari developed in collaboration with Kramer in 1979, about two Italian fugitives living in France). The second movement of In Search of UIQ, “Distant Encounters,” is a part-documentary, part-fictitious reenactment of Guattari’s attempts to investigate possible avenues of production, especially in Hollywood, while the third movement, “Porteurs d’ombres” (Shadow Bearers), narrates the virtual dimension of the UIQ screenplay in the context of contemporary global technocapitalism. This is where the figure of Markus Tuleviin comes in, a filmmaker who appears to have consulted the UIQ archive before us and subsequently disappeared.

SILVIA MAGLIONI: In an early stage of the project we conceived a lecture performance, UIQ: A Space Oddity, in which, through montage, we would test out, visually and sonically, certain hypotheses and connections that went on to become part of an introductory visual essay for the French edition of the scripts. There was the link between science fiction and the Autonomia movements in Italy, for example. What interested us was how Guattari’s various militant practices fed into his desire to make a popular SF film. In our partly fabulated investigation, this shift became symptomatic of a larger reorientation of the progressive political imaginary between the 1970s and the 1980s, which, in the wake of the repression of social struggles on the ground, underwent a gradual detachment from the world toward more remote horizons of the possible, which is where science fiction comes in.

SVEN LÜTTICKEN: In addition to your project’s iterations across and in between various media, UIQ itself is “mediamatic,” or “mediumistic,” in more ways than one. UIQ is a light-sensitive medium in that, according to the screenplay, it manifests itself first in cyanobacteria, which get their energy through photosynthesis. You also stress that UIQ first communicates with humans through radio waves, and you connect this not only to Guattari’s earlier plan for a film about free radio but also to his notion of post-media, which grew out of his involvement with the free radio movement—with post-media standing for a nascent “era of collective-individual reappropriation and an interactive use of machines of information, communication, intelligence, art and culture.”

The free radios challenged what you consider the truly “alien” monopolies of state and corporate media, just as the community that emerges around UIQ is destabilizing and deterritorializing. Does Un amour d’UIQ produce new insights, or new nuances, concerning Guattari’s approach to matters of (post-)mediality?
GRAEVE THOMSON: Being itself both transmitter and receiver of a multitude of signals and energy flows, seemingly plugged into everything simultaneously, the character of UIQ itself can be seen as a kind of (non)-embodiment of post-mediality. In production terms, it’s also interesting to consider the way Guattari was planning to make the film, partly subverting specialization and segmentation of labor in favor of a more transversal approach that he hoped would explode the medium specificity of cinema and open it to greater contamination by other practices (such as contemporary dance, performance, installation, and video art). Yet at the end of the day, however transversal or experimental it may be, as a film it would inevitably have been normalized by its insertion into a commercial chain of distribution and consumption. Which is something an unmade film has more potential to subvert.

SILVIA MAGLIONI: In a Spinozian sense, what this unmade film—which is to say, this screenplay—“can do” all depends on the use that is made of it. In a way the script is a provisional artifact. We decided to look at Guattari’s screenplay in a way that reflected the predicament of its protagonist, UIQ: an unstable, potential entity whose being and becoming had to be negotiated through an ongoing process of translation and transduction. Here we were thinking of Pier Paolo Pasolini’s essay on the unmade screenplay as a structure that wants to be another structure, where
he writes: “The author of a screenplay asks their addressee for a particular collaboration: that of lending to the text a ‘visual’ completeness which it does not have, but at which it hints. Confronted with this characteristic of the screenplay, the reader immediately becomes an accomplice, and their productive imagination enters into a creative phase that is much higher and more intense than when they read a novel.”

GRAEME THOMSON: Key to the unfolding of this phase of the project were the seances you mentioned, involving communities of “envisionaries” who are contaminated by UIQ and begin to share and build upon their own visions of the film and its effects on them. These temporary communities (vaguely mirroring the group of squatters who make contact with UIQ) could explore and expand the territories of the film from both within and without, multiplying its narrative and affective folds, blurring the borders between actualization and virtual projection. Which also meant that the UIQ effect might be there in the room with and between them. As we went on with the seances, we began to realize we didn’t need to rely so heavily on the script. Sometimes just the suggestion of a situation or scene was enough to set imaginations going. Plus, there were aspects of the script that some people didn’t find particularly fruitful or that they wanted to take in another direction.

In the resulting collective sound work, all these voices, spaces, and visions coexist, resonate, and feed off each other. In the beginning, the idea was to “recompose” Guattari’s film through glimpses of what had been evoked or speculated upon by the seventy-five envisionaries. However, when we began to spatialize the voices, we and our mixing engineer, Thomas Fourel, noticed another “film” emerging in parallel to UIQ: the portrait of this scattered community coalescing and coming into some kind of being of its own.

Visions are an aspect of experience that we don’t often convey in public, perhaps because we can’t really master them, and they tend to destabilize us as speaking subjects. However, this creates the conditions for a way of being together based on another kind of trust and solidarity.

SVEN LÜTTICKEN: How did you conceive the exhibition “it took forever getting ready to exist” around the sound work?

SILVIA MAGLIONI: As you mentioned, the exhibition at The Showroom also included other pieces related to the unmade film, including the Quantum Archive, a mixed-media installation that presented a fragmented synthesis of our research process on a soft wall, curved into the shape of
a sine wave. Here we placed various documents, images, and small video sequences as though unmoored from linear space and time, inhabiting an unresolved territory between the states of wave and particle, process and crystallization. The idea was that the whole exhibition should be a machine of unmaking, with each component both working with and unworking the others. So the sound work would be both central and decentered, the principle focus and the accompanying element.

SVEN LÜTTicken: Earlier on you said, “There are a lot of potential films in there, clamoring for being,” and this notion is in a sense radicalized in your ongoing Dark Matter Cinema Tarot project. Now it’s no longer about potential films, but rather about cinematic potentiality and futurity. If with U10 you start with a script, here you take another kind of marginal cinematic artifact as your point of departure: film stills, or, more precisely, frames (photograms). It’s another way of unmaking narrative cinema, of course.

GRAEME THOMSON: The projects around the Infra-Quark Universe and the tarot are indeed complementary and form the two sides of what we call Dark Matter Cinema. One is turned to the side of the unmade and the potential of a film that is always to come—though in some sense already here in the immanent form of its unmaking—while the other is turned toward films that already exist and looks for the invisible in the visible, seizing their potential in terms not only of how we read them but also in terms of an economy and an aesthetics of “use”: using cinema to do something else.

SVEN LÜTTicken: Barthes famously argued that these still images contain potential narratives, or counternarratives, that establish “an altogether different ‘script’ from the one of shots, sequences, and syntags.” You have formalized this Barthesian notion of counternarratives implicit in stills by creating a constellation of images that functions within a tarot deck, and whose reading is guided by a question that is put to the deck, such as “Are we going to get out of this state of emergency any time soon?” or “Will technology put an end to human life?”

SILVIA MAGLIONI: Taken as a whole, the Dark Matter Cinema Tarot is a machine, or, as we prefer to call it, a vernacular technology, one which transforms the traditional tarot, whose hierarchical structure and play of archetypes derive from a medieval worldview, into something that is closer to an unconscious of modernity, where the signs and portents are
more chaotically distributed in images that are a mix of contingency and fatality. Which is not to say that the archetypal forms of the tarot disappear altogether. They tend to insist, sometimes several at once, in a more complex stratification of signs, interwoven with the open narrative configurations that the film stills present to those in attendance (the Nocturnal Committee) each time a question is posed.

**GRAEME THOMSON:** The constellation of images you refer to is the *Dark Matter Cinema Tarot*’s response to the question. Each constellation is a bit like a sentence whose grammar cannot be parsed and whose logic remains unfathomable, a kind of mute speech in an unknown language that the Nocturnal Committee attempts to ventriloquize, though it can never be fully exhausted. As a result, the constellation will often persist as an afterimage, continuing to reveal aspects of itself that were hitherto invisible and prolonging the experience of the reading long after it ends. Meanwhile the reading itself entails a discussion whose subjects and objects are in some way displaced from their usual positions, all of which affects the very tenor and rhythm of speech, and therefore the quality of our being (and seeing) together, a different kind of conviviality. In this sense it continues the work we began with the UIQ seances.

**SVEN LÜTTICKEN:** During a tarot reading I participated in, it occurred to me that the frames are incredibly well-chosen: they contain intriguing details one can home in on, and have an openness that is highly productive. It helps that few of them are “iconic,” though whether they are or not also depends on one’s private canon. How did you arrive at this selection? Did you have any explicit criteria? Was it a matter of endless tryouts?

**GRAEME THOMSON:** You already mentioned Barthes, who was obviously an inspiration, both in what he wrote about cinema in “The Third Meaning” and in the theory of the *punctum* that he develops in relation to photography. But whereas Barthes’s desire was in both cases triggered by some rogue element *within* an image, for us there were entire images that functioned as *puncta* in relation to the overall narrative and symbolic economy of the film in which they appeared. So we started searching through our cinematic memory for these images that insisted beyond their passing role in the film, unresolved or not fully readable, and that continued to haunt and fascinate us on their own terms. Although the selection we eventually made is in some ways quite partial and limited, when considered as an emanation of cinematic dark matter it also gestures toward a much larger history of unseen or overlooked images.
SILVIA MAGLIONI: One of the aspects of the Dark Matter Cinema. Tarot that appeals to us is that, unlike the traditional tarot, there is no expectation as to which cards may show up, no body of acquired knowledge about the cards and their symbolic meanings. The only cards the Nocturnal Committee becomes aware of at a particular moment are those that respond to the question at hand, and each time they appear their meaning has to be rethought in terms of the way it refracts and is refracted by the terms of that question, and by their place in the overall constellation (a question of montage). So again we come back to a temporary community built upon the sharing of visions and the kind of existential territories this can foster.

SVEN LÜTTICKEN: There are frames from some science-fiction films—or films with sci-fi elements—in your tarot deck, including Stalker and Wong Kar-wai’s 2046. However, it basically doesn’t matter, as all the images come to be queried by the Nocturnal Committee for the futurity they may contain. The genre effectively dissolves. And you are indeed highly critical of science-fiction film, of what the genre has become. In your introduction to Guattari’s script, you discuss a number of familiar science-fiction film references, from 2001: A Space Odyssey and Solaris to Starman, Close Encounters, Blade Runner, and Videodrome. You point out that in the early 1970s, with the shift from 2001 to A Clockwork Orange, science fiction became “the image of a world without future,” after which we got the industrial light and magic of George Lucas and Steven Spielberg in the late 1970s. Even so, some remarkable films continued to be made into the Spielbergian era. For Guattari, Ridley Scott’s Blade Runner was of particular importance among the films from this period. I’m intrigued by the use you make of films from this golden age of sci-fi cinema—from the late 1960s to the early 1980s—that did make it into being. What does analyzing them do for one’s reading (and imagining) of UIQ?

GRAEME THOMSON: UIQ, too, is in some ways a kind of cinematic dark matter. Guattari’s script seizes upon certain potentials of existing SF films that were not fully developed, or could have taken a more radical course. I think that, in writing it, he was responding to the movies of the period like someone who takes a look at a machine and figures out a way to make it run better, or perhaps perform a completely different task from the one it was intended for. Perhaps we all do this to some extent: isolate a single great idea in an otherwise unremarkable movie, ask ourselves how it could have been developed better, and then invent the parallel universe where this alternative scenario comes to pass. But then you
also have to ask yourself why sci-fi cinema is so frequently disappointing. Perhaps it has something to do with the fact that the exploration of futurity is so hampered by cinema’s cumbersome modes of production and more specifically by the way the industry colludes in the dispiriting reproduction of pretty conservative forms of subjectivity. This is one of the reasons we often look to films not normally considered part of the science-fiction canon for templates of a world, forms of life (and cinema) to come—to the films of Duras, Weerasethakul, or Bartas, to name a few.

*Blade Runner* was, I think, of particular interest to Guattari because of the way the replicants, at least initially, seem to embody some kind of volatile, nascent anti-Oedipal subjectivity whose parameters they can’t fully control and are still trying to figure out. This is particularly true of Batty and Pris, who reject the cushion of false, or implanted, memories that the corporation wants to use to control them, and with which the film, through its retro-noirish stylings, tries to reassure the spectator of the familiarity of its world. So the disappointment lies in the fact that we never really get to see what kind of strange new form of life the replicants might have invented for themselves, except in a few brief moments of gestural improvisation. I’m thinking in particular of the great scene where Pris quotes Descartes’s *cogito* before performing a backflip and then nonchalantly plucking an egg from a kettle of boiling water. We can imagine that episodes similar to this probably took place at the La Borde clinic. And
in *Un amour d’UIQ* Guattari has his biologist hero, Axel, behave in a similar way, slipping seemingly gratuitous gymnastic feats into many of his scenes. But in a slightly jarring manner, which suggests a whole new possible cinematic choreography of body, voice, and language.

**SILVIA MAGLIONI:** During the seances, people were constantly latching onto these possibilities in Guattari’s script, the openings that an encounter with an infinitely small entity could provoke in daily life, from almost imperceptible transformations of the body to global sabotage. In this context we can also think of Isabelle Stengers’s reflections on the power SF authors have to extend, amplify, or fabulate a hypothesis: they explore “the unexpected manner in which a small difference can produce enormous changes in the way things are” and “pursue and at the same time create the consequences of such a difference.”⁵ According to Stengers, this is when science fiction can become what she calls a historico-sociocultural experiment, similar to scientific experiments in the weight it gives to the question “What if?”—and to creating the kind of differences that might make a real difference.

**GRAEME THOMSON:** In this sense, our work on both the Infra-Quark Universe and the *Dark Matter Cinema Tarot* is partly about finding ways to give this kind of speculative frame a more lived, performative dimension that can be experienced collectively. We tend to think of SF more as a mode of perceiving or operating in the world than as a coded genre, one that may affect the archive of the past as much as it does future scenarios.

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defa-futurum, *Im Staub der Sterne* (In the Dust of the Stars), 1976, GDR, 99 min.
Directed by Gottfried Kolditz, dramaturgy by Joachim Hellwig. © DEFA Foundation, Berlin
Remarks on defa-futurum’s “Socialist Future Film” for Our Contemporary Condition

On April 23, 1975, East German filmmaker Joachim Hellwig (1932–2014) and scriptwriter Claus Ritter (1929–1995) defended their collectively written practice-based PhD—as it would be called today—on the “artistic vision of the socialist future film under special consideration of the experiences of the working group defa-futurum” at Karl Marx University in Leipzig.\(^1\) defa-futurum was the name of an organizational infrastructure at the publicly owned film production company DEFA, in Berlin, East Germany (GDR). Structurally situated between three different production studios of DEFA—feature film, short film, and animation—the “artistic working group,” as they called themselves, Dziga Vertov’s concept of the nonfeature film (Nicht-Spielfilm) with the the objective to update the tradition of a (Soviet) political-revolutionary cinema projecting a socialist future society. By mobilizing formats of documentary practices, such as interviews on the street or group discussions, futurum proposed a unique set of principles to engage the viewer with the idea that the “socialist future film is a particular form of contemporary film.” futurum’s update and refinement of the Soviet cinema tradition with regard to a future-formatting practice by means of film could be situated, however, in the entanglement of various styles and genres, specifically during the early to mid-1970s, which Hellwig and Ritter called the “inter-genre film.” Furthermore, in the late 1970s, they also developed the format of the “disco film,” which can be understood as a kind of East German (socialist) pop phenomenon. Rather than being programmed for the movie theater, these disco films were projected as visual-educational environments in discotheques such as Kosmos 73 Film-Beat-Treff vor Mitternacht, on Karl-Marx-Allee in Berlin.
Hellwig and Ritter’s dissertation notably informs us about the writings of German Jewish philosopher Franz Loeser on ethics, class, deontic logic, and cybernetics. In several of their films, futurum’s debates on the automation of labor, reproductive labor and love, collective thought processes, and creative thinking also seem strongly influenced by Loeser. Thus, conceptually, the “socialist future film” takes its distance from the science-fiction film genre that, for them, was intrinsically commercial and bourgeois, and amounted to a dismal Welt der Gespenster (world of ghosts)—to quote the title of a short agitprop film by defa-futurum that dissects the West German “Perry Rhodan” pulp SF magazines by dismissing their visual tropes, narrations, economics, and politics. To them, SF promotes dystopian, nonsocialist scenarios and leaves no space for communist futures beyond utopian pipe dreams; futurum, on the other hand, worked out an approach to the future in the form of realism (not socialist realism but social realism). At the same time, the “socialist future film” also takes its distance from the cinema of Nahphantastik, or “fantastic fiction of the nearest frontier,” of the Stalinist Soviet period in the late 1940s, when only the verified truth of science could be used in fiction. In defa-futurum, documentary practice was mobilized to project a future by means of a cinema that was embedded in popular cultures (music, dance, lifestyle), in which the cybernetics and socialism of East Germany were also debated. In this sense, defa-futurum is an extraordinary, forgotten artistic project that used images, sounds, words, and machines to shape as well as declare a cine-political independence—both from the class enemy “the West” and from the Soviet “Big Brother.” The search for a socialist cine-futurism in the GDR cannot be underestimated by considering the fact that GDR was still a young nation-state, a political condition that it shared with many countries in Africa, Asia, and Latin America. If the GDR itself was not yet fully politically independent at the time when futurum was founded, futurum still claimed and spoke of a GDR-specific cinematic practice of the socialist future film—engaging with the automation of labor, the optimization of collective processes, outer space, colonization/imperialism, and so forth. It can be argued that Hellwig and Ritter’s practice-based dissertation confirms the idea of film as theory to shape an East German socialist internationalism with a specific concern for cybernetics fostering social practices of a socialist future, and thus, their films are also a set of tools to endorse the GDR as a culturally sovereign state under the conditions of the global Cold War.

defa-futurum was initiated in the late 1960s by Hellwig and Ritter themselves, and officially subsumed into DEFA in 1971 by the Film Administration of the Ministry of Culture. Though it should not be understood
as a puppet of official state politics. In other words, the category of “state artist,” drawn in contrast to that of “dissident artist,” testifies to a binary simplification of the Cold War, a claim usually made by those who have no lived experience of state socialism. While futurum was situated in the macropolitical environment of the GDR’s state socialism, it also operated on a micropolitical scale that often became the subject of reports to the East German Stasi. defa-futurum is just one of many projects from the GDR period that were silenced by those who aligned themselves with “west-of-the-Rhine liberal and radical intellectuals alike,” as Fredric Jameson called them, diagnosing the “systematic neglect […] in the name of Stalinism and totalitarianism” that continues “to be tacitly accepted by today’s Leftists in embarrassed silence.”5 Jameson’s formulation perfectly captures the continuation of Cold War narratives after 1990 that foster a violence of erasure in the name of liberal democracy, failing to differentiate projects such as defa-futurum as active agents for realizing a self-determined and actually existing socialism in the GDR with geopolitical relevance on a global scale. The GDR’s foundation must be discussed by considering its specific geopolitical and geocultural situation, which was different to those of Poland, Bulgaria, Romania, and other Eastern European countries that had already existed before becoming Soviet. In other words, the proclamation of an antifascist republic that is also “democratic” in name adds a further element to the particularity of a “socialist future film” in the GDR. It is worth adding at this point that the process of denazification, or “Nazi hunting,” itself had been the subject of several documentary films by Hellwig before he formed defa-futurum: film was used as a means to show that former Nazis still occupied relevant political roles in the West German government, which was an impossible situation in the GDR because its political-governmental program after the war was built on antifascism and Marxism-Leninism, with party-functionaries who often had been imprisoned by under Nazism for their communist beliefs.

Hellwig’s interest in the internationalist ambitions of the GDR’s socialism became palpable in Der schwarze Stern (The Black Star, 1965), a film carefully shot in Ghana, most likely during the early months of 1964, when Kwame Nkrumah’s Pan-African and independent Convention People’s Party lived its most vivid moments. It certainly also trained his documentary skills that prominently reappear in defa-futurum’s work. Also prior to the work of defa-futurum, the DEFA group Profil, which included Hellwig and Ritter, collectively made the film Erzählungen aus der neuen Welt (Tales from the New World, 1968), which is made up of chapters shot in Chile, Ghana, Vietnam, Italy, the GDR, and the Soviet Union, and represents an internationalist approach to narrating the proximities between the worker,
science, and socialism. Specifically, the last episode of *Erzählungen aus der neuen Welt*, which is set in Akademgorodok, “the city of science in Siberia,” is discussed by Hellwig and Ritter in their PhD as a first attempt to form a narrative. The specificity of the late this vision by means of documentary practice. The specificity of the anti-fascist, and later anti-colonial, call of defa-futurum can be found in various sequences, and therefore contributes to its particular formation and development. Confronting the entanglement of macro- and micropolitics regarding political programs, social relations, the secret service, and friendships allows for the development of a vocabulary that goes beyond the inaccurate binarism of not only the Cold War but also the continuous political crisis of the post-1989 condition.

Much still needs to be worked through in regard to decrypting, decoding, de-provincializing, and decolonizing socialism’s paradoxes between dissidentism and conformism, specifically in today’s rise of corporate, neoliberal, and neofascist nationalisms in Europe and beyond. Culturally and politically, there is a need to detail the promise of a socialist cybernetics that would, ideologically speaking, contribute to a new, “better” human of a future where machines do not govern but inhabit the capacity to collectivize thought for building society. Nevertheless, the anthropocentric supremacy that was not only socialist (that is, worker-based) but also predominantly male and predicated on the nation-state—internationalist ideologies notwithstanding—is challenging but also necessary to disentangle. To mobilize the operations of defa-futurum as a concept, I would like to suggest a socialist cine-futurism that would project a future by means of cinema; that is, by images and words edited in the style of the “inter-genre film” or the “political film.” Rather than a “futurity” or a “futurology,” it is a futurism—one that, like defa-futurum, insists on engaging with contemporary problems by addressing social existence (love, labor, thought) through a commitment to a Marxist technopolitics.

In conclusion, defa-futurum’s approach to the future allows us to speak of a Marxist mobilization of cybernetics, debated by means of film, by confirming Marx’s main theorem of the dialectics between *Sein* (existence) and *Bewusstsein* (consciousness): “It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness.”? In line with this, socialist cybernetics’ point of departure for detecting, analyzing, and tackling problems of the contemporary state was neither an individualism of the human nor the governmentality of the state, but social relations that included human-nonhuman relations. In other words, for defa-futurum, the automation of labor for a workers’ and farmers’ state or the improvement of collective human discussion by means of machines do not aim for an individualized transhumanism
as optimized form of capital. Instead, we could discern in defa-futurum a Marxist commitment to constructing a society from a political consciousness that entangles society with technology, politics, and economics as constitutive principles. In times of “communicative capitalism” (Jodi Dean) and “algorithmic governmentality” (Antoinette Rouvroy), which depoliticize forms of collective efforts by turning capital into data as capital, the social-relational imperative aligned with such socialist technopolitics appears to be worth revisiting today. This social-relational imperative, it seems, cannot be separated from the mode of making films, as Hellwig and Ritter suggest in their doctoral dissertation: they propose the idea of the Werkstattprinzip (workshop principle) to frame the multistage and collective process of realizing a socialist future film, which is mapped out in a unique cybernetic drawing as part of their doctoral dissertation. How could the Werkstattprinzip become a proposal and practice in the present, to counter the individualizing violence of global capitalism and racial nationalism of the present? Where are the visual cultures of a contemporary technopolitics drawing on anti-fascism, internationalism, science, and political economy? What would such a technopolitics look like? There are no answers, but many responses. One of them is the need to begin the work of decolonizing socialism by investigating the entanglements of socialist internationalism’s minor histories with science, society, politics, and art.

Thanks to Barton Byg, Sabine Söhner, and Marina Vishmidt.


1 Joachim Hellwig and Claus Ritter, “Erkenntnisse und Probleme, Methoden und Ergebnisse bei der künstlerischen Gestaltung socialistischer Zukunftsvorstellungen im Film unter der besonderen Berücksichtigung der Erfahrungen der AG defa-futurum” [Insights and Problems, Methods and Results from the Artistic Vision of the Socialist Future Film under Special Consideration of the Experiences of the Working Group defa-futurum] (PhD diss., Karl Marx University, Leipzig, 1971).

2 Franz Loeser (1924–1990), born into a German Jewish family, left Germany for England as a child after his father was killed on the street during Reichskristallnacht. He studied political theory at the University of Minnesota, where he became active in the communist student movement during McCarthyism, supporting the African American professor Forrest Oran Wiggins and the African American singer and civil rights activist Paul Robeson. On account of his political activities, Loeser had to leave the US under McCarthyism and resettled again in England, where he became president of the National Paul Robeson Committee. Owing to his firm commitment to communism, he relocated to the GDR in the late 1950s, and continued to serve as general secretary of the committee. However, in 1982, he defected to

Besides the writings of Stanislaw Lem and the brothers Arkady and Boris Strugatsky, it was Ivan Yefremov’s approach to a “scientific-fantastic literature” that informed Hellwig and Ritter’s thinking.

Only in 1973 was the GDR recognized as a sovereign member-state in the United Nations. Before that, under postwar conditions, the claim for political independence was two-fold: first as an ideological declaration in order to show the development of a state that had no continuity with the anti-communist Nazi horror before 1945, and second as the claim for a social and political independence from the occupying forces of the Soviet Union after 1945.


defa-futurum’s film clearly speaks of a male gaze picturing female figures in stereotypical roles as dancers, entertainers, and child-bearing bodies. However, it also depicts women as the captain of a spaceship, a photographer, interviewer, or a worker. More work needs to be done on the topic of eroticism as gender politics in the context of the GDR, without dismissing the fact that women were rarely in leading positions and still mostly took care of children.

Joachim Hellwig and Claus Ritter: defa-futurum’s Proposal for a Socialist Future Film from East Germany

Text and images compiled by Doreen Mende

“However, anticipating the future poses different challenges for scientific prognostication as the ‘theory, methodology, and technology of the preparation of prognoses’ on the one hand, and the work of modeling the future in artistic media on the other. That is because the forecasting of future developments in each case meets different needs, relies on different means, and serves a different function in the life of society. For instance, scientific-technological prognostication establishes reference points for fundamental solutions and the productive utilization of existing theories; sociological prognostication, meanwhile, lays the foundations for socialist planning and management and helps prepare for informed strategic decisions. What a work of art says about the future by portraying one possible and desirable future is a product of artistic subjectivity.”

defa-futurum, Werkstatt Zukunft II (Workshop Future II), 1976, GDR, 39 min. Directed by Joachim Hellwig, script by Gottfried Kolditz. © DEFA Foundation, Berlin

“But above all we became aware of the documentary force of authentic interviews in a nonfiction film, and so we later deliberately inserted such interview complexes into our future films as a stylistic device allowing us to directly draw the adolescent viewer into the discussion of the issues that concern him.”
"When the quality of a work of art challenges the audience to engage with it on the emotional and intellectual levels, its being true to how people experience the contemporary world and, last but not least, its articulation of how they imagine and conceive what will be are apt to stimulate visions of and ideas for the future. Here, too, Lenin's affirmation of the well-known 'Theses on Feuerbach' is relevant: 'Art does not require the recognition of its works as reality.' Portrayals of the future in the arts do not result in strategic decisions; they do not inform scientific-technological planning. They exercise their influence on consciousness in concert with other factors of intellectual-cultural life."\(^4\)


"To our minds, the socialist future film is a particular form of contemporary film because it transcends the existing reality with the intention of offering the viewer a particular kind of answer to today's questions, stimulating his productive imagination as an intellectual, emotional, and aesthetic capacity that enables him to feel responsible in the present for shaping the future and to work actively to shape the future in the present. The methods of aesthetic appropriation, evaluation, and composition are what sets the future film apart from—not in opposition to—contemporary film. Aesthetic appropriation proceeds 'on the basis of an ever more scientific and human understanding of the world' and 'the ultimate objective of a real (not merely ideational) self-liberation of
“Understanding the real forces that drive development, discovering the elements of the future in the present, is the basis of the artistic imagination: that is why we attach great importance to the problem a work posits, as a specific conception of what is needed and necessary that underlies the subject matter and idea. The problem provides the framework for the prognostic space set out by the artist in which he can array his characters and conflicts. The mission of literature and art is not to produce prophecies but to communicate ideas about the way forward and the ultimate goal that helps today’s humans understand that, despite temporary setbacks and diversions, it is they who shape the future. Such elements of the classless communist society are ‘born of the present.’”

“In contradistinction to the artistic articulation of the present, the future is a subject with peculiarities to be reckoned with in the creative process. Scientific representations of the future, i.e., prognoses, are the work of sometimes hundreds of people who rely on the work of hundreds more; they employ the most modern means, scientific methodologies, and technologies. The creator of artistic portrayals, by contrast, works in isolation in the process of artistic creation. Must that remain so? Are today’s social conditions, which manifest themselves in manifold ways in the union of the processes of life and creation, adequate to the composition of a future? If an artist chooses to grapple with this subject, the future, does it even make sense for him to work in isolation? Which new forms will need to be found? Are consultations sufficient, or should we seek to devise new methods? How can collective creative thinking be adopted as a workshop principle in literary creation?”

“The experiences we were able to gather in nonfiction filmmaking mostly arose from the documentary approach this genre requires. It was partially enhanced by new methods and modes of representation we developed under the title ‘inter-genre film.’”


“The insight that past, present, and future are dialectically interrelated leads us to focus our aims in nonfiction future films on stimulating responsibility for the future in the moviegoer. We framed this specific aspect of our film projects in the maxim: consciousness of the present is the basis of responsibility for the future;
consciousness of the future is the basis of responsibility for the present. By this maxim, the film we strive to make is neither ‘utopian’ nor ‘fantastic’ nor ‘popular science’ nor ‘documentary,’ although it may incorporate these and other genres. It is, to our minds, above all a ‘film of the contemporary world,’ a socialist contemporary film. [...] In this sense, we regard our future films as ‘political’ films, if that attribute remains in play in the discussion over filmmaking in the GDR.”

“The process of artistic creation may be regarded as a problem-solving process. The task is to employ appropriate methods based on scientific insight to develop a description of a problem that is suitable to art and the chosen genre as part of the process of artistic creation.”

“But the purpose of automation remains to set man free from heavy labor, monotonous labor, and simple intellectual processes, and it would seem to be entirely possible that automation in socialism/communism will also be capable of setting man ‘free from menial forms of creative thinking’ and empowering him to focus on higher forms of creative thinking. Automated creativity will not perform the same work that man does in the same manner; it will be ‘a tool that will surpass him.’ Its purpose is to multiply human faculties in the interest of humans without being able to surpass man. It remains to be seen whether this is an automated “creativity” in the conventional sense or whether our ideas about creativity will have undergone transformation.”

defa-futurum, Disco Film 5: Im Zentrum der US-Militärsprionage
(At the Heart of US Military Espionage), 1975, GDR, 9 min.
Directed by Joachim Hellwig, dramaturgy by Joachim Hellwig,
script by Thomas Wedegärtner. © DEFA Foundation, Berlin
“This synthesis in nonfiction film, we believe, is currently the most effective way (on a par with popular science in the strict sense) to portray the future, the questions, problems, models, and possibilities of a world of ‘tomorrow’ for wide audiences. In this connection, in particular, we regard the creative evolution of Dziga Vertov, whom the ‘pure’ documentarians invoke not infrequently as their intellectual forebear, as especially instructive.”

“Socialist-communist portrayals of the future can be an important instrument in the hands of the communist and labor movements in their ideological struggle on behalf of the workers living under the conditions of imperialism and the progressive forces shaking off the yoke of colonialism and neocolonialism.”

Translated from the German by Gerrit Jackson
The text comes from Joachim Hellwig and Claus Ritter, “Erkenntnisse und Probleme, Methoden und Ergebnisse bei der künstlerischen Gestaltung sozialistischer Zukunftsvorstellungen im Film unter der besonderen Berücksichtigung der Erfahrungen der AG defa-futurum” [Insights and Problems, Methods and Results from the Artistic Vision of the Socialist Future Film under Special Consideration of the Experiences of the Working Group defa-futurum] (PhD diss., Karl Marx University, Leipzig, 1975). The stills are from films by defa-futurum. The text-image composition has been compiled by Doreen Mende as a constitutive part to her essay “Remarks on defa-futurum’s ‘Socialist Future Film’ for Our Contemporary Condition,” in this volume.

2 Ibid., 65.
3 Ibid., 139.
6 Ibid., 73–74.
7 Ibid., 69.
8 Ibid., 205–206.
9 Ibid., 155–156.
10 Ibid., 202.
12 Ibid., 151.
13 Ibid., 85.
Scene from act 3 of Karel Čapek's play *R.U.R.* (Rossum’s Universal Robots), produced by Theatre Guild, London, 1923
If Futurity Is the Philosophy of Science Fiction, Alterity Is Its Anthropology: On Colonial Power and Science Fiction

I want to see science fiction that goes against both apocalyptic dystopias and political utopias. I want to see SF that is rooted in the present, anthropologically aware, and open to the multiplicity of non-Western futures. Perhaps a first step would be to look at SF not as a literary genre, but as a system, a sociopolitical modality, a worldmaking technique, found as much in past colonial forms as right now in the present. This also means that one would have to dare go beyond the use of SF as a lens to look at colonial forms past and present and instead, or alongside it, consider colonialism itself as SF. Despite anthropology’s recent interest in SF, most of its approaches cling to, let’s say, a traditional view of SF as either a tool (a lens) to look at culture or as a product of culture. Instead, what I am suggesting is to see certain social formations, as well as forms and techniques of power, as SF itself. Doing so may demand anthropological entanglements and experiments with SF that ask not what it can tell us about colonial modes of power, but allow analysis to be permeated by SF itself. For example, it is common knowledge that SF offers a vision of colonialism (by expressing it either openly or subliminally in its stories), but if one refracts SF back on colonial modes of power it is perhaps those colonial structures themselves that will begin to appear to us as modalities of SF. If so, then my basic premise is this: anywhere there is a clash between the biopolitical management (of life and death) and the suppression of other possible worlds that escape desired narratives of power, there will be the question of science fiction. And here, perhaps unsurprisingly, the management of the future, or futures to be more exact, will be key.
"Science fiction exposes something that colonialism imposes," writes literary critic John Rieder.\(^2\)

Differentiating SF from early modern utopias, Rieder has traced its emergence to changes in the perception of space and time within the nineteenth-century British empire. In doing so, he emphasizes the relationship, both thematic and historic, between SF and colonialism: a relation that has often defined the genre as a lens to look at colonial power. This relationship has taken many forms: from classical SF to recent post-colonial SF (often, though not always, written from the position of non-Euro-American modernities) and Afro- and Indigenous futurisms (which subvert the future-oriented canon of hard SF by rooting its speculation either in diasporic realities or pre- and altermodern technologies).\(^3\) But while postcolonial and Afro- or Indigenous futurisms present themselves as counternarratives to colonial power, classical SF can be regarded as emerging from aspirations and fears of a globalized world.\(^4\)

The early colonization of Africa and the Americas (and later the Pacific) required a spatial organization of both peoples and natures, through which both universal science and global capital could flow. In fact, in her book on the production and dissemination of universal ideas, *Friction: An Ethnography of Global Connection*, anthropologist Anna Tsing looks at the "globe" itself as a particular universalized idea, with very specific regional origins (modern Europe). Despite being anthropologically located, this globalization was imposed on different natures and cultures across the world.\(^5\) As everyone knows, the Western European white man was at its center. However, this white man faced a problem: across the globe’s remotest deserts, islands, and forests, Europeans found other humans to be all in all like themselves. For globalization to be successful these "others" had to be imagined and produced (through science) as different. Thus, along with the globe, a new humanity had to be invented as well, so as to justify the occupation of those lands—making the modern construct of "humanity" the fuzzy threshold, the colonial "science fiction," through which difference came to be judged.\(^6\)

The nineteenth-century canonization of history as a discipline, along with ethnology and evolutionary theory, increasingly framed the above spatial organization of the globe as temporal. The coeval coexistence of humans expressed not only different humanities but more precisely different *stages* of humanity. This is the political meaning of "the contemporary," majestically grasped by Johannes Fabian in his *Time and
the Other. One can trace the shift from the word “savage” to “primitive” in Western thought to this historical change—for in the eyes of sixteenth-century Jesuits, Amerindians might be uncultured, yes, but they were not necessarily old, that is, primitive—quite the opposite: they were like “children” begging to be civilized.

Similarly, according to Rieder, classical SF literature from the mid-nineteenth century up to World War I—from Samuel Butler and Jules Verne to H. G. Wells and H. P. Lovecraft—fantasized this difference, mapping and positioning otherness (other, non-white, “nonmodern” people) in relation to the future-oriented, industrial, and technoscientific modern world. Structured by the distinction between primitive and modern, wild and civilized, classical SF oriented its stories toward the future, embodying, despite its concern for ethnographic diversity, a teleological concept of time. This is why ideas of futurity are as important as ideas of alterity for SF. If futurity is the philosophy of science fiction, alterity is its anthropology.

**Writing Science Fiction from the “Other” Side**

Like humans, nature was also adapted to modernity. While modern science was rapidly disenchancing nature, early SF abounded in Victorian fables about men rediscovering “lost worlds” and closed-off societies in remote geographies (the bottom of the sea, the center of the earth, the jungle). Interestingly, it was not only the human cultures found in such spaces that were either more or less advanced than that of modernity, but also the natures therein—either wild with dinosaurs or absolutely engineered.

Samuel Butler’s *Erewhon* (1872) is about another lost world, interesting for its open dialoguing with Charles Darwin’s evolutionary biology. Erewhon is an isolated society that, foreseeing the threat posed by the evolution of machines, decides to freeze technological progress and relegate machines to museums, therefore reverting the linearity of modern technocapitalist time. In it, the technological evolution of machines is compared to the biological adaptation of animals to their environments, and it is us humans who realize how we will soon be reduced to beasts of burden if machines are allowed to thrive. In his analysis of *Erewhon*, theorist of “black technopoetics” Louis Chude-Sokol stresses how, curiously enough, these industrious machines pose a threat to humans because they will see us as lazy (a precondition about peoples of the Global South), thus binding us to servitude (by which such lazy people are put to labor). Butler’s fear of machines is yet again the fear of becoming “other.”
Chude-Sokei also narrates how Darwin was surprised that Erewhon was written in the colonies—Butler was then living in New Zealand. Why was Darwin surprised? Because he judged colonial space as a place without time for speculation, only for the pursuit of material interests, that is, survival. Quite the opposite: it was precisely because the colonies were spaces of material interest, of extraction, terraformation, and social change in the service of productivity that they were also spaces of imagination, of speculation, of futurity. The future, like modernity, started in the colonies.

When talking about colonialism, SF forces us to look at the entwinement or intimacy between people and land, between human labor and putting the land to work. It is of this mutuality that I am thinking when I refer to colonialism. As I hope to show, biopolitics is always already ecopolitics.

The Biopolitics of Science Fiction: Flesh, Not Wires

No matter how “hard” the science fiction, the origins of robots will forever remain wet. For in Karel Čapek’s 1921 play R. U. R. (Rossum’s Universal Robots), which first introduced the word “robot” to the public, robots are made of flesh and blood: wetware, not hardware. Chude-Sokei summarizes, “They behave like living matter but are not living matter and so it is easy for old Rossum to synthesize them and build bodies for them. Rossum’s robots are biological machines, though produced far in advance of the notion of genetic engineering.”

The origins of SF’s robotics are thus a curious and prescient moment, when the relation between robots and slaves, race and aliens, is not yet metaphorical or mere analogy. While R. U. R. remains concerned with the question of the soul—what I call the “android loop” plaguing all robot-related stories ever since Descartes’s automaton daughter and his mechanical blood—its robots are metabolic, gene-carrying beings of flesh and blood, and makes the violence of its war between robots and humans all the more palpable, and makes meaningful their obsession with reproduction, not mechanical or algorithmic, but biological.

In this too R. U. R. is influential, for not only did it introduce the robot, it also introduced the robot insurrection trope. In this respect, R. U. R.’s robots are closer to Afrofuturism’s claim that plantation slavery robots, imbued with positronic brains (a cpu mimicking human consciousness) and the three laws of robotics (stopping robots from harming
humans). A key colonial word—reproduction, or the control of reproduction—is thus at the origins of robotics. And this anguish over the possibility or impossibility of reproduction is what raises the question: whose future?

The Biopolitics of Science Fiction: The Plantation

Afrofuturism is right. The plantation, and, later on, the factory, was a clear example of the relation between SF and colonial systems. The plantation was a managerial, bio- and ecopolitical place where both space and time were made modern. It installed and fomented a particularly modern futurity; it instilled modernity itself.

The plantation was a space where the life of certain bodies was judged more valuable than others, and thus where the potentiation or the suppression of possible futures was decided. Such sovereignty suppressed futures that escaped its desired narratives of power—futures otherwise possible. Historically, by controlling physical bodies inscribed in nonmodern cosmologies, the colonial plantation narrowed the possibilities of that which could come to be. It not only erased the pasts of enslaved people but also the diversity of other contesting futures embodied in them. The control of the future is key to colonialism—not only the management of the present but also the narrowing of the future to a single world.

What I mean, and this is key to my argument, is that the colonial rupture is not simply one of erasure. It subjugates other possible futures to a more productive one. In the plantation, as in the mine and the factory, economic productivity and growth were means of suppressing other futures. By redesigning the present from the standpoint of future capital accumulation, the plantation contributed to the production of a new, more productive present. This capitalist future oriented the present, exchanging a diversity of anthropological worlds, of different natures and cultures, for ever greater acceleration, ever greater fluidity and exchange. It meant the acceleration of a single modern world. Recalling Tsing’s words, the plantation placed one world in opposition to many worlds, and in doing so, helped to unify the globe.

While, arguably, slave labor might not be structurally capitalist, in that it does not involve waged labor, it is germinally capitalist; that is, what it predicts is the arrival of capital. The slave is always already a value-generating, cost-reducing, and fully tradable commodity—both a premonition and a condition of capitalism. Fortunately, however, the argument could and should be reversed: while slave struggles might not be
anti-capitalist, there would be no class struggle without emancipatory struggles by plantation workers against colonial slavery. This, at least, is an anti-capitalist future the plantation could not suppress.

The Future Anterior: When the Past Arrives from the Future

I should clarify what I mean by futurity, as well as the future as a political space. Kodwo Eshun, artist and theorist of Afrofuturism, defines SF as “a significant distortion of the present.” Building on Samuel Delany and William Gibson, he adds, “To be more precise, science fiction is neither forward-looking nor utopian.”¹⁵ This would seem to dismantle the notion that the future is a core element of SF, bringing Eshun’s definition closer to that of SF critic Darko Suvin, who defined the “formal framework” of SF as “cognitive estrangement.” By cognitive estrangement, Suvin means a perceptive shift better exemplified by Bertolt Brecht’s words: “A representation which estranges is one which allows us to recognize its subject, but at the same time makes it seem unfamiliar.”¹⁶

But then Eshun continues: “Science fiction is a means through which to preprogram the present. Looking back at the genre, it becomes apparent that science fiction was never concerned with the future, but rather with engineering feedback between its preferred future and its becoming present.”¹⁷

Eshun is not denying SF’s future-oriented nature as such. But rather than simply emphasizing the present imagination of the future, he focuses on how the production of future horizons comes to shape the present. To him this is where the politics of futurity lie—contrary to common expectations, it is not the future that emerges from the present, but rather the present (and the past) that “arrive from the future.” This is, of course, a cybernetic approach. For at the core of this reversal is a notion of predictive power—managing the present in such a way that the future is predetermined in advance.

Writing from the intersection of anthropology and the history of genetics, Michael Fortun has identified this reversal in the sciences, and has called it “future anterior.” Fortun defines the future anterior as a technoscientific future that by its very utterance becomes self-determined, orienting the present toward itself and rereading the past in its image.¹⁸ More spectacularly, he adds, this is a future that that does not even need a past.¹⁹ Operating at the level of the imaginary, of fictional narratives, the future anterior posits the dominance of a universal that does not yet exist. This is what is meant when one hears claims like: the twenty-first century will
be the century of genetics. It does not matter the present state of genetics; what matters is its promise.

According to Eshun, prediction is not necessarily the role of Afrofuturisms (or, one could add, of Indigenous futurisms), and so their use of futurity is in tension with the technological determinism of the future anterior. What Afrofuturism does is rewire the future anterior so as to intervene “within the dimensions of the predictive.” This means envisioning livelihoods beyond the determinism of Western technoscience, but also, as importantly, beyond the dystopia and survivalism to which black, Native, and othered times and spaces in general have been predestinedly tied. The latter is of special importance: one cannot dwell on dystopia. It would be the same as, faced with the disruptions of climate change, reducing ecology to resilience.

The Afrofuturist idea that “black existence and science fiction are one and the same” is likely the biggest revolution to have occurred in SF since the transition from white colonial sublimation (as discussed by Rieder) to white space utopia (exemplified by hard SF), and then, from the 1960s onward, from hard SF to the sociological, feminist, and queer approaches of the New Wave. For what it did was drop SF into the “real” world—repositioning it from an allegory of violence to the corruption of reality. Such SF futurisms take off where those othered futures were cut off.

The Biopolitics of Science Fiction: Diversity

With the future anterior in mind, let’s go back to the plantation. The future-oriented quality of the plantation cannot be conceptualized without diversity control: control over the future not only of culture but also of nature.

The variety of maize still present across the Andes, for example, is a lived, resistant memory of the reduction of diversity to monoculture. Here again Tsing’s use of “globe” is revealing. She writes, “Botany was perhaps the first science concerned with uniting knowledge from around the globe to create a singular global knowledge. [...] Nature and the globe have helped make each other. Today’s most powerful claims about the nature of the globe refer us to global Nature.” For Tsing, globalization does not coincide with a worldly perspective; it is not anthropological enough. For her, monocultural plantations epitomize the universalizing claims of this global Nature. As simplifications of life, plantations cut across any geographic constraints, any origin histories, any nativity concepts.
The nature of bodies and the nature of the land are always inseparable. What is done to one is implicated in the other. This much is true across the ecological chain, from insects and their threatened niches to humans and their workplaces. The suppression of futures in the plantation relates humans to landscape; in fact, suppression would be impossible without tying or untying the two. For the control of diversity in the plantation ruptures not only Native social ties, but also cosmological relations between humans and nonhumans, be it plants, animals, or even spirits.

Two quotes come to my mind. In his introduction to Frantz Fanon’s *Wretched of the Earth*, Jean-Paul Sartre writes, “The only way the European could make himself man was by fabricating slaves and monsters.”23 Man (and I mean man, not human) is always a difference. That is to say, not the normal but the abnormal constitutes his identity. Man is the aberration that extracts himself from the world of others.

Against this, there is Claude Lévi-Strauss on the foundation of Native American myths, who writes that myth is “the time when humans and animals did not yet distinguish themselves from one another.”24

Talking about myth, especially because I am talking about time, futurity, and the productivity of capital, it would be easy to say that what occurs in the plantation is the substitution of a mythic temporality with the messianic time of modernity—in other words, a shift from cyclical time to linear time. I am not so sure about this. For the difference between the human and its “others” is precisely what is managed by the boom and bust cycles of capital as inscribed in the process of globalization. For it is in moments of crisis and renewal of capital, that is, of creative destruction, that who is and is not human is repeatedly redefined.25 The future of modern time is always the imagined excision of the human from the animal, even when animals are other people.

**Beyond the Uncanny Valley:**

**Racism among Robots**

Throughout his book *The Sound of Culture*, Chude-Sokei focuses on the racialization of robots and androids, in particular their sublimation of slave labor and the role of race in the invention of humanity—poignantly *R.U.R.*’s robots date from “1932, precisely four hundred forty years after the discovery of America.”26 Yet again, *R.U.R.* is indeed a good example, for when confronted with the uprising of robots, what is the (hu)manly strategy used to control them? The strategy is to seed
Each factory will be making Robots of a different color, a different nationality, a different tongue; they'll all be different—as different from one another as fingerprints; they’ll no longer be able to conspire with one another; and we—we people will help to foster their prejudices and cultivate their mutual lack of understanding, you see? So that any given Robot, to the day of its death, right to the grave, will forever hate a Robot bearing the trademark of another factory.\textsuperscript{27}

Robots will be forged on neither an anthropomorphic image nor an image of the human soul, but on the image of human sociology.\textsuperscript{28} It is thus that at the end of \textit{R.U.R.}, after having killed every single human, a victorious robot suddenly confronts his future with terror, for it cannot reproduce itself and is thus also destined to die. That first and last robot cries: “You gave us weapons. We had to become masters. […] You have to conquer and murder if you want to be people!”\textsuperscript{29}

The uncanny valley, that eerie feeling one gets when faced with an overly humanlike robot, is a farce. It is not the feeling that matters but rather the division it instills between the observer and the observed. The uncanny valley, when pushed to its logical conclusion, is the beginning of segregation.

The sad lesson of \textit{R.U.R.} is that the only way for robots to become human is by emulating division: that is, by internalizing an image of power. Going back to the example of the plantation, it is clear how it imposed segregation not only between slave and master, but just as importantly among peoples otherwise in solidarity, that is, in the potential connectivity between possible futures—futures that may come to contest the master.\textsuperscript{30}

\textbf{Future Futures}

My introduction to this text could be reframed thus: if, as Eshun suggests, SF is not about the future, why then am I calling the future back to SF? In other words, why bother to save the future? Tentatively, I answer: Because to keep the future in science fiction might mean saving the future from itself. The future matters; it may just not be found where one expects it.

A good starting point might be to look for the future sideways, horizontally rather than ahead. Or to break with geometry, to look for futures already intertwined, enmeshed since the birth of modernity, simultaneously symbiotic and in disagreement with preexisting power relations. If alterity is the anthropology of SF, then demanding answers from the
future means finding one’s future always already overlapping with someone else’s. I’ll therefore venture that the “formal framework” of science fiction is the encounter with radical difference: it is the form, the testimony, the imagination of the struggle and the conflict between differing natures and cultures, different worldviews and cosmovisions.

How do Indigenous cosmologies, myths, and livelihoods answer back to science fiction? This is a horizontal question.

In recent years, the struggle between a single world and the many worlds has become central to political (or cosmopolitical, to be more precise) anthropology. This conflict between the narrative of a single world and the suppressed reality of many worlds is, of course, the dismantling of colonial structures, as they linger in the present. What I timidly propose with this text is simply to include the issue of futurity in this discussion—to think the many futures, how they survived the violence of their times and are now restarting to assert and invent themselves anew.

The danger here, of course, is that of imposing ontological divisions on the cosmologies of others—for example, using Western ideas and technology to help the struggles of others. Take for example the Aymara Indigenous people of Chile, Peru, and Bolivia, who, between language and bodily perception, conceptualize the future otherwise. For the Aymara the future is not coming toward us, to meet us from the front; the future is the unseen on one’s back. Makes sense: if one’s past belongs to the realm of the visible, of the known, of that which has already been experienced, why not see it in front of us? Inversely, why not place the future in the shadows, away from visibility, approaching us from over the shoulder, from the periphery? Look over your shoulder, dear reader.

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2 John Rieder, Colonialism and the Emergence of Science Fiction (Middletown, CT: Wesleyan University Press, 2008), 15.
3 Since the 1950s “hard” has been the common term for scientifically based, usually future-oriented science fiction, used in contrast to the term “soft”—as in hard and soft (social) sciences. Arthur C. Clarke, for example, is a hard SF icon.
6 Focusing on the shifting shapes of the concept of humanity, always anthropologically localized, I have tentatively thought of this modernist construct of humanity as a


10 Ibid., 113.

11 Ibid., 60.


13 I am writing these sentences in the past tense, but I might as well write them in the present, when thinking about the war waged against Indigenous and other local populations living near monoculture plantations today, as, for example, in Brazil.

14 For an anthropological contextualization of this argument (the clash between the one world of modernity and the many other worlds henceforth made invisible), see Marisol de la Cadena, “Uncommoning Nature,” in “Apocalypse,” ed. Pedro Neves Marques, in “Supercommunity,” special issue, e-flux journal, no. 65 (August 2015), http://supercommunity.e-flux.com/texts/uncommoning-nature/.


17 Eshun, “Further Considerations on Afrofuturism,” 290 (my emphasis).


19 Fortun: “The discourse of gene action has allowed geneticists to leverage a future without a full guarantee from a grounding past.” Ibid., 358.

20 Eshun, “Further Considerations on Afrofuturism,” 293.

21 Ibid., 298.

22 Tsing, Friction, 90 (my emphasis).

23 I was reminded of this when reading Chude-Sokei. See Jean-Paul Sartre, preface to Frantz Fanon, The Wretched of the Earth (New York: Grove Press, 2004), LIX.

27 Ibid., 45.
28 This “making the enemy in one’s own image” was also my critique of Sophia, a robot developed by Hanson Robotics in 2015, which was granted Saudi Arabian citizenship at the Future Investment Initiative in Riyadh in 2017. See Pedro Neves Marques, “Sophia, with Love and Hate,” *Baffler*, November 14, 2017, https://thebaffler.com/latest/sophia-with-love-and-hate-marques.
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Afrofuturism and the Becoming-Black of the World

African and diasporic thinking about the “Black condition,” which began in the mid-eighteenth century, largely developed in the framework of the humanist thought that has prevailed in the West since then. The fact that the earliest Afro-American writings include so many autobiographies is revealing in this regard. Is “I” not the first word by which humans seek to bring themselves into existence?

Moreover, the role played by religious narrative in the telling and interpretation of Black history is no less significant. Under the conditions of terror, impoverishment, and social death that characterized slavery, using theological discourse to talk about oneself and one’s past—especially as part of a community that was downtrodden and branded as a stain—should be understood as an attempt to lay claim to a moral identity. Since then, this thinking has branched out and continues to interrogate the conditions under which a human world is formed: a world that the subject embraces from an ideal whence life draws its resilience.

Humanist Dead Ends

This quest for self-explanation and self-understanding has thrown two considerations into sharp relief. First, Black history is not a separate history; it is part and parcel of the history of the world. And moreover, Black people are as much the heirs to world history as the rest of humanity. Secondly, although retracing the chain of their distant origins almost inevitably leads to Africa, their sojourn in the world has played out within a process of displacement, circulation, and dispersion. Because movement and mobility have been structuring factors in their historic experience, they are now spread out over the surface of the globe. Consequently,
a history of the world (or of a particular part of the world) can no longer avoid recounting Black history, just as no Black history can avoid taking the history of the whole world into account.

Black people thus form part of the Western past, even if their presence in the self-consciousness of the West often takes the form of a haunting, of denial and erasure. Concerning America, James Baldwin states that Negroes are no strangers to the history of the New World, which they have helped to shape and have accompanied throughout its course. They are its constituent subjects even if in the Black person (the absolute outsider figure) the New World does not recognize its “own.” Drawing from the work of numerous historians, Paul Gilroy highlights Black involvement in the emergence of the modern world that ultimately structured itself around the Atlantic in the early eighteenth century.

Alongside other outcasts (those expropriated by the enclosure of commons, peons and deported criminals, sailors press-ganged into serving aboard merchant and military vessels, adherents of radical religious sects, pirates and buccaneers, draft evaders and deserters of all kinds), we find them along new trading routes, in ports, on ships, and wherever forests were to be felled, tobacco produced, cotton grown, sugarcane cut, rum distilled, and ingots, fur, fish, sugar, and other manufactured goods transported. As the “stokers” of modernity, toiling alongside countless other nameless individuals, African slaves were at the heart of the near-cosmic forces unleashed by European colonial expansion at the beginning of the seventeenth century and by the industrialization of Atlantic cities in the early nineteenth century. If their role in modern human history was played under a veil of anonymity and erasure, they nevertheless retained a planetary, heteroclite, and polyglot dimension that was to have a profound influence on their cultural output.

Although the global dimension of Blackness is more or less acknowledged, raising the “Black question” in the framework and terms of Western humanist thought continues to be the object of both internal and external criticism. Whether in the work of Aimé Césaire or Frantz Fanon, internal criticism tends to emphasize the death wish and the desire for destruction at work within the Western humanist project, especially when it is caught up in the coils of colonialist and racist zeal. In their work, as in that of Léopold Sédar Senghor or Édouard Glissant, there is never any question of rejecting once and for all the idea of “Man” per se. Often, emphasis is laid upon the notion that Western discourse on Man is a dead end with the intention of revising it. The idea is either to underline the notion that humanity is not so much a word as a praxis and a “becoming” (Sylvia Wynter), or to appeal for a more “planetary” humanity
(Paul Gilroy), a poetics of the earth and a world made of everyone’s flesh (Édouard Glissant), in whose bosom each human subject might once again be the bearer of his own words, name, actions, and desires.\textsuperscript{17}

External criticism presents itself in two versions. The first is Afrocentrist and aims to demystify the universalistic pretentions of Western humanism and to lay the foundations for knowledge that would draw its categories and concepts from the history of Africa. From this perspective, the notion of humanism constitutes, in the final analysis, nothing more than a structure for the expunction of historical depth and Black originality. Its function would be to assume the power to narrate and define, in other people’s stead, where Blacks come from, what they are, and where they must go. Humanism is posited as a myth that dare not speak its name.\textsuperscript{18} As a mythology, it is thought to be quite indifferent to the falseness of its own content. From this, in the work of Cheikh Anta Diop, for example, arises a desire to counter European mythologies with others that are supposed to be more genuine and able to open the way to alternative genealogies of the world.\textsuperscript{19} But although Afrocentrism bases the question of humanism on the supposed debt of civilization that the world owes to Africa, this school of thought nonetheless posits what Diop calls the “general progress of humanity,” the “triumph of the notion of the human race,” and the “flowering of an era of universal mutual understanding.”\textsuperscript{20}

**Humanity’s Other**

The second objection—the one I will focus on in particular—belongs to the so-called Afrofuturist movement. Afrofuturism is a literary, aesthetic, and cultural movement that emerged in the diaspora in the second half of the twentieth century. It combines science fiction, technoculture, magical realism, and non-European cosmologies in order to interrogate the history of so-called people of color and their condition in the present.\textsuperscript{21} It rejects out of hand the humanist postulate insofar as humanism can only establish itself by relegating some other (living or inert) subject or entity to the mechanical status of an object or accident. Afrofuturism is not content to simply denounce the illusions of the “specifically human.” In its eyes, the idea of the human race is compromised by Black experience. As a product of a history of predation, the Black Man is a human who has been forced to don the garb of a thing and to share the fate of an object. By doing this, he bears within him the tomb of humankind. He is the ghost that haunts the Western-humanist delirium. Western humanism is thus a kind of crypt haunted by the ghost of someone who has been forced to share the fate of an object.
Armed with this reinterpretation, the Afrofuturist movement declares that humanism is now an obsolete category. Its exponents suggest that if we want to adequately describe the contemporary condition, we will have to refer to all the objects/humans and humans/objects of which the Black Man has been the prototype or the foreshadowing since the dawn of the modern era.\textsuperscript{22} Since the Black Man came onto the modern scene, there has no longer been a human who does not take part in the nonhuman, the more-than-human, the beyond-human, or the elsewhere-than-human.

In other words, we are obliged to speak of humanity in the future tense, and always paired with the object, which is now its double. The Black Man is the adumbration of this future inasmuch as, owing to his history, he points to the idea of a potential for transformation and quasi-infinite plasticity.\textsuperscript{23} Drawing from fantasy literature, science fiction, technology, music, and the performing arts, Afrofuturism attempts to rewrite the Black experience of the world in terms of more or less continuous metamorphoses, multiple inversions, sometimes anatomical plasticity, and corporeality serving the imperative of the machine.\textsuperscript{24}

**Genealogies of the Object**

The Afrofuturist rejection of the idea of Man arising from modernity may surprise us. Does it not ultimately support traditions of thought that have prospered on the basis of the flagrant denial of Black humanity? This would be to forget that, since the beginning of the modern era, we have nurtured the dream of becoming the masters and owners of ourselves and of nature. To achieve this, we had to know ourselves, nature, and the world. In the late seventeenth century, we started to think that in order to know ourselves, nature, and the world, we had to unify all fields of knowledge and develop a science of order, calculation, and measurement that would make it possible to translate natural and social processes into arithmetical formulas.\textsuperscript{25} As algebra became the means by which we provided models for nature and life, there arose a way of knowing that essentially entailed making the world flat, or in other words, homogenizing the entire living world and making its objects interchangeable and able to be manipulated at will.\textsuperscript{26} The flattening of the world was thus, for several centuries, the movement that governed a significant part of modern knowledge and science.

This flattening movement occurred, to different degrees and with incautious consequences, alongside the other typical process of the modern era, the constitution of world-spaces under the aegis of capitalism. From the fifteenth century onward, the Western hemisphere was the
driving force for this new planetary adventure, propelled by the mercan-
tilist system of slavery. On the basis of triangular trade, the entire Atlan-
tic world was restructured; the great colonial empires of the Americas
emerged or were consolidated, and a new epoch in human history began.

Two emblematic figures marked this new historical cycle: first, the
dark figure of the Negro slave (in the mercantilist period we call the “first
capitalism”); then the radiant, glowing figure of the worker and, by ex-
tension, the proletariat (in the industrial period that began between 1750
and 1820). We are only just beginning to highlight the ecological metab-
olisms (in terms of materials and energy) involved in the “manhunts” with-
out which Atlantic trade would have been impossible. More precisely,
the slaves were the product of predation within an economy where mak-
ing profit on one of the Atlantic shores relied closely on a system com-
bining raids, capture wars, and various forms of manhunt. At the time
of the slave trade, capitalism operated on the basis of the harvesting and
consumption of what might be called a bioresource that was both human
and vegetal.

The ecological disruptions caused by the widespread harvesting of
humans and its attendant violence have, until now, never been systemati-
cally studied. And yet the New World plantations could hardly have op-
erated without the wholesale use of African slaves, those “walking suns.”
Even after the Industrial Revolution, these human fossils continued to
be used as coal for the production of energy and to power the economic
transformation of the world system. These manifold depredations natu-
really required the mobilization of huge amounts of capital. In return, slave
owners could extract work from their chattels relatively cheaply, because
it was unpaid labor. They could also resell them to third parties. The as-
signable and transferable nature of slaves made them into private assets
that could be given a monetary value and traded.

The slave worlds that existed within the Atlantic economy were
nonetheless characterized by numerous paradoxes. On the one hand, al-
though they were useful in the profit-making process, slaves, as a result of
their degradation, were severely devalued in symbolic and social terms.
Forced to share the fate of the object, they nevertheless remained funda-
mentally human beings. They had bodies. They breathed. They walked.
They talked, sang, and prayed. Some learned to read and write, some-
times in secret. They fell ill and, via curative practices, strove to re-
establish a curative community in spite of the forces of fragmentation.
They experienced want, pain, and sadness. They resisted when they could
take no more, and slave rebellion was a source of absolute terror for their
masters.
Moreover, although soiled and stigmatized, these fundamental humans represented reserves of value to their owners. Just like money and goods, they served as a medium for all sorts of economic and social transactions. As movable objects and extended materials, their status was that of things that can be circulated, invested, and spent. In this respect, slave-trading worlds are worlds where matter is produced by living flesh and daylong sweat. This living flesh has an economic value that can be measured and quantified. It can be given a price. The materials produced from the sweat of the slave’s brow also have an active value insofar as the slave transforms nature: he converts energy into matter; he is himself a material figure and an energetic figure. Slaves are, from this point of view, more than mere natural goods owned by the master, from which he can generate revenue and which he can sell on the market without restriction. More than this, what sets them apart is their fundamental alienability. And the justification for this fundamental alienability is to be found in the principle of race.

**Capitalism and Animism**

These considerations provide us with a better understanding of the premises of Afroturist criticism. We must now establish whether this criticism can be radicalized, and if this radicalization necessarily presupposes the rejection of all notions of humanity.

First of all, it is only possible to dig deeper into the Afroturist critique of humanism by associating it with an equivalent critique of capitalism. Three kinds of impulse have driven capitalism since its origins. The first was to constantly fabricate races and species (in this case Negroes); the second was to seek to calculate everything and convert everything into tradable merchandise (a generalized law of exchange); and the third was to seek to exercise a monopoly on the making of living things. The “civilizing process” involved tempering these impulses and maintaining, with varying degrees of success, a number of fundamental separations without which the “end of humanity” would become a clear possibility: a subject is not an object; not everything can be calculated mathematically, bought and sold; not everything can be exploited and replaced; a number of perverse fantasies must necessarily be transcended if we do not want them to lead to the pure and simple destruction of society.

The age of neoliberalism has seen these barriers collapse one by one. The idea that humans are clearly distinct from objects, animals, or machines is no longer a certainty. Perhaps, at bottom, they aspire to becoming objects. The fabrication of species and subspecies within humanity
is no longer necessarily taboo. The abolition of taboos and the more or less total liberation of all kinds of impulses, then their transformation into materials in an endless process of accumulation and abstraction, now constitute the fundamental traits of our time. These events, and several others of the same type, certainly indicate that the fusion of capitalism and animism is well under way.

This is all the more true because the raw material of the economy is no longer made up of territories, natural resources, and people. Admittedly, territories, natural resources, and people are still indispensable, but the natural milieu of the economy is now the world of processors and artificial biological organisms. It is the starry world of screens, shifting fluids, flickering lights, and radiation. It is also the world of human brains and automated computation, and a world where we work with increasingly miniaturized instruments. Under these conditions, producing Negroes no longer involves forging a submissive social bond or a body of extraction, in other words, a body that is entirely exposed to the will of a master, and from which the latter strives to obtain maximum profit.

Moreover, where the Negro used to be the human being originally from Africa, characterized by his sunny demeanor, and the color of his skin, this is no longer necessarily the case today. We now observe a trend toward the universalization of the condition once reserved for Blacks, but as part of a process of inversion. This condition used to entail reducing the person to a thing, an object, a piece of merchandise that could be sold, bought, or owned. The production of “subjects of race” certainly continues, but the modalities have changed. Today’s Negro is no longer only a person from Africa, characterized by his sun-burnished color (“the surface Negro”). Today’s “underlying negro” (in lowercase) is a subaltern category of humanity, a subaltern kind of humanity, the superfluous and almost surplus component that capital hardly needs, and which seems doomed to zoning and expulsion. This “underlying negro,” this type of humanity, appears on the world stage while, more than ever before, capitalism is becoming akin to an animistic religion, and while yesterday’s man of flesh and blood gives way to a digital flow-human infiltrated by all kinds of synthetic organs and prosthetics. The “underlying negro” is this software-driven humanity’s Other, a new figure of the species that is so typical of the new age of capitalism, where self-reification is the best chance we have to achieve self-capitalization.

Lastly, although the accelerated development of the techniques used to exploit natural resources on a massive scale were part of the global mathematization project, the project itself has ultimately had the single goal of the administration of life, which today essentially operates
In the technetronic era, calculating thought is pushed to its digital limits. In the statis-maximum point of abstraction. It is no longer based solely on statistical rationality. Humanity appears more and more in the form of conceal rationality. Humanity appears more and more in the form of concrete flows, increasingly abstract codes, and increasingly fungible entities. Since the idea is that everything can now be manufactured, including living things, then existence is capital to be managed and the individual is a particle in a system, or a piece of information, that must be translated into a code connected to other codes within a constantly growing process of abstraction.

In this world of megaproducts, another regime of intellect is springing up, which should probably be characterized as “anthropom mechanicistic.” We are thus moving into a new human condition. Humanity is leaving behind the great separation between Man, animal, and machine that so strongly shaped discourse on modernity and humanism. Today’s human is now firmly hitched to his animal and to his machine, to an array of artificial brains, doubles, and doubles-of-doubles that form the bedrock of the extensive digitization of his life.

Consequently, unlike their predecessors, today’s masters no longer need slaves. As the slaves have become a burden that is too heavy to carry, the masters seek above all to get rid of them. The great paradox of the twenty-first century is thus the emergence of a constantly growing class of masterless slaves and slaveless masters. This is a logical reversal, since the new capitalism is above all speculative. Without slaves, it is thought, there will be no revolt. It is believed that to root out the potential for insurrection, it is enough to liberate the mimetic potential of the enslaved. As long as the new freedmen strive to become the masters they will never be, things can never be other than how they are. Always and everywhere, the repetition of the same trope will be the rule.

**Racisms of the Future and the Emancipation of the Living**

All that remains is to turn our attention to the future of racism within such a configuration. Historically, at least in settler colonies or slave states, racism always served as a subsidy for capital. That was its function. Class and race established one another. People generally belonged to a class attributed according to one’s race, and in return, the fact of belonging to a given race provided opportunities for social mobility and access to various forms of social status. The class struggle was inseparable from the race struggle, even if the two forms of antagonism were sometimes driven by autonomous processes. The racialization process was
inevitably fueled by discrimination. Race made it possible to naturalize social differences and to put unwanted people in frames from which the law, or even the use of force, made it impossible to escape.

Today, new varieties of racism that no longer need biology to justify themselves are appearing. For example, it is enough to call for a crackdown on foreigners; to proclaim the incompatibility of “civilizations”; to suggest that we do not belong to the same humanity; that cultures are incommensurable; or to proclaim that any God that is not the god of a particular religion is a false god, an idol that is worthy of sarcasm or that can, by the same token, be freely desecrated. In the current conditions of crisis in the West, this type of racism is a supplement to nationalism, at a time when neoliberal globalization empties nationalism, and indeed democracy itself, of all true content and moves the real decision-making centers far away. At the same time, recent progress in the fields of genetics and biotechnology confirm the idea that the concept of race is meaningless. Paradoxically, however, far from giving a new impulse to the idea of a world without race, this has unexpectedly revived the old classification and differentiation project so typical of previous centuries.

A complex process of global unification in the framework of the borderless (though uneven) expansion of capitalism is thus in progress. This process goes hand in hand with the reinvention of differences, a re-balkanization of the same world and its partition according to a variety of lines of separation and disjunctive inclusions. These lines are both internal to societies and states and vertical, insofar as they outline new configurations for domination on a global scale. The globalization of apartheid may thus be the world’s immediate future, at the precise moment when awareness of the finiteness of the terrestrial system has never been sharper, and when the interdependence between humans and other forms of life has never been more manifest.

How, then, can we reformulate the possibility to free the potential to emancipate the disenfranchized in the conditions of our time? What does it mean to build ourselves, to determine our own future, or to become who we want to be at a time when “mankind” is just one force among many other entities with cognitive powers that might soon surpass our own? What does it mean when the human figure, splintered into multiple fragments, has to contend with a host of artificial, organic, synthetic, and even geological forces? Is it enough to disqualify the old concept of abstract, undifferentiated humanism, blind to its own violence and racist zeal? And what are the limitations of invoking a supposed “human race” that would only rediscover its relationship to itself when threatened by its own extinction?


6 See Frantz Fanon, Œuvres (Paris: La Découverte, 2011).


9 The word Nègre, as used by Mbembe, is difficult to translate as it does not have exactly the same connotations as the word “Negro.” I have adapted the approach of Laurent Dubois, which is to use the word “Negro” and the word “Black” where they seem most appropriate in context; see his translator’s introduction to Achille Mbembe, Critique of Black Reason (Durham, NC: Duke University Press, 2017).—Trans.


19 Ibid.

20 Ibid. See also Cheikh Anta Diop, Civilisation ou barbarie (Paris: Présence Africaine, 1981).

21 See, for example, the fantastic works of Samuel R. Delany and Octavia E. Butler. See also the paintings of Jean-Michel Basquiat and the photographs of Renée Cox, and listen to the musical translations of extraterrestrial myths in the work of Parliament-Funkadelic, Jonzun Crew, and Sun Ra. For a general introduction, see Alondra Nelson, ed., “Afrofuturism,” special issue, Social Text, no. 71 (Summer 2002).


23 See the work of authors as diverse as Alexander G. Weheliye, Phonographies: Grooves in Sonic Afro-modernity (Durham, NC: Duke University Press, 2005); Fred Moten, In the Break: The Aesthetics of the Black Radical Tradition (Minneapolis: University of Minnesota Press, 2003); and Eshun, More Brilliant than the Sun.


27 For the colonial period, see, for example, Richard H. Grove, Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860 (Cambridge: Cambridge University Press, 1995).


35 See Mbembe, *Critique of Black Reason*.


From 953 AD to 1 Gigayear: Cheikh Anta Diop's Future Vector of Energy

Four decades before Martin Bernal's critique of Egyptology's so-called "Aryan model," the physicist, historian, linguist, and political activist Cheikh Anta Diop's refutation of academic Egyptology set off intense disputes within and beyond the Francosphere. Critical attention has consequently tended to focus on the contestation and elaboration of Diop's "Egyptian philosophy of history" at the expense of his prospective imagination of Africa's futures. Attending to Diop's predictions and forecasts for the industrialization of Africa reveals a lesser known aspect of his multidisciplinary project that prefigures, participates, and diverges in striking ways from contemporary scholarship's accounts of the historical genealogies of futures fashioned by future studies, modernization theories, and anti-colonial nationalisms.

What emerges from a study of Diop's "futures research" is an account of his ongoing interventions in the political debates of the 1950s, 1960s, and 1970s that aimed to shape the "coming times" of Africa's futures through the creation of "forms of future expertise." In using techniques of prediction as "decision tools," Diop sought to persuade his readers "to act for the future" at the scale of the continent. From this perspective, the success or failure of Diop's predictions matters less than accounting for his approach to research as a "potential lever" with which to influence human action in Africa's postcolonial present. The plans formulated by Diop in the name of development, modernization, and industrialization can be understood as political technologies of "worldmaking" that sought to intervene in "a central struggle over how the future could be influenced, and by and for whom."

Diop's proposal for an African federated state can be understood as a project of "anticolonial worldmaking" that simultaneously complicates
the archaeology of futures studies narrated by Jenny Andersson and the
genealogy of anti-colonial nationalism elaborated by Adom Getachew. Unlike figures such as Kwame Nkrumah or Eric Williams or Nnamdi Azikiwe featured in Getachew’s study, Diop was not a statesman. Nor, however, did he work for the white world of social sciences and technosciences dominated by the RAND Corporation or Royal Dutch Shell in Andersson’s account.

Diop occupied an anomalous position of expertise embedded in interdisciplinary networks of scholarship and activism. He was born in Cayru in the Baol region of central Senegal in December 1923 and died in Dakar in February 1986. After obtaining his baccalaureate in philosophy and mathematics in Dakar, he moved to Paris in 1946 to pursue further studies. At the Sorbonne, he studied mathematics, and took courses in sociology, anthropology, ancient history, prehistory, and linguistics taught by historian André Aymard and linguist Lille Homburger, as well as Gaston Bachelard, André Leroi-Gourhan, and Marcel Griaule. Diop studied hieroglyphics, Egyptology, and nuclear physics, and eventually earned his doctorat d’État in 1960, presenting a thesis that threatened the “very foundation of the science of Egyptology.”

1960 was a critical year for the future of the continent, and also for Diop, who published two books. His proposal for a Pan-African federated state in Black Africa: The Economic and Cultural Basis for a Federated State, can be located within and beyond the intellectual history of forms of futures research elaborated in Andersson’s The Future of the World: Futurology, Futurists, and the Struggle for the Post–Cold War Imagination.

In Andersson’s archaeology of Cold War rationalities of prediction, the emergence of the “post-war concept of the future” was marked by “material processes of scientific circulation and directly connected with emerging notions of globality and interdependence.” From 1947 to 1970, practices of prediction constituted a “political technology” of “worldmaking” that enabled a technological “reflection on the dangerously open nature of the future” by seeking to manage “a potentially infinite plurality of good and bad futures.” From this perspective, argues Andersson,
open-ended forms of change. In the post-war decades, both liberal and authoritarian regimes invested heavily in forms of forecasting and prediction as ways of monitoring the social trends of industrial and post-industrial society. The Cold War transposed this problem of the social “trends” of mass society to the level of world, and future research became a quintessential reflection on modernization and its possible outcomes.13

It is in the context of the Cold War aspiration to monitor and manage modernization’s “possible outcomes” that “the decolonization process,” argues Andersson, “shook assumptions not only of a stable bipolar system, but also of a foreseeable modernization process on the global level. As such it introduced the idea that world temporalities were complex, and that there could be other sources of the future than Western social science or Marxist five-year plans.”14

Decolonization complexified the problem of knowing, monitoring, or managing a world that had many different outcomes. What ensued was a chronopolitical conflict in which capitalist and communist modernization processes encountered resistances and protests from below:

American modernization theory clashed, on the “ground,” in countries such as India, Iran, or Japan, with indigenous visions of modernity, including nationalism, post-industrialism, and post-colonialism. Soviet-exported plans for modernization met with Pan-Africanism and national versions of communism.15

Decolonization posed a problem for American and Soviet modernization theories that sought to narrow probable futures down to a range of identifiable outcomes. From the late 1960s on, according to Andersson, “post-colonialism, nationalism, and traditionalism all enter” into the struggle over “the future imagination.” It is not merely or not only a matter of including Diop’s futures research within Andersson’s Euro-Americanist archaeology in order to open the question of the decolonization of competing modernizations, important though that is.16

Nor is it a matter of noting that Diop’s interventions into “the future imagination” preceded the publication of *Black Africa* by seven years, thereby rewriting Andersson’s narration of postcolonialism’s belated emergence into “the future imagination” by more than a decade.17

More critical still is to analyze the ways in which Diop’s interventions did not take the form of “indigenous visions of modernity” that clashed with modernization theory on the “ground” of development’s
temporality. Diop’s predictions were not made in the name of the “indigenous visions of modernity” that resisted modernization’s predictions. Nor did they function in the name of “a Pan-Africanism” that “clashed” with “Soviet-exported plans for modernization.”

Diop’s proposals for modernization were not just grand but grandiose narratives articulated in the prospective vocabulary of Pan-Africanism that can be understood as a project of “anticolonial worldmaking.” Adom Getachew’s *Worldmaking after Empire: The Rise and Fall of Self-Determination* narrates Pan-African federalism as a response to longstanding critiques of postcolonial sovereignty in the context of “empire as a structure of domination.” Getachew argues that from each of the cases of the July 1915 American invasion and occupation of Haiti, the informal empire in Liberia, the Italian intervention in Ethiopia in October 1935, and the so-called Congo crisis of June 1960, anti-colonial nationalists “gleaned the insight” that empire was a structure of domination in which external actors could exercise arbitrary power over colonies and peripheral states. Because this mode of imperial domination extended beyond alien rule, decolonization could not be limited to securing independence from the colonial master. Instead, it had to overcome the background conditions of unequal integration and international hierarchy that facilitated domination. Anticolonial worldmaking—the project of overcoming international hierarchy and constituting a postimperial world—took the form of securing international non-domination.  

The appearance of the federated African state in Diop’s *Black Africa* indicated his acute awareness of what Getachew calls “the central dilemma of postcolonial sovereignty—the disjuncture between formal independence and de facto dependence.” In his book, Diop argued that “violent opposition” to the development of “national liberation movements in colonies” had been replaced by a “new tactic” which sought to direct the “powerful decolonizing drive” toward “nonsocialistic forms.” If this “goal were to be reached,” he warned, Black Africa would not be be balkanized but a proliferation of little dictator-ridden countries without organic ties one to another, ephemeral, afflicted with chronic weakness, governed by terror with the help of outsized police forces, but
under economic domination by foreign countries, pulling strings through the mere presence of an embassy.\textsuperscript{22}

A federated African state was nothing less than a “method of survival” for new nations facing the “emptiness of so-called independence.”\textsuperscript{23} Securing independence “at the continental level” required new nations to disaggregate and delegate national sovereignty in order to create what Getachew describes as a “sovereign federal authority” that “would be endowed with extensive powers particularly in economic policy.”\textsuperscript{24} Diop emphasized the urgency of moving from the national to the regional or continental-scale economy,\textsuperscript{25} which “could approximate self-sufficiency.”\textsuperscript{26} The underlying assumption of this interscalar expansion was the understanding that “Africa’s natural endowment and resources if organized and directed at the regional level could be the basis of self-reliant processes of economic development.”\textsuperscript{27}

In part two of \textit{Black Africa}, titled “The Compendium of Energy Sources,” Diop provided a continental audit that identified ten potential energy resources, from hydraulic energy to geothermal energy, capable of providing the “means of organizing the use and development of natural resources toward the aim of economic development” organized at a continental scale.\textsuperscript{28} According to Diop:

\begin{quote}
Black Africa leads all the world in hydraulic energy with its reserves of thousands of billions of kilowatt-hours representing about half the total world resources. The Zaire River, second largest in volume of flow (30,000 to 60,000 cubic meters per second) by itself holds more than 600 billion kilowatt-hours of annual reserves or two-thirds of the entire production of the world at the present time, the Sanaga and Ogooue half as much.\textsuperscript{29}
\end{quote}

Diop’s expertise allowed him to extrapolate from contemporary reports of advances in the long-haul delivery of electric power from Sweden to the island of Gotland. Diop looked forward to “harnessing the hydroelectric power of the Zaire Basin alone” via the Inga and Kisangani dams in order to supply all of the “Black Continent” with electricity.\textsuperscript{30} Connecting the “joint concentration of energy sources” with “raw materials” enabled Diop to extend his research with the aim of determining “the existence of eight natural zones for industrial development in Black Africa.”\textsuperscript{31}

In part three, “The Industrialization of Black Africa,” Diop designated the Zaire River Basin as the most important of the eight zones for the industrialization of the continent. With its “650 billion kilowatt-hours of
annual reserves of hydraulic energy” that is “almost two-thirds of world
production,” the Zaire Basin, he argued, was destined “to become the
leading industrial region of Africa, the principal center of our heavy indus-
try.”32 Diop approached the two banks of the Zaire and Congo Rivers, and
“a large part of Equatorial Africa,” as one “unified natural zone with the
same economic characteristics” that could not be “artificially differenti-
ated” according to existing colonial borders. Diop envisaged a “final stage”
of industrialization in which the Zaire River’s hydraulic energy would
supply all the electricity needed for the various branches of indus-
try using the resources of raw materials in neighbouring ter-
ritories: the coking coal of South Africa and Southern Rhodesia
(Zimbabwe), the iron of Angola and even Zaire, cobalt (65 percent
of world production); tantalium (85 percent of world production
in Nigeria alone); cadmium, vanadium, manganese, tin, copper
(overlapping from Upper Shaba into Zambia), the richest ore in
the world; zinc, lead, silver, industrial diamonds, gold, uranium,
(the Shinkrolobe [sic] mines, top exporter in the world, 60 to 70
percent of total mined).33

The undeniable importance of the Zaire Basin for “all Africans” impressed
itself upon French-speaking Africans, who were more likely to enter into
direct relations with the population of this territory with a view to
establishing permanent links among our peoples so we may build
our common future together. All the countries of Africa should
participate in the industrial development of this region, in particu-
lar the construction of the Inga Dam, which was projected to pro-
duce 400 billion kilowatts per annum in Zaire.34

Diop’s assessment of the Zaire Basin as the “leading industrial region of
Africa” looked forward to the transformation of the “Southern African
economic complex” that “extended from the Congo Basin all the way
to the Cape of Good Hope.”35 Building a new “industrial region” from
an existing economic complex in turn presupposed the formation of a
pan-Congolese federal state united under a newly independent govern-
ment. Diop’s forecast relied on the existence of a ruling political party
such as Patrice Lumumba’s MNC-L, or Mouvement National Congolais-
Lumumba, which would unify the Congo’s existing regions into a unitary
state that would integrate itself within the broader continental framework
of a federated African state system.
Here, Diop aimed to direct the future development of Congolese decolonization by pointing toward its road to industrialization in the present. This path was checked and reversed by the so-called Congo crisis initiated by the mutiny of the Force Publique on June 16, 1960. As Georges Nzongola-Ntalaja argues, the Congo crisis can be more accurately understood as a counterrévolution waged by “mining companies, white settlers and their backers in the Western establishment” to preserve the Southern African economic complex “against the national and social aspirations of the black masses for freedom and material prosperity.”

“The Industrialization of Black Africa” can be understood as an outline for industrialization that did not operate on the “ground” of “indigenous visions of modernity” as suggested by Andersson, but rather was aimed at its transformation. As such, it could be discounted as an example of a “derivative discourse” of modernization that demonstrated the “expired contingency” of the “development era” of 1940 to 1973 when “colonial and nationalist versions of development,” according to Frederick Cooper, “shared a belief that government planning and government investment—not just the ‘natural’ operations of the market—would help African economies emerge from backwardness.”

Such a dismissal would, however, elide Wallerstein’s account of the “transformation of the world” entailed by Pan-Africanism’s “movement towards unity.” Because its “goals are phrased in terms of the formal aim of political union” that cloaked its “real objectives,” observers failed to grasp Pan-Africanism’s actual objective of “the reorganization of the world economy in ways that would permit the rapid industrialization of Africa and the realization of its full political and social equality with Europe and America.” Understanding this “reorganization of the world economy” entailed accounting for Pan-Africanism as a project of world-making whose “field of action” was “not Africa but the world, for its objectives were not simply to transform Africa but to transform Africa by transforming the world.”

Diop’s project of transforming the Zaire Basin into Africa’s leading industrial center entailed nothing less than the “transforming” of Africa “by transforming the world.” Even when the “international order secured full membership and sovereign equality to all states,” the counterrévolution in the Congo provided new nation-states with an object lesson on the “economic dependence and inequalities of political power between states” that would continue to create the conditions in which postcolonial states would be subject to the arbitrary wills of powerful states.
and other actors. This anxiety was at the heart of Nkrumah’s definition of neocolonialism in which external actors exploited the economic dependence that outlived alien rule.\textsuperscript{40}

From this perspective, argues Getachew, the range of regional and continental federations proposed in the West Indies, West Africa, and East Africa can be understood not as a “dream” but as strategies that aimed to “mitigate, circumvent and, undo the hierarchies that facilitated domination,”\textsuperscript{41} in order to evade

the economic dependence inherent in the global economy by organizing regional institutions that were egalitarian and redistributive. Rather than a direct challenge to international hierarchy, federation was an attempt at a partial exit and insulation from the dependencies that facilitated domination.\textsuperscript{42}

For Mamadou Diouf and Mohamed Mbodj, \textit{Black Africa} was Diop’s “least scientific” or “most political” work, one that “is surely the one he himself considered the most important, going so far as to revise it in 1974.”\textsuperscript{43} The idea of “scientific” in Diouf and Mbodj’s interpretation referred to Diop’s “technical discussions, especially the linguistic and grammatical passages” of Meiotic script, Egyptian hieroglyphics, and Wolof text that Mercer Cook had excluded for reasons of “continuity and accessibility” from his 1974 English translation of \textit{The African Origin of Civilization: Myth or Reality}.\textsuperscript{44} Rather than opposing “scientific” to “political” research, however, it is possible to think of the former in terms of expertise mobilized by Diop in order to achieve the technopolitical goals of the latter.

In this alternative reading, “scientific” refers to Diop’s formative training as a physicist at the Paris-based research laboratory of Frédéric Joliot-Curie, France’s influential communist nuclear physicist.\textsuperscript{45} From 1961 until his death, Diop worked as director of the radiocarbon laboratory at the Institut Fondamental d’Afrique Noire (IFAN), at the University of Dakar.\textsuperscript{46} As a “historian and a physicist,” argues Paul Bandia, Diop “used his physics laboratory at IFAN to bring pre-historic facts to support the writing of an indigenous, authentic, history of Africa.”\textsuperscript{47} Bandia’s recourse to notions of the “indigenous” or “authentic” could be rephrased in terms of technopolitical practices. As the radiocarbon laboratory enabled “Diop and his research team” to “date pre-historic artefacts and carry out experiments on archaeological findings,” radiocarbon dating prehistoric artifacts can be understood as a technopolitical practice adopted by Diop in order to reorganize the colonial order of knowledge about Africa.\textsuperscript{48} As Mamdani pointed out:
While the debate around Diop in the North American academy revolved around his claim that ancient Egypt is the core civilizational archive of African history, Diop's larger significance lay in the more general question he raised: whether history before the arrival of the White Man could be understood as a social history, or whether the limits of our understanding were the limits of archaeology, however reconstructed. 49

Diop sought to reorganize the colonial episteme of Africanity constituted by the imperial disciplines of archaeology, anthropology, and history that rested in turn upon the racialized and essentialized distinction of oral history by searching for "extra-European sources, particularly in Arabic, prior to the Moroccan invasion in the 15th century" in order to "sketch" what Mamdani described as "the outlines of a social history of West Africa for over a thousand years." 50

The epistemic ambition to build a "body of African human sciences" was articulated by Diop in a specifically Promethean vocabulary. 51 In his preface to The African Origin of Civilization, Diop declared that "we must restore the historical consciousness of the African peoples and reconquer a Promethean consciousness." 52 In the introduction to Civilization or Barbarism: An Authentic Anthropology, Diop rededicated this revanchist project to the figure of the "African who has understood us," which he described as

the one who, after the reading of our works, would have felt a birth in himself, of another person, impelled by an historical conscience, a true creator, a Promethean carrier of a new civilization and perfectly aware of what the whole Earth owes to his ancestral genius in all the domains of science, culture and religion. 53

The "Promethean carrier of a new civilization" personified Diop's image of the future incarnated in the figure of the African Renaissance. Immersed in the "arcana imperii" of radiocarbon dating, trained in nuclear physics, familiar with nuclear energy, and cognizant of nuclear technology, Diop's technopolitical expertise, it could be argued, upgraded Afrocentricism's nineteenth-century "mythography" of Promethean Egypt—as recently elaborated by Jared Hickman 54—for the 1970s into an atomic Prometheanism that he sought to place at the service of African survival.

In his recent article "The Black Bomb," Mamadou Diallo recounts Diop's preoccupation with South Africa's nuclear capability. In his 1977 text "The Pretoria Bomb and the Future of Our Species," Diop warned of
“South Africa’s advances in the military nuclear domain” and declared that if “nothing impedes its development, Pretoria will be capable of equipping 100 nuclear warheads enough to keep the large African agglomerations under control.”

Diop’s essay, according to Diallo, “called on black Africa to acquire comparable arms.”

In 1977, the two African states with the capacity to acquire “comparable arms” to South Africa were Nigeria and Zaire. With Zaire under the control of President Mobutu Sese Seko’s Mouvement Populaire de la Revolution, or MPR, Diop liaised instead with Nigeria’s M. D. Yusufu, inspector general of police and head of the Special Branch. Diallo’s article narrates Diop’s thwarted efforts to “assemble scientists from across the globe, particularly the US, Cuba and Haiti” for “a gathering in Lagos” in 1977 that would form the “preliminary meeting for preparations for the first congress” of an “organization of scientists of the black world” that would be named the World Black Researchers Association. The WBRA’s “true objective,” however, was to have implemented a military “nuclear program in Nigeria” capable of providing the “capacity for nuclear dissuasion at the service of the continent.”

In 1978, Diop returned to the arguments he advanced in 1960. In his eleven-page foreword to the English edition of Black Africa, he maintained the apocalyptic tone noted by Diallo, warning his readers:

Tomorrow, or in ten years, the German rockets that the OTRAG (Orbital Transport und Raketen Aktion [sic] Gesellschaft) Company is beginning to manufacture in Equatorial Africa will be able to deliver Pretoria’s nuclear warheads with amazing precision. This will allow South Africa to have the entire Black Continent at its mercy—before Nigeria or Zaire are aroused or become efficiently effective.

In 1978, OTRAG’s (Orbital Transport and Rocket Corporation) precise location inside Zaire rather than in the generalized location of Equatorial Africa was widely known to contemporary observers. The West German company had signed an extensive eight-part contract with officers acting on behalf of President Mobutu in 1976 that leased them the exclusive rights to the “entire South Eastern corner of Zaire,” an area, according to Milton Leitenberg, of 38,000 square miles estimated at “one-tenth” of the “total area of Zaire,” until the year 2000. As Leitenberg wrote in 1981:
On this land, Otrag established a launch site and one of the largest rocket test ranges in the world. President Mobutu called it the "emerging Cape Canaveral of Africa." From this site, Otrag claimed that it would be able to provide inexpensive, competitively priced satellite launching services to a largely Third World clientele within three years—by 1982. However, this also meant that almost any nation would potentially be able to launch not only civilian and military satellites—if the development program actually succeeded—but long-range ballistic missiles as well.

Although the financial and technological aspects of the project have peculiar elements of their own, it was the political aspects that were the most puzzling of all, even in this first "Zairian" stage. The strategic location of the launch site, the somewhat curious terms of the Mobutu-Otrag contract, the potential military capability involved, and the unprecedented nature of a strictly private endeavor in space are all circumstances which have given rise to speculation that Otrag is a front for government involvement and military activity.62

What is striking in Leitenberg's account were the multiple futures that emerged from the OTRAG project. Mobutu envisioned an "emerging Cape Canaveral of Africa" within Zaire. OTRAG projected itself to provide "satellite launching services to a largely Third World clientele" by 1982.63 There was the further prospect of "almost any nation" being able to "potentially" launch not only civilian and military satellites if the "development program actually succeeded," but "long-range ballistic missiles as well." According to Diop, South Africa, more than Nigeria or Zaire, was capable of exploiting the commercial and/or military potential promised by OTRAG in 1978.

Diop sought to intervene in the danger posed by the multiplication of probable technopolitical outcomes. His alarmist prose was calculated to mobilize the sense of threat posed by the nuclear opacity of the apartheid regime's secretive nuclear weapons program.

The new foreword to the English edition of Black Africa contained sections titled "Toward an African Energy Doctrine" and "Bases for African-Arab Cooperation." In 1960, Diop had forecast that if the "abundant hydroelectric energy" provided by the Inga and the Kisangani dams, were harnessed, the Zaire River basin could provide the power required for continental industrialization. In 1978, this plan would require close collaboration with President Mobutu's Zaire. Diop had envisioned federal government in 1960 as a "collective directorship within which no one
chief of state would hold the top position.” By 1978, the prospect of “collective directorship” had become rule by the “collective dictatorship” of the people’s party.

These distinctions between 1960 and 1978 were reconfigured within the diagnostic context of a contemporary era of “energy crisis” that provided Diop with a “good reason” for redefining “what ought to be Africa’s energy doctrine.” The relation between the energy crisis of 1970 and the oil crisis of 1973 tends to be narrated as a matter of concern for the United States and the Middle East. In “The Resources of Economics: Making the 1973 Oil Crisis,” Timothy Mitchell reconstructs the “complex interaction of developments involving different natural resources and modes of generating power” that constituted “a single field of political concern and government intervention in the United States” that was understood as an “energy crisis” during the summer of 1970.

The “politics of energy” emerged simultaneously in 1970 with the “politics of the environment,” both of which were mediated by the “politics of the economy.” “Energy” was interpreted by the Nixon regime as “the crisis approaching,” while the “environment” was viewed as “the crisis that could have been.” The politics of the former was seen as a problem of and for the future while the latter was understood to be the pressing problem of the present.

Most economists of the 1970s, argued Mitchell, treated fossil fuels as the “scarce and depletable source of energy” of the present while the development of nuclear power was understood to provide the emergent “solution to the problem of high energy costs and the eventual exhaustion of fossil fuels.” The transition from nuclear fission to nuclear fusion, it was widely assumed, would provide the “ultimate solution to the energy crisis.”

The “interconnected and vulnerable system” of the “world energy crisis” offered an opportunity for Diop to intervene in the conflict whose outcomes were largely controlled by United States and the Middle East. In predicting the rearrangement of the interconnections between energy depletion, energy transition, and energy regime that emerged from the “global crisis,” Diop sought to monitor new energetic forces capable of mobilizing a new economy for the African continent.

Diop proposed a “schema of continentwide energy development” that could take into account “at one and the same time renewable and non-renewable energy resources, ecology and the technical advances of the coming decades.” This required “a formula of energy pluralism” that combined six energy sources, beginning with hydroelectric energy and concluding with thermonuclear energy. Diop predicted a near future in which thermonuclear energy’s “applications will become operational
within the next forty years—that is in two generations—at the very moment when the reign of oil will be ending with the exhaustion of the last deposits on earth.”

“Most economists” during the 1970s, argues Mitchell, shared such “long range” estimations with Diop. Predicting the probability of the successful development and operation of thermonuclear reactors in conjunction with the likelihood of the exhaustion of oil led Diop to forecast a transition in which the “energy needs of the planet would be answered for a period of a billion—repeat, one billion—years.”

Against the forecasts of a limit to growth, Diop argued for limitless growth fueled by thermonuclear power. Diop’s forecast of a giga-year of available energy sought to mobilize the reserves of optimism created by John von Neumann’s previous prediction for energy transition. In 1955, von Neumann predicted that in the “long run, systematic industrial exploitation of nuclear energy may shift reliance onto and still more abundant modes” in a move away from nuclear reactors that “had been bound thus far to the traditional heat-steam-generator-electricity-cycle, just as automobiles were at first constructed to look like buggies.” Von Neumann looked forward to a future in which it was likely that we shall gradually develop procedures more naturally and effectively adjusted to the new sources of energy, abandoning the kinks and detours inherited from chemical-fuel processes. Consequently, a few decades hence energy may be free—just like the unmetered air—with coal and oil used mainly as raw materials for organic chemical synthesis, to which, as experience has shown, their properties are best suited.

In Diop’s outline for a new energy regime, thermonuclear power provided the new energy source for transition and a simultaneous energy source of hydrogen that would play oil’s role of the “future energy vector.” Adopting von Neumann’s hypothesis of energy consumption that would increase indefinitely, Diop forecast a future in which the dams of the Zaire River and Cameroon’s Sanaga River and Ogooué River that would simultaneously produce “heavy hydrogen by way of electrolysis” and supply “ordinary hydrogen for stockpiling as an eventual replacement for gasoline to fuel a type of internal combustion engine to be invented.”

In light of the “coming depletion of hydrocarbon fossil fuels,” what preoccupied Diop was not the details of the oil crisis of October 1973 but rather the potential to use the technique of “long range” prediction as a “leverage” for intervention in the existing system. Diop looked forward
to a post-petroleum future that was no longer dominated by OPEC or the US, a South Africa no longer organized according to apartheid, and a Zaire no longer organized around President Mobutu. In this context, Diop asserted the “complementary nature of our economies,” emphasizing cultural and historical linkages between the Middle East and North, West, and East Africa.\(^77\)

If Africa’s hydroelectric installations provided both heavy hydrogen for thermonuclear reactors and ordinary hydrogen, then the latter could engender “the future vector of energy,” a phrase that encapsulated the magnitude and the direction of the future enabled by renewable hydrogen.\(^78\) By anticipating the demand for new fuel of hydrogen that would initiate an appetite for “a whole new technology of internal-combustion engines” that “must come into existence” in order to replace “today’s gasoline-fueled vehicles,” Diop was not so much outlining a deterministic logic of technology as he was envisioning the imaginative potential of the transition to a new energy regime summarized in the idea of the future vector of energy.\(^79\)

What was needed was an image capable of containing the hydrogen imaginary of the future vector of energy. Diop sketched the outline of a world picture from the year 2018 in which the city streets of the federated state would be filled with the peoples of Black Africa driving “hydrogen-fueled automobiles” and solar cars “built with photo cells” powered by a “photosynthesis reaction creating hydrogen from sunlight—accomplished in laboratory experiments by the Japanese.”\(^80\)

This anticipatory image of the future was intended to provoke the rethinking of “all of our developmental problems” that emerged in the form of disagreements that “pitted or presently pit Mali against Upper Volta, Ghana against Togo, Libya against Chad, Morocco against Mauritania in the Polisario, Somalia against Ethiopia.” In the federated African state of tomorrow, in which “today’s political boundaries would become mere local administrative lines,” such conflicts “would no longer be conceivable.”\(^81\) Such a vision might emerge in the “not so distant future” of 2018, provided that Diop’s readers could be persuaded to “rethink all of our developmental problems in order to avoid absurd choices that might condemn the next generation—today’s sixteen-year-olds—to face the worst kinds of difficulties tomorrow.”\(^82\)

Diop’s image of the “not so distant future of 2018” enabled by infinitely available thermonuclear energy appears as utopian today as those of his political enemy Léopold Senghor’s proposal for post-national federation or Kwame Nkrumah’s federal program for a United States of Africa.\(^83\) That Diop’s forecasts were “unlikely to be implemented or risked
being appropriated by reactionaries” indicated, and continues to indicate, the extent to which such “movements for real political change are always risky, their projects provisional, the danger of appropriation ever present.” “Risky” and “danger” highlight the degree to which such “outcomes are never determined in advance and the chances of success are always minuscule.”

And yet, thinking with Diop’s federated African state, enabled by an “African energy doctrine” and fueled in turn by a “future vector of energy,” also points to the scale of anti-colonial nationalism’s anticipatory imaginary that was mobilized in advance of, as well as in response to, the political dilemmas of the postcolonial era. Recovering the ambition and the aspiration of Diop’s “temporalizing practices” of prediction, planning, and proposal, reconstructing the scope of his futures research and the scale of his federalist “method for survival” provides us with the outlines of a project of worldmaking whose magnitude might help to “differently illuminate” what Gary Wilder calls “our own predicament of the present.”


3 The term is from B. Jewsiewicki and V. Y. Mudimbe; see their “Africans’ Memories and Contemporary History of Africa,” in “Beihft 32: History Making in Africa,” special issue, History and Theory 32, no. 4 (December 1993): 8–9. Immanuel Wallerstein argued that by “inverting Western cultural assumptions,” European civilization, in Diop’s “hypothesis,” could be understood as “a derivation of African achievement.” Immanuel Wallerstein, Africa: The Politics of Independence (New York: Vintage Books, 1961), 129–130. In “Africans’ Memories,” Jewsiewicki and Mudimbe argued for the paradox of Cheikh Anta Diop’s philosophy, which presents itself “as a radical alternative to the Hegelian exclusion of Africa from the history of humanity” even as it “constitutes a logical extension of Western thought and has its roots in nineteenth-century epistemology” (9). Kwame Anthony Appiah claimed Diop as the major hero of “the Afrocentric paradigm,” which, he argued, “seems very much to share the presuppositions of the Victorian ideologies against which it is reacting.” Kwame Anthony Appiah, “Fallacies of Eurocentrism and Afrocentrism” (lecture, AEI Bradley Lecture Series, Washington, DC, May 10,
Achille Mbembe argued that “Afrocentricity, if one was to be a bit naughty, is really a form of epistemic counter-racism. The very interesting person on this note is Cheikh Anta Diop, who believed that science basically was rational but that there was an ideological dimension of science, and also a mythological dimension of science. Science is the myth that the dominant elites managed to impose on everyone else.” Achille Mbembe, “Pan-African or groups managed to impose on everyone else.” Achille Mbembe, “Pan-African Legacies, Afropolitan Futures: A Conversation with Achille Mbembe,” by Sarah Balakrishnan, *Transition*, no. 120 (2016): 34.


Ibid., 4–5.

Ibid., 6.


1960 was the year that the United Nations General Assembly Resolution 1544, also known as the Declaration on the Granting of Independence to Colonial Countries and Peoples, enshrined “self-determination as a universal right to all peoples,” rendered “foreign rule legally and morally objectionable,” and “extended full membership in international society to all states,” and the year in which seventeen African colonies gained their independence from French, Belgian, and British empires. See Getachew, *Worldmaking after Empire*, 14, 107.


*Black Africa* was originally translated into English in 1978, for which Diop wrote a new foreword. It was republished in 1987, one year after Diop’s death, with a 1977 interview conducted by journalist Carlos Moore, as Cheikh Anta Diop, *Black Africa: The Economic and Cultural Basis for a Federated State*, trans. Harold J. Salemsen (Chicago: Lawrence Hill Books, 1987), 15.


See also “Futures and Futurology: An Interview with Professor Jenny Andersson,” *Society for the Advancement of Socio-economics*, January 27, 2019.
https://sase.org/newsletter-winter-18-19/futures-futurology-interview-professor-jenny-andersson/, in which Andersson states that the "problem of the future was in many ways a problem of how to bring order to an emerging and unknown situation in which there was no longer an established East-West or North-South dimension, but a multitude of new actors and temporalities on the world stage. This problem is triggered by decolonization, which seems to unleash a form of disorder both in terms of global value revolutions and commodity markets. Predicting the future thus developed from a form of surveillance of East-West relations in the 1950s and 1960s to a reflection on a much larger problem of the potential open-endedness of the world future."


16 Ibid., 27. Andersson’s account is usefully developed in Younis’s analysis of postcolonial scholarship’s opposing formulations of the politics of time. Younis draws attention to the “implicit political implications of temporal difference” in Dipesh Chakrabarty’s affirmation of the “heterotemporality” of “diaspora time” against the linearity of “nationalist time,” which Younis places in contrast to Johannes Fabian’s argument, colonial rule dominates through “heterotemporality” by drawing “temporal boundaries between true subjects of modernity and those condemned to endless antiquity.” See Mashab Younis, “Race, the World and Time: Haiti, Liberia and Ethiopia (1914–1945),” Millenium: Journal of International Studies 46, no. 3 (2018): 337.

17 Diop served as secretary general of the RDA, or Rassemblement Démocratique Africain, in Paris from 1950 to 1953. According to Ruth S. Morgenthau, the RDA, founded in 1946, was “the first interterritorial movement in French West Africa created before parties in territories other than Senegal or Ivory Coast had taken root.” Diop explained, “In February 1953, the first issue of the Voix de l’Afrique Noire appeared; this was the organ of the RDA students. In it I published an article entitled ‘Towards a Political Ideology of Black Africa.’ That article contained a résumé of Nations nègres, the manuscript of which was already completed. All our ideas on African history, the past and future of our languages, their utilization in the most advanced scientific fields as in education generally, our concepts on the creation of a future federal state, continental or subcontinental, our thoughts on African social structures, on strategy and tactics in the struggle for national independence, and so forth, all those ideas were clearly expressed in that article.” Ruth S. Morgenthau, Political Parties in West Africa (Oxford: Clarendon Press, 1964), 302, quoted in Cheikh Anta Diop, The African Origin of Civilization: Myth or Reality, trans. Mercer Cook (New York: Lawrence Hill, 1974), xii. The quote from Diop is taken from the same page.

18 Cedric Robinson argues that Pan-Africanism can be understood as “the signature of five different spheres of human experience: the prehistorical, the historical, the demographic, the cultural and the political” that have been obscured by the “imperium of political Pan-Africanism.” What is discussed in the following text is the postwar moment of political Pan-Africanism as theorized by anti-colonial nationalists. See Cedric J. Robinson, “In Search of a Pan-African Commonwealth,” Social Identities 2, no. 1 (1996): 161. See also George Padmore, Pan-Africanism or Communism? The Coming Struggle for Africa (London: Dennis Dobson, 1956); Kwame Nkrumah, Africa Must Unite (London: Heinemann, 1963); and Immanuel Wallerstein, Africa: The Politics of Unity: An Analysis of a Contemporary Social Movement (New York: Random House, 1967). For contemporary accounts, see Hakim Adi and Marika Sherwood, eds., The 1945 Manchester Pan-African Congress Revisited (London: New Beacon Books, 1995); Leslie James, George Padmore and Decolonization from Below: Pan-Africanism, the Cold War, and the End of Empire (London: Palgrave Macmillan, 2015); Matteo Grilli, Nkrumahism and African Nationalism: Ghana’s Pan-African Policy in the Age of Decolonization (New York:

19 Getachew, Worldmaking after Empire, 22–23.
20 Ibid., 108.
22 Ibid., 15.
23 Ibid., 15. As its name suggested, Diop’s idea of a federated state was closer to Nkrumah’s proposal for “a hierarchically organized federal state than to a federation.” Federation, argues Getachew, entailed “equally positioned member states with a wide arena of autonomy and a coordinate federal government that had a limited set of policy arenas under its purview” in distinction to the “model of a federal state” which “suggested that member states were subsumed under the new federal body and largely followed the policy prescriptions of the center.” The Organisation of African Unity that was founded in 1963 rejected the principles of federation and the model of the federal state in favour of the structure of confederation in which states, in the words of Haile Selassie, are “associated together for the securing of certain limited objectives for each of the constituent units while leaving their individual legal personalities otherwise intact.” See T. O. Elias, Federation v. Confederation and the Nigeria Federation (Port of Spain: Office of the Premier of Trinidad and Tobago, 1960), quoted in Adom Getachew, “Securing Postcolonial Independence: Kwame Nkrumah and the Federal Idea in the Age of Decolonization,” Ab Imperio, no. 3 (2018): 105–106.
25 The epistemic implications of continental federalism were elaborated by Mamadou Diouf and Mohamad Mbodj, who argued that the volumes published by Diop in 1960 linked “Black Africa’s place and role in humanity” to the “demonstration of the Negro personality of ancient Egypt (indeed, of the negritude of homo sapiens).” This demonstration in turn offered “the elements of the problematics of a universal history” that provided the components for building “a new theoretic continent and a geographic continent—a theoretic continent whose matrix is an intimate knowledge of Egyptian history for the reestablishment of the African social sciences and a geographic continent: the Federal African State.” Diouf and Mbodj, “The Shadow of Cheikh Anta Diop,” 119.
27 Ibid.
28 Ibid.
29 Diop, Black Africa, 38.
30 Ibid., 38–39.
31 The ten energy sources were hydraulic energy, solar energy, atomic energy, thermonuclear energy, wind energy, thermal energy of the seas, tidal energy, global heat, volcanic thermal energy, and geothermal energy. The eight natural zones for industrial development were the Zaire River Basin; the Gulf of Benin region; Ghana and the Ivory Coast; Guinea, Sierra Leone, and Liberia; the tropical zone of Senegal, Mali, and Niger for textiles, dyes, cement, oil seeds, fishing, wood chemistry, rice, reforestation, cattle, and energy problems; the Nilotic Sudan, Great Lakes, and Ethiopia; the Zambezi River Basin; and the Union of South Africa. See ibid., 38–78.
32 Ibid., 52.
33 Ibid.
34 Ibid., 56.
36 Ibid.


39 Ibid., 237.

40 Getachew, Worldmaking after Empire, 23.

41 Ibid.

42 Ibid., 24.


44 Ibid., 121. Mercer Cook explains that The African Origin of Civilization: Myth or Reality was intended “to introduce Cheikh Anta Diop to English-speaking readers” in the United States by including “ten chapters from his first published volume: Négritude et culture (1954) and three from his latest work: Antériorité des civilisations nègres: Mythe ou vérité historique? (1967)” and excluding “most of the technical discussions, especially the linguistic and grammatical passages.” Mercer Cook, translator’s preface to Diop, African Origin of Civilization, xi. See also Bandia, “Translation at the Service of History.”


46 Souleymane Bachir Diagne names the radiocarbon laboratory the Centre of Low Nuclear Energies or the Laboratory of Carbon. See Souleymane Bachir Diagne, “In the Den of the Alchemist,” in XIBAARU TEERE YI, supplement to “The Invention of Zimbabwe,” special issue, Chimurenga Chronic, April 2018, 13, 14.


48 Ibid., 216.


50 Ibid., 8.


52 Ibid., xv.


57 The Special Branch was the intelligence department of Nigeria’s government.

58 Ibid., 11.

59 Ibid., 10. The assassination of President Murtala Muhammed, Nigeria’s head of state, on February 13, 1976, after six months in office, in a coup ordered, according to journalist Carlos Moore, “by I. D. Bisalla, the minister of defense, in cahoots with MI6 and CIA” ended the prospects of the WBRA. Quoted in ibid., 11.


61 Milton Leitenberg, “Satellite Launchers—and Potential Ballistic Missiles—on the Commercial Market,” *Current Research on Peace and Violence* 4, no. 2 (1981): 115. In contrast to Leitenberg, Kallu Kalamiya estimated the area to be “delineated on the north by the river Lukuga from longitude 26° 55’ east by a straight line running to the northern tip of the island of Kavala in Lake Tanganyika. From there it goes in a straight line to the east to the frontier between Zaire and Tanzania. From there it goes to the south along this frontier as far as the point separating Zaire, Tanzania, and Zambia, then following the Zaire-Zambia frontier as far as the 10th parallel. The delimitation line then follows the 10th parallel under 26° 50’ east, subsequently reverting in a straight line to the north to reach the Zaire River (formerly the Congo) at the 8th parallel south. It then follows the Zaire downstream to its junction with the Lukuga River.” Kalamiya concludes that this is “a very large area indeed, encompassing about 100,000 square miles, roughly the size of Great Britain or West Germany itself.” See Kallu Kalamiya, “Rape of Sovereignty: OTRAG in Zaire,” *Review of African Political Economy* 6, no. 14 (1979): 21.


63 According to Kalamiya, the Chairman of OTRAG was “Dr Kurt H. Debus, a scientist who directed Hitler Germany’s rocket programme. Debus later worked with the better known German rocket expert, Werner von Braun, at the US Army Rocket Center in Huntsville, Alabama, and was subsequently appointed Director of the J.F. Kennedy NASA Space Center in Florida before returning home.” See Kalamiya, “Rape of Sovereignty,” 21.


67 Ibid.

68 Ibid., 193.

70 Ibid., xi–xii.
72 Diop, Black Africa, xii.
75 Diop, Black Africa, xii.
76 The “oil crisis” of 1973 was initiated by the six Gulf producers from the Organization of the Petroleum Exporting Countries, or OPEC, that raised prices by 70 percent on October 16, 1973, in conjunction with the six Arab producer states that cut the supply of oil by five percent each month on October 17. The two acts were linked by “Western commentators,” though, Mitchell argues, “for the actors involved,” the “coincidence was accidental.” The first decision, writes Mitchell, “was the culmination of a series of unsuccessful negotiations between OPEC and the oil companies over the price of oil.” The second decision was made “in response to the decision of the US to take Israel’s side in the October War and block their attempt to force Israel to accept a peace settlement based on relinquishing the occupied territories. The embargo ‘had nothing to do with wanting to increase the price of oil,’ according to the Secretary of OPEC, Ali Atiga. The aim was simply to draw the attention of the public in the West to the unresolved question of Palestine.” What Mitchell called public debate in the US “contributed to the sense of threat” by “linking the oil embargo to a wider ‘energy crisis,’ a problem of ‘limits to growth,’ and ‘the vulnerability of the environment’ which became an ‘increasingly important object of widespread political concern.” Mitchell, “The Resources of Economics,” 197, 191.
77 Diop, Black Africa, xvi.
79 Diop, Black Africa, xvii.
80 Ibid.
81 Ibid., xi.
82 Ibid., xvii.
85 Younis, “Race, the World and Time,” 357.
86 Wilder, letter to the editor.
Notes on the Necessity of Overcoming the Future

1.

What is exceptional and harrowing about disaster is that it embodies the moment in which history collapses. Today, any attempt to pose questions about the future comes from the vantage point of disaster. In other words, such an attempt can only be imagined as stemming from the void forged by the disastrous fate of the Arab Spring. Hence, for literature, it is crucial that the question of disaster remains central to that of the future. What should be expected from literature that emerges from the historical position that we currently occupy? It could be conjectured that literature is no longer expected to narrate, account for, or describe disaster; nor does it need to project alternative worlds. Instead, what should be expected from literature is disastrous works. In such works, disaster will not be the subject; rather, it will be the condition of possibility for their writing. For if it remains true that literature’s main task is not to inform, it must find a form for what is formless.

But what exactly do I mean by disastrous works? A disastrous work is entrenched in disaster because it has not managed to survive it. Disastrous writing is a form expelled from the sanctuary of safety. It roams around, risking its own life, risking the possibility to be forever silenced. It is a form of writing that interrogates itself and constantly questions its own capacity to grasp the radicality of disaster as well as the fierce intensity of its history. Disastrous writing does not aim to make disaster a holy cow; it seeks neither to mend disaster’s cracks nor to fill its void. This mode of writing instead connects one disaster to many others along the chain of disasters that extends across the course of history. It knows something about how history relentlessly begins again with every new disaster, not as an empty page but as a leap from one level of ferocity of historical struggle to a higher, more drastic, and more acute one.
2.

In his book *One-Way Street* (1928), Walter Benjamin writes, “Who could count the alarm signals with which the inner world of the true writer is equipped? And to ‘write’ is nothing other than to set them jangling.”

Hence, alarms are compelling for every writer and, in turn, leave the writer in a state of utter restlessness. Essentially, when the writer writes, the process is not one that stems from habit, from the need to merely express a personal opinion; rather, the writer is driven by an exigency, rendered possible by inner alarms. They ring in the head of the writer, who, under their spell, writes like a maniac up to the point where the signals become constitutive of the work, rather than being simply its components. In such work, the writer tries neither to explain the signal of the forthcoming disaster nor to predict the horrid possibilities it conceivably contains. What the writer does instead is make the signals function (*in Funktion setzen*). But how? In the same paragraph, Benjamin tells us we cannot possibly capture or seize the truth in order to simply gaze at it. In fact, it can merely be glimpsed, and even then only when it is animated by a sudden cry for help or the sounding of an alarm. To Benjamin, then, the function of the alarm is determined by its ability to agitate the truth. In this frantic state, the truth immediately escapes the writer’s work and heads straight to the reader. And certainly, the truth does not escape in any ultimate or complete shape, including any delirious or distorted form. The truth instead comes out splendid in its delicacy, triumphant in its fragility. The literary truth that is agitated by the alarm of a forthcoming disaster is hardly found in its image, no matter if this image is utopian or dystopian. The literary truth is something that escapes imagination; it is barely recognizable even in the finished literary work that tries to contemplate it.

3.

There seemed to be a common concern among those of us who were engaged in the events of the Arab Spring: to shift the grounds of reality, even if ever so slightly, regardless of how uncertain the outcome was. Yet as soon as a plan was made, we realized it was already surpassed by the ongoing, restless present. Perhaps it was the absence of any futuristic vision of the Egyptian revolution that ultimately precipitated its failure, although this same absence had initially acted as the revolution’s founding basis. For the revolution happened after every ideological vision for the future had collapsed. It happened on a whim, like a sudden subduction. Almost no one knows exactly when and how it began. And while it took everyone by surprise, everyone delved into it the moment they realized
it’s “happening.” For the most part, the future began to emerge after the revolution had dimmed, not before. But hasn’t this always been the mission of the future: to arrive after all had dwindled, to fill the void that the disaster left behind?

We urgently and critically need a history of the concept of the future, so as to be able to see how it began and where it ended up. Mainly, tracing this history might help us understand the enormous metamorphosis undergone because of the twentieth century’s concepts of the future, a transformation from a rich and forceful flood to a destitute and barren desert. Moreover, this history might help us chart the birth of the nostalgia for the future, which reveals itself in myriad ideals as well as in ruinous cities that have manifested themselves over the century in popular culture, from commercial films to video games. Finally, such a history could possibly also help us grasp the ways in which late capitalism has managed to nullify the future by capitalizing on risk calculation and monstrously expanding economies of mortgages and debt. The future thus became a colossal mine of credit. And as for the pulsing, throbbing alarms, they ended up being neutralized inasmuch as they are measured in terms of outcomes and end results rather than actively being made to function.

4.

The future is the shadow of disaster, meaning once disaster strikes, we can expect the question of the future to be posed. And once the question is posed, it may already be a sign of another disaster at work that we did not foresee. In Plato’s Republic, a prototype of utopia, the future is notably not the birthplace of the virtuous city, which the philosopher situates in the realm of justice. The future appears at the conclusion of the dialogue, in the Myth of Er, when a near disaster begins to surface. Er, the son of Armenios, dies on the battlefield. After his death, Er reappears to recount what happens in the other world. This future—the one from which Er returns—is not a temporal category; rather, it can be described as the shadow of disaster, the disaster of war to be exact. And in Er’s telling there is an attempt to fill the void forged by this disaster. After encountering death on the battlefield among his compatriots, whose corpses are piled upon him, Er returns to reassure the living. Particularly, he tells them to hold their ground, affirming that morally good and just souls will eventually triumph. It can be said that, rather than Socrates’s discussion on the virtuous city, the account of Er constitutes the bedrock of all reports that come from heaven, or from hell. At the end, whether in recounting the flawless heavens or the intransigent dooms of hell that lay ahead, the
future is born out of an eerie void. They are attempts to uncritically fill
the void by making a prophetic return, which is intended at times to an-
chor and assure, and at others to warn and alert those living in the present.

5.

It is certainly rare—indeed almost impossible—to find within the
traditions of Arabic literature a paradise that is utterly utopian or an in-
ferno that is wholly dystopian. It seems that “futurism” is hardly ever con-
sidered sufficiently warranted as a theme to constitute a separate literary
genre. In Arabic literature, the particular course of thought and writing that
is concerned with ruins and wrecked cities—in other words, dystopia—
emerged only recently. Even after decades of excessive colonial rule, which
delivered times of war, dread, and chaos, and the prolonged oppression of
long-lasting totalitarian regimes, the genre of dystopia remained untrod-
den. One reason for this absence might be that in the traditions of Arabic
literature the faculty of imagination was never as much about reckoning
with the future as it was about moving a step closer to a profound spiritual
origin, both sacred and lost. Mainly, Arabic imaginative tales gently touch
upon the spirit of the real as they drift and journey to fictional places out-
side of the corporeal and the worldly. The journeys that appear in religious
texts, in the story of Isra and Mi’raj (the miraculous night journey and as-
cension of Prophet Muhammad), for example, become more significant
and vivid in Sufi texts. For the Sufis, reveries have always carried them to
cities other than their own. Cities that may lie behind the seas or above the
skies. Cities like Jabalqa and Jabarsa explored by Suhrawardi, or the di-
vine realms of bewilderment and besechment explored by Attar. But also
islands like Waqwaq or that of Ya’juj and Ma’juj. These places are neither
utopian nor futuristic in the sense that they are “yet to come.” Unlike the
account of Er in Plato, they don’t attempt to mend a fissure of disaster. In-
stead, the Sufi places of imagination can be more accurately described as
lucid dimensions of reality itself. These dimensions, as obscure as they
may be, constitute a realm in which one unbounds if one works enough on
oneself, merging back with the surrounding cosmos in an unending whirl-
wind of existence. The faculty of imagination in the Arabic canon, simi-
lar to many other mystical traditions, is traditionally rooted in reality, not
in the future. This trajectory of imaginativeness no longer exists; only a
few traces have managed to endure, and they only exist within poetry wor-
thy of the name. For poetry is the nonplace, not the other place. Poetry is
the void disrupting reality. A void imbued with a multitude of dimensions
charged with an infinite density.
The future cannot be written; it can only be read. This fact is as old as time, first acknowledged by the early conjurers and fortune-tellers. Wise as they were, they knew that the future does not exist within what is written. Instead, the future is that which remains hidden between the lines. They had to learn how to read the future by means of stellar constellations, to predict it using serendipitous and fortuitous events. A work of literature may, at best, enable the reader to hear the pounding, throbbing beat of an alarm, one that awaits actualization. Literature can neither imagine nor work on the future; it can only make an attempt to set it free. One way of making the future “possible” once more, after it has been defaced, is to work on the conditions of reality, taking into consideration everything that the term “reality” entails. Since what reality refers to is by no means limited to the tangible and the visible, nor restricted to the current moment or ongoing political situation, it rather contains within its folds a myriad of complex worlds and historical entanglements. The reality with which literature deals is not a predetermined given; it comes into being in the very labor of engaging with it. The genuine and sincere literary works are the ones that stem out of an urge to shift slightly the grounds of reality, hoping for a new, never-before-seen horizon. Perhaps it is within the bounds of this shift that the future resides.

In 1948, Bertolt Brecht wrote of his adaptation of Sophocles’s tragedy *Antigone*:

The total material and spiritual collapse of our unfortunate and fateful country has undoubtedly created a vague thirst for something new. And regarding the arts, it is, as they say, ever so often encouraged to attempt the new. But certainly a great deal of confusion exists over what is old and what is new, and as a fear of the return of the old mixes with a fear of the arrival of the new, and moreover, the defeated in many places are instructed to overcome Nazism solely on a mental and emotional level, artists are well advised not to blindly trust assertions that the new is welcome.³

It is apparent that Brecht held a genuine skepticism about the collective ambition he saw in German society to overcome the ruins of the Second World War and its inclination to “look forward.” He seems to have been reluctant to accept any invitation to venture into the future. Instead, he
suggests adopting a movement in reverse, a look backward. After having experienced such a brutal war, Brecht ultimately decided that any attempt of the conquered nation to overcome the defeat and entertain the future should ground itself in Greek tragedy. In other words, he advocates a return, a theatrical tradition in which historical texts are constantly reworked and refigured. In the same commentary, Brecht adds that the deployment of historical texts represents a creative challenge to artists in an age that strictly celebrates the “original,” the “inventive,” the “unique,” and the “unprecedented”; he also proposes what looks like a collaborative methodology of making art, working on “tradition.”

The question to be asked, nevertheless, is how is it possible to return to “tradition” in moments of calamity? How do tradition and new relate? Perhaps Brecht’s return to tradition and his firm stance against the prevalent need at the time for a “unique” work can be read as an act to protect the new from being instrumentalized to fill the void forged by disaster. This dialectical way of handling tradition is a feature of the destructive character as Benjamin describes it:

The destructive character stands in the front line of traditionalists. Some people pass things down to posterity, by making them untouchable and thus conserving them; others pass on situations, by making them practicable and thus liquidating them. The latter are called the destructive.⁴

Facing the obliteration of a disaster, Brecht seems to join the destructive tradition.

8.

There is no future for writing other than reading, since reading necessarily follows writing. However, it should be noted that the readerly moment carries within itself an interesting predicament: the work only becomes possible through it, not prior to it. A literary work is not something that goes into the world and waits to be found by the reader; instead, it can be said, as Roland Barthes has, that reading is in and of itself the condition of possibility for the literary work. The stretch of time in which reading takes place is intrinsically futural, since the future is more than a chronological segment of linear time. In fact, the future holds the work’s potentiality. More precisely, the literary future indicated by the act of reading presents us with a possibility to interrupt, or agitate, the chronological order of time by disrupting it from the inside, by introducing an otherness
to the familiar, present mode of reading. This otherness is the embodiment of the moment of writing. In this sense, reading becomes a practice of historicizing in which the present collides with the past. For historical moments are not only defined on the basis of their temporal and/or spatial contexts, but indeed by the intensity of the interruption they engender in the chronological order of time. Historical moments are a temporal disruption, bringing forth a spectacular spark, pointing toward the birth of something new. A literary work does not usually seek to arrive at an image of a frightening future, or of a canonized past; rather, it wholeheartedly seeks to be read. And in being read, it seeks disruption.

9.

The man who slept through the revolution walked the streets pensively every day. When he would get tired, he would head to the coast, lean on a rock, gaze at the sea, before returning home. One day, while the man sat by the sea, a hoopoe landed on a rock beside him. The hoopoe greeted him and asked about the reason for his pensiveness. The man responded that he no longer knows how to wake up after all that has occurred. They exchanged looks, and the hoopoe offered help. They walked together back to city, and there, the hoopoe let out a long chirp, and suddenly every small situation in the street became revolutionary. Every encounter was an opportunity to take sides. People abandoned distraction and remembered what they were struggling for. Then the hoopoe broke out in song once more, submerging the people back into their daily life. The hoopoe spread his wings and flew away, and the man went back home.

Over time, the hoopoe visited the man more frequently. Every day, when the man stood among the rocks, absently, the hoopoe would land next to him, taking him to the city and making the revolution reality again. The man saw what people could no longer see and heard what people could no longer hear. Until one day, the man asked the hoopoe not to visit him anymore, because he no longer wished to see the revolution, which took place while he was asleep. He was eager to wake up from his dreams of it. After that, the man went home. And this was the last time he went home, because shortly thereafter, war broke out in the city, and homes were lost forever.

This war was not the kind of war that destroyed buildings, but rather one that erected them—the logic being that buildings cannot be built with anything other than the exact amount of rubble gathered from destruction. In the early days of the war there was not enough rubble to be found, and so it was brought over from other places. Later in the war,
the rubble accumulated and became sufficient. In this cycle of construction and destruction, home became an ambiguous thing. The place and character of the buildings would change, as they were being built, destroyed, and built again. In this reality, people felt simultaneously familiar and unfamiliar with their surroundings, which caused a growing state of confusion. The city dwellers came to live as sleepwalkers.

Years went by and one day the hoopoe returned. He saw the man who had slept through the revolution, with a group of people hiding behind some rocks, holding heavy plastic bags. They appeared to be casting the contents into the sea. The hoopoe observed the group from afar. They looked tired under the sun. Then he let out a long chirp. The man recognized the sound immediately. He looked toward the hoopoe, then looked back at the sea, and noticed an island emerging out of the rubble. The man set aside his bag and gazed at the small trees growing over the mounds of wreckage on the island, until the hoopoe spread his wings and broke into another long tweet. As he flew back to the sea, the island disappeared, and the man went back to work.

Translated from the Arabic by Soha Mohsen. This text is an edited version of the paper presented in the conference “Imagining the Future: The Arab World in the Aftermath of Revolution,” Archive Kabinet, Berlin, 2018. By discussing the function of imagination and highlighting different models of futurity beyond dystopia and utopia, the paper is an attempt to reflect on some of the main questions posed in the conference: Has dystopia become a fount of artistic production today? Is utopia still possible?

3 Bertolt Brecht, Die Antigone des Sophokles (Berlin: Suhrkamp, 1969). The quoted passage was translated by Natascha Sadr Haghighian.
Protest in the zone à défendre (ZAD), ca. 2016
Beyond the End of the World: The ZAD against the Anthropocene

Against the Airport and Its World

There’s one image in particular that expresses the ambition of the ZAD, the occupied zone and liberated territory near Nantes that has been fighting the French state’s plans to build a new airport since the 1960s. It shows a banner that reads “Against the airport and its world,” positioned on a forest road in front of an anarchist barricade. Shot from the ground, the image shows the asphalt—comprising a sticky, black, highly viscous semisolid petroleum commonly used in road construction—roughly torn up in front of the sign, thereby enacting its message in form and function.

At stake here, at least initially, is an airport, a €580 million development slotted for the area near the rural village of Notre-Dame-des-Landes. In deciding to realize its long-standing plans in 2008, the state contracted the French construction giant Vinci to create a transatlantic “Great West” gateway to Europe, which would completely transform the farming region, threatening the area’s biodiversity and the livelihoods of those who have lived there for generations. Designated a “zone d’aménagement différé” (zone for future development) by the state, the approximately 4,000-acre area was quickly renamed the “zone à défendre” or ZAD (zone to defend—that is, by political, juridical, media, and martial means) by residents and protesters, who have gained ground since a 2009 climate camp in the region focused environmental concerns on the airport project.

But more ambitiously, the ZAD defends against the world of petro-capitalism: its fossil-fuel-based expansionism and growth economy, its transportation network and expanding corporate globalization, a world covering over—like so much asphalt over fertile farmland and biodiverse forest—all competing and conflicting visions for how life might be lived otherwise, and how the passage from present to future might be envisioned.
differently. Founded on principles of neoliberalism, the politico-economic project developing since the mid-twentieth century with origins dating back to the sixteenth, the petrocapitalist model professes values of private enterprise, endless accumulation, the rule of market-based mechanisms, and the minimizing of the state’s role in public welfare. It’s a world that, according to posthistorical convictions, extends infinitely into the future, though is founded on the amnesiac and myopic presentism of short-term profits above all else.2

The ZAD has paid dearly for proclaiming the limits to, as well as the end of, that world—an end not only to its spatial extension but also to its assumed infinitely unfolding futurity, an end to its ongoingness seemingly without end, and an end to a formation some have sought to naturalize as endless. And for doing so it has sustained cycles of state violence and police repression over the last decade. The most recent began in early 2018, when the center-right Macron government announced it was giving up on its airport plans (choosing to develop the one in Nantes instead), which became a pretext to clear the ZAD of activists who were consequently deprived of their central grievance, leaving the zone’s future in doubt.3 While the airport development seems to have become politically and economically undesirable for the state, the self-declared autonomous zone proved to be intolerable, requiring normalization, most immediately by its return to the individual-based regime of private property, capitalist enterprise, and bureaucratic building permits. Police operations began in April, quickly demolishing a third of the zone’s informal structures in three days with armored cars, helicopters, bulldozers, and thousands of riot cops, though leaving the rest otherwise intact, for now—an operation dubbed by zadists “the revenge against the commons.”4 Meanwhile, one formation of groups collectively authored a six-point plan for the zone’s future, to be run together with rural farmers as a commons under what is being called an “assembly of usages,” seeking to operate strategically within the state’s framework on a minimal basis, as a mode of uncivil obedience, in order for the ZAD to survive.5

Between the state’s intentionality of regularization and the opposing commitment to resistance, and whether or not the ZAD continues in its present form, we encounter a rift zone that is more than a simple anti-airport struggle.6 The ZAD’s ambition has been and remains to signal the terminal phase of a world-historical development—that of capital itself—which has, of course, been accompanied by endless waves of resistance, rebellions, riots, and revolutions, from its very beginnings, from opposing sixteenth-century enclosures to the most recent instances of anti-petrocapitalist Blockadia. Those movements strive for very different
worlds, and therefore very different futures, of which the ZAD's expression is but one current and highly visible example among many. And yet, while pronouncements of the end of capitalism have surely been made many times before, this time may very well be different.

**A World of Many Worlds**

Present forms of opposition are legion: Indigenous and environmentalist challenges to the expansion of oil and gas pipelines and new drilling projects; the Movement for Black Lives and their struggle against racial capitalism and police brutality; the widespread fight against mineral extraction, coal-fired power plants, and corporate land grabs—these mounting global formations are part of the rising tide of insurgency known as Blockadia, a roving transnational rift zone that is contesting the legitimacy and continuation of the world of advanced capitalism. For world-ecology sociologist Jason Moore, contemporary ruptures indicate an "epochal" end point to the long formation of capitalism since the sixteenth century, owing to the end of the availability of "cheap natures," including food, energy, raw materials, and labor. What we are experiencing, then, is not simply another cycle of crises by which the economic order retrenches itself, modulates its operations, and creates even more intense modalities of wealth accumulation, but rather something altogether different:

It is increasingly difficult to get nature—including human nature—to yield its "free gifts" on the cheap. This indicates we may be experiencing not merely a transition from one phase of capitalism to another, but something more epochal: the breakdown of the strategies and relations that have sustained capital accumulation over the past five centuries.

Present resource wars, ever more brutal forms of military securitization, and extreme modes of extraction (including seabed mining, fracking, tar sands/dirty oil, etc.) reflect this situation, set within global conditions of growing economic inequality and violence ruled by algorithmic and post-democratic authoritarian governance. All are connected to and are driving the larger planetary crises of catastrophic climate transformation, species extinction, habitat fragmentation, and environmental destruction. What this set of affairs betokens, however, is not only a negative paradigm shift away from cheap natures, but also one that opens up possibilities for the reorganization of economic forms toward internalizing the external costs of social reproduction (including pollution and social exploitation)
that just may create the conditions of a more equitable world. “Redistributing care, land and work so that everyone has a chance to contribute to the improvement of their lives and to that of the ecology around them can undo the violence of abstraction that capitalism makes us perform every day.” Such a vision of “reparation ecology” offers “a way to see history as well as the future, a practice and a commitment to equality and reimagined relations for humans in the web of life.”

If we’re indeed facing an epochal crisis today, driven by a renewed acknowledgment of the material limits to growth, one that will inaugurate a new world one way or another, as Moore argues, then it’s also clear that for many others—Indigenous peoples, those of African heritage, the colonized, the forcibly dispossessed and displaced—the end of the world has already occurred, even long ago. Indeed, such events as colonialism, slavery, and genocide, practiced over the last five hundred years during waves of globalizations, have violently ruptured in many cases millennia-long traditions and cultural continuities. They have negated identities and languages, dispossessed multitudes of lands and cultures, such that some (survivors) understand themselves to be living in their ancestors’ dystopia—our present—and suffering from ongoing postapocalyptic stress disorders.

These rift zones have also elicited a variety of diagnoses—a war of the worlds involving a crisis of diplomacy and fractious globalization (Latour); a global cosmopolitical conflict pitting movements against “the coming barbarism” (Stengers); a geontopolitical divide between the forces of extractive settler colonialism and those who assert the non-appropriable life force of the elements (Povinelli, Coulthard); the end of humanism with the entrance of necropolitics and the “becoming-Black of the world” (Mbenbe); and the rise of apocalyptic populism, post-democracy, and algorithmic power (Brown, Tufekci). No single version here is capable of comprehending the complexity of the present, the multiplicity of current worlds, their boundaries and many gulfs—ontological, cultural, political, technological. But each shows the contingency of worlds, that there is already more than one, just as the above incomplete history of collective resistance and revolutionary uprisings similarly demonstrates that hegemony’s rule is never final, that the establishment of any single dominant paradigm is never total. If some worlds may be crushed, then none are fully safeguarded. As the Zapatistas have long said of their struggle, now entering its third decade of existence, we need a world in which many worlds fit. The proposition for a political project based on “the progressive composition of a common world” (as Latour has argued) thus appears suspect if it doesn’t allow for commonality to be founded on the fundamental
recognition of the endlessness and ineradicability of onto-epistemological divergences between peoples and communities. Needless to say, this observation also signals the end of a kind of soft multiculturalist project that amounts to superficial forms of respect and repressive tolerance, even while the capitalist project continues without structural transformation. Given these complexities, the commonality of a single world—as well as of a single future—might be questioned altogether.

**Chronopolitics**

In the case of the ZAD, we are witnessing a struggle to replace the world of late corporate neoliberalism—in fact the world of capitalism in all its forms—with a commons of cooperative municipalism, a socialism of multispecies justice. Against the pervasive economy of exploitation and relentless individuation, the ZAD stresses radical ecologies of social connectivity and regenerative reproduction, a sociability founded on informal systems of mutual aid that challenge the rule of exchange value (most clear in its practice of a free, non-money-based market and its assembly of usages). Its political solidarities share commitments to anti-sexism and anti-racism, forming a place-based membership alliance founded on residency and sociopolitical affiliation rather than nationality and citizenship. The ZAD also moves beyond anthropocentrism: its practice of organic farming opens onto a multispecies community beyond the human exceptionalism of capital, which tends to reduce all nonhuman life to economic valuation. “We are nature defending itself”—the activist slogan, first deployed in the context of the 2015 UN Climate Change Conference in Paris and the central meme of the Climate Games, which targeted the (false) market-based and nonbinding solutions of the UN negotiators—also applies to the ZAD’s relations of continuity with, rather than opposition to, the expanded life-web, including the more-than-human. It is this world that the ZAD poses against the airport and its world.  

**Against its world:** this negative element amounts to the rejection of capitalism’s failed utopian claims, its calculative rationality and basis in cheap and unpaid systems of exploited labor, its epistemic violence directed at otherness and difference that can’t be readily appropriated (and so is discarded as valueless), its disavowal of climate impacts and abuses of environments through marketization and financialization. The replacement of these by positive transformative energies constitutes nothing less than an activity of *worlding*. Such a conceptual proposal has been taken up recently and expansively in postcolonial theory (building on the works of Spivak and Chakrabarty), where the term (pushed far beyond its origins in
Heideggerian phenomenology) unleashes emancipatory energies, designating environment-making processes formed around the ethicopolitical and spatiotemporal organization of collective experience. Worlding generates shared values, cultures, and heritages that operate to form and maintain communities of belonging, systems of belief, ideological convictions, affective sensibilities.

In his recent book *What Is a World?* Pheng Cheah writes of different modes of worlding, including a focus on chronopolitics, a politics of time, beginning with the consideration of imperial cartographies and their institutions of normative temporality. These eventually evolved into neoliberal globalization, which “incorporates peoples and populations into the world-system by tethering them to Western modernity’s unrelenting march of progress and capitalist time and violently destroying other worlds and their temporalities.”  

Counter to this formation and its monoculture of linear temporality, the ZAD, and other such rift zones, give definition to what Boaventura de Sousa Santos terms an “ecology of temporalities” that cultivate radically different and more open experiences of contemporaneity, including the simultaneity of multiple expressions of time (cyclical, organic, calendrical, subjective, collective)—what Dipesh Chakrabarty terms heterotemporality, both immanent and divergent to global capital.  

While these resistant and alternative temporalities might connect to oral traditions that have endured the violence of slavery and colonization through the precarious ongoingness of folk practices, ir/recuperable subaltern rituals, and creative modalities of improvised survival, they also find current materializations in the experimentations within the contradictions and breakdowns of current globalization, without assuming places of purity understood as discrete areas beyond or outside of the dominant economic order. Such expressions, for Cheah, remain “modest and fragile: the gathering-and holding-together that maintains a place of habitation in the face of the leveling violence of global technologies of temporal calculation,” and include literary forms, aesthetic practices, creative forms of collective life, of varying scales and durations.

The ZAD is just such a place: a worlding of ethicopolitical engagement, comprising a multiplicity of forms of life, including ones based on disagreement and contradiction (with multiple forms of conflict resolution), but all sharing the resistance to global capitalism. Its chronopolitical antagonism manifests most immediately in the ZAD’s opposition to the airport as a hyper-exemplary site of globalization that itself depends on and organizes the temporal regimentation and vast networks of transportation according to an overarching economic calculus, where time is
money measured to the precise second. The ZAD’s experiments challenge exactly that economico-temporal world, just as they represent diverse and expanded forms of aesthetic practices that radically transcend the conventional categories, temporalities, and objectifications of commercial contemporary art. Countered against reified forms of commodified experience (which may, nonetheless, struggle against that condition and make claims about a radical politics of aesthetics in institutional sites of contradictions, such as galleries and museums), the ZAD’s experiment in worlding is formed around noncapitalist activities. These include shared living experiences, political organizing, and the blending of aesthetics with ethics, which seek to avoid contradictory relations between form and content, object and process, representational politics and exhibition value. The situated and endlessly negotiable beliefs in and practices of its socialist alternatives materialize a place of defense against the state’s efforts of appropriation and extractive worlding, defining an emergent zone of sovereignty within the sovereignty of capital. The ZAD’s aesthetic practices unfold from symbolic forms of newspapers and subversive media texts and images, to graffiti and music, assemblage and experimental DIY architecture. They also include the creative invention of institutions of living, including bakeries, gardens, libraries, community centers, noncommercial markets, and forms of autonomous self-governance. Activist and ZADist John Jordan explains:

Alternative ways of living with each other, fellow species and the world are experimented with 24/7. From making our own bread to running a pirate radio station, planting herbal medicine gardens to making rebel camembert, a rap recording studio to a pasta production workshop, an artisanal brewery to two blacksmiths forges, a communal justice system to a library and even a full scale working lighthouse—the ZAD has become a new commune for the 21st century. 19

The ZAD against the Anthropocene

If the ZAD figures as an intervention into “global technologies of temporal calculation,” then it’s one based on the construction of a culture pledged to an openness of temporality, not ruled by capitalism’s machinic, and now cybernetic, rationality and restrictive labor regimes. With its agricultural rhythms in step with seasonal cycles (not post-natural commercial markets, as with industrial and biogenetic farming); with its poetic
experiments with the untimely (placing a premium on creative, subjective experience and nonproductive social forms of events, assemblies, and parties); with its unleashing of revolutionary time in its political activism; and with its unleashing of revolutionary time in its political activism; and with its unleashing of revolutionary time in its political activism; and with its unleashing of revolutionary time in its political activism; and with its unleashing of revolutionary time in its political activism. That includes the eruption of self-directed political agencies against the distributed intermediations of capitalism’s growing cybernetic governance (a world without mind, where distributive technological systems corrupt human responsibility and accountability, even while they may propose in/determine nonhuman AI possibilities for learning, being, and creating). Another way to understand the ZAD, and to further draw out its politico-ecological implications, is to see it as a cosmopolitical event within and against the Anthropocene. Though it designates the entrance of human activities, and particularly those of fossil-capitalist corporations and the governments that support them, into geological time and the earth’s biophysical systems, the Anthropocene is also increasingly being appropriated by neoliberal narration, and deployed according to its designs. Indeed, even such figures as Macron are using the terminology in formulating a “Global Pact on the Environment” that develops environmental law appropriate for “the epoch we’ve entered—the anthropocene epoch” in a way that negotiates between the language of “sustainable development” and “environmental justice” but is most faithful to that of the sustainment of economic growth. The ZAD, however, is a clear site of challenge to this formation more specifically.

With the entrance of the Anthropocene—or Capitalocene, as preferred by those like Moore who stress the politico-economic basis of its geological transformation—we move beyond the world of the Holocene and witness the closure of its 12,000 years of history. While the Anthropocene’s new epoch has been accepted by the Anthropocene Working Group, part of the International Union of Geological Sciences, the precise date of its emergence remains a question, whether in the 1950s with the inauguration of the nuclear age, or the Great Acceleration; or in 1781 with the invention of Watt’s steam engine and the onset of the Industrial Revolution; or in 1610 with the registration of the Orbis spike, indexing the sudden lowering of atmospheric carbon following its uptake by reforestation in the wake of rapid human population decline in the post-contact and post-genocide Americas; or in 1492 with the Columbian exchange and the beginnings of capitalist globalization. The Anthropocene’s dating, according to Heather Davis and Zoe Todd, carries enormous political implications, meaning that the understanding of geological history and its convergence with human activities is directly
related to the long unfolding of colonialism, slavery, and genocide, or alternately, just to recent technological developments without reference to that conflicted past. In other words, it’s the difference between a decolonial social-justice-oriented approach to history—constituting a politicization of geology as well as a geologization of politics—and a depoliticized technocratic view based on the erasure of that expansive and traumatic past. As Davis and Todd contend, “By dating the Anthropocene to colonialism we can at least begin to address the root of the problem, which is the severing of relations through the brutality of colonialism coupled with an imperial, universal logic.”

Yet there are still other ways of thinking historically according to a less (or even non-)progressivist and linear model—what Walter Benjamin called “empty homogenous time”—such as Karen Barad’s recent speculative proposals for a defractive methodology unfolding from the insights in quantum field theory. According to her suggestion, highlighting time’s in/determinacies, we might think 1945 in and through 1492, 1610, 1959, and 1962–66, and vice versa, where all prospective Anthropocene dates and resonant crisis points define a materially connected web of intra-active historical unfoldings and respective repositionings, a/causalities and in/consequences, that are significant but not totalizing. With this theorization in mind, Barad asks:

But rather than understand these differing [dating] proposals as merely a simple disagreement about origins, perhaps we should take this as evidence that faith in the existence of a singular determine origin and the unilinear nature of time itself (the fact that only one moment exists at a time) is waning. Is there a sense of temporality that could provide a different way of positioning these markers of history and understand 1492 as living inside 1945, for example, and even vice versa?

While such a proposal for a defractive chronopolitics is productive for politicizing history, it doesn’t mean that the Anthropocene is simply about the past either—it’s also, particularly in its neoliberal version, a narrating of the future. That is, it’s nothing less than an unfolding and growing in/determining of things to come, an ongoing worlding of “timespacematter,” as Barad might say. This begins with its conceptualization of present naturecultures that interlink politics, economics, law, and technology under the star of neoliberalism, including a version of green capitalism grounded in decades of post—Limits to Growth environmentalism. The neoliberal Anthropocene narration, in turn, enables further global
material transformations that both make that future appear seemingly inevitabled and initiate its very realization. As Davis and Todd write, “The naming of the Anthropocene epoch and its start date have implications not just for how we understand the world, but this understanding will have material consequences, consequences that affect bodies and land.” Indeed, they will do so long into the future.

The Neoliberal Anthropocene

It’s not surprising to discover who’s underwriting this particular narrative of the Anthropocene: Big Tech. Among the leaders is the Breakthrough Institute, publishers of the “Ecomodernist Manifesto,” which argues we’re in reach of a “good Anthropocene” if only we redouble our commitment to a “modernized environmentalism for the 21st century.” That means supporting economic growth powered by nuclear energy, fracked fossil fuels, and full-spectrum geoengineering technologies. Counting Carl Page, brother of Google founder Larry Page, among its funders, and described as “the leading big money, anti-green, pro-nuclear think tank in the United States,” the institute was founded in 2003 by Michael Shellenberger and Ted Nordhaus, and is, according to critics, “dedicated to propagandizing capitalist technological-investment ‘solutions’ to climate change.”

Shellenberger and Nordhaus’s 2004 report The Death of Environmentalism: Global Politics in a Post-environmental World argues that the “politics of limits”—that is, the regulatory environmentalism of the 1970s that emphasized Earth’s finite carrying capacity—must be transcended through a “politics of possibility,” one that continues the ambitions of limitless modern technological development.

Another site generative of the neoliberal Anthropocene is Breakthrough Initiatives, which has recently put $100 million into a radio wave project to search for alien life, and asserts, “We now need to do much more to understand and shape the thinking and priorities of those who promise (or threaten) to give us artificial intelligence, the internet of everything, autonomous everything, synthetic biology, and, some insist, geoengineering.” Funded in part by Facebook’s Mark Zuckerberg and Russian venture capitalist Yuri Milner of Digital Sky Technologies, and counting the late Stephen Hawking among its collaborators, the project forwards the neoliberalization of outer space. Connecting to the project of Silicon Valley’s entrepreneurial modeling of “NewSpace,” in the rhetoric of Elon Musk, this is part of a growing “colonial futurism” set on off-planet resource mining, terraforming of other planets, and extending property rights far into the galaxy; it evokes both starry-eyed fantasy
and the gathering of massive resources for its research in the present, distinct from the lumbering state projects of the Cold War. Then there is Harvard University’s current $20 million geoengineering project, notable for its first-ever plans to test solar radiation management technologies outside the lab in the Earth’s stratosphere above Arizona. The program is led by David Keith, physicist and author of the 2013 book *A Case for Climate Engineering*, and supported by Bill Gates of Microsoft. In the group’s promotional video, the project’s leadership proposes redirecting 1 percent of current climate-mitigation funds to geoengineering research, contending that Earth’s climate could be protected from disastrous global warming with a “solar shield” for approximately $10 billion a year.

Powerful IT actors with vast economic resources are thus assembling around the Anthropocene thesis, where its selective mediated conceptualization partners with well-funded research institutions and beyond-the-laboratory geoengineering implementation, defining and realizing a working activity continuous with an interplanetary neoliberalism. Keith warns against the commercial deployment of solar geoengineering (despite acknowledging certain financial advantages from which his own corporate activities undoubtedly hope to benefit), pointing to the imperative to keep the practice within the realm of public oversight. But the fact is there are no such institutions of global governance adequate to regulate its use at present, even while its technologies “might allow humanity to alter the climate over decades to centuries” into the future. These are critical matters of global concern—for techno-fixes not only draw vital energy and resources away from climate mitigation (which might otherwise emphasize economies of smart de/growth, renewable energy, and equitable social systems); geoengineering also carries momentous potential for causing long-term and massive damage to existing ecosystems, as when altering the weather patterns in one area, say the US or EU, brings unintended and devastating consequences to other regions, such as drought in the Sahel, in Africa, or the disruption of monsoon cycles in South Asia. Yet such concerns don’t feature in the neoliberal Anthropocene; instead, its central purpose appears to be to provide an escape route from one of the central impasses of the present—where climate solutions contradict economic growth—long recognized in industrial regulatory policy, social-justice environmentalist activism, and manifold opposition campaigns (many mentioned above) over the last few decades. Indeed, the neoliberal Anthropocene’s narration, as most explicitly forwarded by the Breakthrough Institute, defends against any climate solution predicated upon the social-justice-based slogan “System change not climate change,” dismissed as economically regressive, anti-technological, and simply
politically impractical (each a variation on the capitalist-realist theme of "there is no alternative").

Through its commitment to geoengineering as an expression of neoliberal worlding, the Anthropocene is laying down a road map for the future, shaped by a technocratic governance led by those with the economic means to carry it out. This is all the more alarming at a time when we are increasingly confronting a society of growing automation that corrupts agency and accountability. This world of algorithmic governance—in which the neoliberal Anthropocene is spreading within the networks of social media and its distributive pedagogy of science communication—offers a further instance of what Lazzarato terms “semiotic motors” that propel capitalism’s sociotechnical machines, underwriting representation and consciousness so as to produce so many “social subjections” and “semiotic enslavements.” These, within a presentist temporality pledged to endless economic growth, to the acceleration of the socio-technological and politico-economic conditions that also make this arrangement possible. Beyond questioning this thesis entirely and committing to social-justice movements of equity and ecological sustainability, one crucial retort to the neoliberal Anthropocene is to expand our understanding of technology (and science) so as to resist its capitalist monopolization, such that technology connects with longstanding Indigenous practices and oppositional political systems, as well as with non-human ecosystemic operations, all of which infuse the vision of a different world at the intersection of multispecies flourishing and social justice. “Fortunately, the technologies to do this include women’s rights (this stabilizes population) and economic equality (this reduces impacts of poverty and over-consumption),” explains sci-fi writer Kim Stanley Robinson.

Justice is a climate-change technology of great power, so there is no need to set up false dichotomies as to which good cause we support. The good causes reinforce each other and we need them all at once. This is why capitalism has to give way to an ecologically-based post-capitalism, which, in some features, will be aspects of socialism chosen democratically. We have to figure out a way to pay ourselves to do the work of survival.

Post-futurism?

In his 2009 essay, “The Post-futurist Manifesto,” Franco “Bifo” Berardi argues that popular belief in a world predicated upon infinite wealth accumulation and technoscientific progress has collapsed, in the
sense that such a mythology has lost all power of persuasion after decades of disappointment, endless war, and growing political and economic inequality. Now, in the aftermath of that faith, “we will sing to the infinity of the present and abandon the illusion of a future” altogether. Bifo’s song resonates with Now, the recent publication by the Invisible Committee, writing against social media capture, alienating spectacle, depoliticized politics, and wage discipline, and in favor of forms of life that can repair, assemble, and enliven the present, a present of engaged presence, ethical responsibility, and renewed forms of human and interspecies sociability, giving definition to a communism the invention of which is undefined in advance, its process without end. They name the ZAD as one such place, representing a considerable intensification of life, a deepening of perceptions, a proliferation of friendships, enmities, experiences, horizons, contacts, distances—and a great strategic finesse. With the endless fragmentation of the world there is a vertiginous increase in the qualitative enrichment of life, and a profusion of forms—for someone who thinks about the promise of communism it contains.

It’s exactly those forms—figuring an expanded field of collective practice (including more than the conventional art of “sculptures, paintings, homes, makeshift musical instruments, films, and books” that have been destroyed by police in recent raids)—that represent an “arts of living” in damaged times, a site of hope, and of chronopolitics, materialized within the aesthetics of being and becoming, uncontainable by commercial institutions (whether of art or politics).

There’s much to agree with in Bifo’s analysis—especially the imperative to retrieve the arts from the merchants and anthropocenologists and transform creativity into a place of collective value construction beyond capitalism’s catastrophe. Yet the announced end of futurism is misleading if not premature, even when considered more performative than diagnostic, especially if it fails to recognize how futurism is being continually reinvested by the neoliberal Anthropocene. Indeed, the Breakthrough Institute is one such engine of futurist mythological production, where its ecomodernist narrative, backed by Big Tech resources, provides an operating system that programs real conditions in the present and attempts to preempt what is to come (even according to conditions that are beyond its control). It is this future that implicates us all. It’s therefore irresponsible, if not dangerous, to forgo what lies ahead and dedicate ourselves to the now, as that ambition entails a failure to recognize how the future is
being colonized by powerful forces, necessitating counterattack. In this regard, just as a defractive historiography disrupts the unilinear conception of the past, it also offers a resource for living through and mobilizing past potential futures, those of the revolutionary years of 1789, 1871, 1917, 1968, and 2011, in the present. In this way, the ZAD’s invocation and continuation of those struggles—through its socio-ecological aesthetics and chronopolitics—disrupts the futurism of the neoliberal Anthropocene.

Member of the Laboratory of Insurrectionary Imagination, and resident of the ZAD, John Jordan contends that “the ZAD will never end, it will simply change shape.” Let us hope that will be true, even if the ZAD no longer exists today (as of February 2019) as the outlaw autonomous zone it once was. But that statement also begs the question: What does it mean when a world ends? In the case of Indigenous worlds, or those disrupted by the African slave trade, it has meant the sudden and near-total interruption of the relation to age-old traditions of culture, politics, and society, the division from one’s secure feelings of embeddedness in space and time, and the negation of social relations and familiar social networks and orderings. These effects are still being addressed, analyzed, felt, and processed today, no doubt because the causes of those violent interruptions (including the appropriations of indigeneity by anti-immigrant identitarian formations) continue in our present. In this vein, the neoliberal Anthropocene may very well represent more of a formal continuity with the Holocene world than a surpassing of it, at least of its sociopolitical and techno-economic systems. Indeed, the Anthropocene can ultimately be seen as an ideology of denial—one that repudiates the climate-science imperatives that call for global state shift—and thus rejects the world-ending event that it also names.\(^{41}\) In contradistinction, the ZAD is not simply materializing a politics of the now, but reclaiming a future of openness that is otherwise being colonized: “Even if the eviction is successful, the ZAD at NDDL [Notre-Dame-des-Landes] has renewed environmental struggles in France and around the world by spreading notions like direct action, sabotage, mutual aid, self-determination, autonomy, and opposition to capitalism and the state. The ZAD has been a space of experimentation, strategizing, brainstorming, debate, conflict, victories and defeats, and dreams. It will continue to nourish our imaginations as long as we tell its story.”\(^{42}\)


4 See ibid. See also the update “Tank Goodness We Are Here,” Zad Forever (blog), May 24, 2018, https://zadforever.blog/2018/05/24/tank-goodness-we-are-here/, signed by the Moulin de Rohanne, the Rolandièrè, the 100 Noms, the Hulotte, Saint-Jean-du-Tertre, the Fosses Noires, the Baraka and Nantes, jointly represented in the CDMO (Council for Maintaining the Occupations), the latter a reference to the eponymous group in Paris in May 1968.


7 The recent attack by the state has also created rifts within the ZAD, between those who seek to maintain its anarchist autonomy and others who wish to transform its space into one legally recognized by the state as a form of survival. As a result, according to reports, “anarchists, anti-speciesists, and other autonomous elements found themselves isolated as they faced the state, hierarchical political organizations, and trade unions.” See CrimethInc., “Another End of the World Is Possible,” and the many references in this text to other firsthand accounts by diverse participants; and the collective website of the ZAD, https://zad.nadir.org.


This is not a simple story of catastrophism.


14 For critical explorations of community in recognition of such diversity, see Beth Hinderliter, Jaleh Mansoor, Seth McCormick, and Vered Maimon, eds., Communities of Sense: Rethinking Aesthetics and Politics (Durham, NC: Duke University Press, 2010).


18 Cheah, What Is a World?, 11. Also relevant here is Cheah’s insight that “to be ‘immanent’ is to be part of the circuits of globalization, to subsume them as an irreducible part of the their structure and to exceed them from within by drawing on what constitutes them as an effective resource for opening new worlds” (17).


Davis and Todd, “On the Importance of a Date,” 767.


See also the interactive geoengineering map designed by ETC Group and the Heinrich Böll Foundation, which shows the global state of geoengineering research and experimentation, including nearly a thousand projects: https://map.geoengineeringmonitor.org/.


I make this case in T. J. Demos, *Against the Anthropocene: Visual Culture and Environment Today* (Berlin: Sternberg Press, 2017); see also Klein, *This Changes Everything.*

36 See the ecopolitical projects of the Great Transition Initiative (http://www.greattransition.org/) and the Leap (https://thleap.org/), which offer important ways forward.
41 For more critical articulations of the Anthropocene thesis, see Haraway, *Staying with the Trouble*.
42 CrimethInc., "Another End of the World Is Possible."
Where Do You See Yourself in Five Years?
Some Notes on Futurism, Futurity, and Truancy

If anything defines the modern era, as McKenzie Wark has already argued in this volume, it is the belief that the future will be different from the past. Modernity entails a forward-looking and unidirectional temporality, predicated on the differentiation of time into two separate moments: that which has been and that which will be. The notion of “the future” as object of economical and emotional investment is a function of its linear representation of time. But this articulation of difference hinges on, and intersects with, another articulation of difference: racial difference.

The naturalization of progressive time, via notions of biological and, by extension, cultural evolution is entwined with imperialism, colonialism, and globalization. From the Renaissance onward, culture, traditionally seen as static or blighted, became increasingly chronologically coded: a unilinear panorama within which different cultures could be measured against one another according to a single metric of civilizational “progress,” and whose status could be accumulated as evolutionary capital. This preoccupation with linearity and forward-moving processes turned temporality into a biopolitical and, by extension, necropolitical instrument. Aligned in a classificatory schema that moves from most primitive to most civilized, different populations came to acquire a different chronological ranking, separating ostensibly “advanced” societies from “underdeveloped” ones. Herbert Spencer spoke of a primal state in which humans lived as undifferentiated hordes, and equated the development of civilization with the rise of class hierarchy; Lewis H. Morgan drew a neat stack starting with a state of savagery (lower, middle, and upper savagery), moving on to barbarism (lower, middle, and upper barbarism), ultimately reaching the upper echelon of the civilized condition; perhaps most importantly, Adam Smith distorted the historical relation between labor and
capital, through the use of what Dugald Stewart has termed “conjectural history,” describing the four stages of the economy as a succession of progressive civilizational steps, ranging from the lowest (animallike) condition of the hunter-gatherer, to the barely human stage of the nomadic herder, to the intermediate level of agricultural production, until finally reaching the upper echelon of his ranking, the highest possible form of social organization and exchange: capitalism. One could add here a great many other unilinear schemas, which all developed during the eighteenth and nineteenth centuries, but for the purposes of the present essay, their specificities are less noteworthy than their striking congruity: Africa, as a rule, represents a stage of civilization already superseded in the West, the apex of social advancement. Primitiveness and backwardness define the non-Western subject, in contradistinction to the nowness of white Europeans, under whose terms the nature of time came to be defined.

Developing in tandem with, and against the backdrop of, colonialism, these schemas describe a trajectory that moves away from the black (remote past) by way of the brown and yellow (recent past) and into the white future. This “denial of coevalness,” anthropologist Johannes Fabian argues, exonerates and rationalizes ever-increasing power asymmetries by ascribing different populations to different temporalities, and ultimately, consigning colonized subjects to the waiting room of history.\(^1\) From this perspective, geopolitics is a form of chronopolitics.

In The Accursed Share (1949), Georges Bataille noted how preindustrial societies are characterized by the “unproductive consumption of the surplus,” the sacrificial expenditure of the superabundance of energy that all organic life is based upon. In industrial societies, time itself is accumulated as capital—which is why the relation of time to technology is never depicted as subtractive. From this perspective, nature is just resistance to labor—in the mid-nineteenth century, it took up to three weeks to cut down a giant sequoia; at present, the same tree can be cut in a matter of hours with an electric chainsaw. Time is money. This political dimension of time, ultimately located in the imperial centers rather than in a simultaneity of different temporalities,\(^2\) is tied to, as well as wholly dependent on, the consolidation of technological development on a global scale. And hailing technology as the bearer of transformative change constitutes a form of chronopolitics, most often deployed to condemn “the disempowered to live in the past.”\(^3\)

All the markers of modernity—progress, development, modernization, industrialization, urbanization, acculturation—suggest a comparative chronology. And because non-Europeans are hopelessly “behind the times,” successive waves of colonial depredation are still justified by the
necessity to assimilate to modernity; to “catch up,” if you will. As Eugene McCarragher notes, capitalism is an eschatological tale as well as a form of political economy, offering its own story of human fulfillment. For capitalist eschatology, salvation implies inclusion in the “here and now” of the marketplace.\(^4\) Theft, or that which is taken—via enslavement, land grabs, depredation, or plunder—can be thus codified as a gift or offering, as the dispensation of contemporaneity.

The future is a function of this colonial relation, which ties hierarchy to temporality. This is the reason why, I believe, the present moment, which could be defined by a process of de-Westernization—the West is rapidly losing its position of dominance and there is an ongoing dispute over the geopolitical control of the colonial extraction matrix—is giving rise to an intense preoccupation with the future, or lack thereof. It is also why many reformist or reactionary forms of progressivism claim that the future has been stolen, stalled, or otherwise evacuated\(^5\)—and hence must be reclaimed.

From this perspective, the crucial modality of power is the power to seek or shape the “future” one would wish to obtain. This relation of temporality to political decision-making leads to a view of the present as a “time of transition,” during which epochal choices could be made, and as a result, alternate futures could be attained. But this “future” also implies a totalizing dimension, or at least an ill-disguised desire for synchronicity. I would go so far as to say that, at present, the political spectrum seems to be in the process of reconfiguring itself around this desire for synchronicity—and I cannot help but think that there is some irony to this fact.

According to Ernst Bloch, the appeal of fascism in the early twentieth century was tied to its embrace of the asynchronous, of those who were out of step with the pace of modern development in their anachronistic and outmoded ways. Rural populations, attached to their traditional lifestyles, as well as recently proletarianized peasants, nostalgic and homesick, saw in fascism a response to and a validation of their yearning for yesteryear. This attachment to the past stood in stark contrast to the modernizing energies of the Left, whose desire for the synchronization of the world’s proletariat sought to mirror, as well as match, the synchronization of lifeworlds imposed by capital. At present the opposite seems to be the case. As Alberto Toscano argues: “The fascist tendencies finding expression in the election of Trump, but also in coeval revanchist nationalist projects across the ‘West,’ are seemingly driven by a nostalgia for synchronicity. No archaic pasts, or invented traditions here, but the nostalgic for the image of a moment, that of the post-war affluence of the trente glorieuses, for a racialized and gendered image of the socially-recognised
patriotic industrial worker.”6 This restorative impulse finds its center-left correlate in the insistence on the question of scale, on the constant appeal to a “planetary” dimension, or in the view that “all changes short of total revolution must amount to mere conservative tinkering.”7 Similarly, the vision that emerges out of accelerationist eschatology is that the opposite of survival is not annihilation but survivals: the myriad ways in which people manage to somehow make it, in what constitutes a form of endurance without redemption, without resurrection, and without the promise of renewal.

Apocalyptic projects, to paraphrase Georges Didi-Huberman, tend to dramatize salvation as the great survival, the epic moment, which will put to death all the lesser, minor survivals, made of pure contingency and devoid of revelatory value. As a result, any form of engagement with situated struggles or localized dissent is berated as a betrayal or foreclosure of this future-qua-revival, a site that became nonetheless wholly identified with the forward-moving time of global development, technological progress, and middle-class reproduction. Forms of collective mobilization that decline to “scale up” are said to lack maturity and the ability to conjure a prospective “future,” and are hence derided as folk politics: “Goldman Sachs doesn’t care if you raise chickens.”8 This alignment of gendered epistemes (domesticity, refusal to “man up,” lack of resolve) with the idiom of “the future” totalizes the “global” as a place of frictionless connectivity, ultimately tied to that which purports to counter, namely, social homogenization, imperial expansion, and economic globalization.

The Appeal of the Beyond

In her essay “Outer Worlds: The Persistence of Race in Movement ‘Beyond the Human,’” Zakiyyah Iman Jackson cautions that appeals to move beyond the human often leave unexamined the temporal and spatial destinations that connote this beyond. Temporality is always a political construct, even more so when it entails a movement of the mind. The mobilization of temporality as a form of transcendence, Jackson argues, may actually “reintroduce the European transcendentalism this movement purports to disrupt, particularly with regard to the historical and ongoing distributive ordering of race—which authorizes and conditions appeals to the beyond, maybe even overdetermining the beyond’s appeal.”9 The very question of the beyond, as a marker for temporal transcendence, “not only returns us to the racialized metaphysical terrain of orders of being, temporality, spatiality and knowledge—it reveals that we have never left.”10
In the 1960s, two distinct antiestablishment movements emerged in the US: the New Left and the New Communalists. While the New Left sought to effect political change—mostly by organizing against the Vietnam War—the New Communalists felt that any engagement with politics, the state, or government as such was itself the problem. Between 1965 and 1972, many young, mostly white, Americans headed out of the cities and into the rural parts of northern California and built communes. The *Whole Earth Catalog* and the WELL (Whole Earth ’Lectronic Link) emerged from this communalist spirit, though, as Fred Turner argues, few have rigorously explored its roots in the American counterculture of the 1960s. Another offshoot of the New Communalists, Biosphere 2, attracted a flurry of interest recently, owing to the project’s fortuitous connection to Steve Bannon, the former White House strategist whose short-lived tenure in the Trump administration was the subject of a great deal of scrutiny. But Bannon’s involvement was not the only adversity ever to afflict the ill-fated experiment. Biosphere 2 was the brainchild of John P. Allen, a New Age visionary who led a commune south of Santa Fe called Synergia Ranch. Whereas the *Whole Earth Catalog* and the WELL defined a virtual community, that is, a “new form of technologically enabled social life,” Biosphere 2 was a real miniature world, meant to sustain a crew of eight human inhabitants (four men and four women) for a period of two years inside its hermetic dome. Synergia Ranch had an apocalyptic ethos: worried about impending environmental collapse, Allen wanted to escape Earth by building new colonies in space. But—and here I return to Jackson’s argument—Allen’s appeals to venture beyond Earth, to build the ultimate version of the “good life” in outer space, leave unexamined the racial and ideological connotations of this beyond, as well as the peculiar combination of settler colonialism and white flight that characterizes the Biosphere project.

Rather more successful, Stewart Brand’s *Whole Earth Catalog* managed to reconcile the opposing pulls of technophilia and technophobia, in a synthesis held together by a mix of “systems theory and countercultural mysticism.”11 The nature of the speculation emerging from, or inspired by, Bay Area—besotted theorists, however, also fails to yield any meaningful movement—metaphysical or otherwise—that would signal a departure from the autonomous subject that undergirds settler capitalism. As a rule, these ambitions to move beyond the human do not imply a movement toward the nonhuman; they simply prescribe a movement toward technology. Transhumanists, in particular, typically focus on using prosthetics, genetic engineering, bioengineering, or nanotechnology to enhance human longevity or reverse aging, enhance brain power via
microchip implants, upload people's minds into computers, or becoming cyborg-like via synthetic limbs and organs in order to live in perpetuity. Developing out of the anarcho-capitalist extropian philosophy professed by Max More, present-day transhumanism retains all the markers of liberal agency: autonomy, individualism, and a proprietary economy of the self. Hence its obsession with self-enhancement and individual immortality. Transhumanism also has a consumerist relation to time, typically represented as something that can be accumulated indefinitely—if time is money, the reverse must also hold true: money must surely be time.

Predicated on Cartesian dualism and Malthusian scarcity, transhumanism elevates evolution into a political project—an undertaking shared with the now discredited field of eugenics. But whereas eugenics involved the betterment of the national stock, transhumanism is elitist rather than nationalist. Most importantly, transhumanism is a frontier narrative that conflates the temporal (evolutionary leap into a future mankind) and the spatial (space colonization) in order to project another epoch of capitalist accumulation beyond the present one.

Though posthumanism and transhumanism are not identical projects these two discourses tend to increasingly converge. The emergence of the technoscientific posthuman, as Syed Mustafa Ali argues, is nonetheless entangled with the transhuman project insofar as it gestures toward a "transformation in the nature of humanism that maintains structurally asymmetric power relations between 'the (formerly) human' (as white, Western, male etc.) and the subaltern 'other' even as the latter contests the Eurocentric terrain of 'the human.'" Though departing from transhumanism's aspirational ethos, posthumanism remains predicated on temporal transcendence, as well as largely invested in the technological as redemptive and generative. Here, the structure of social and racial antagonisms is, quite literally, obscured by technology—be it materially or metaphorically.

The investment in technology as the privileged avenue toward transcendence also betrays an attachment to synchronicity, to a hegemonic global time-axis, which is also another name for empire. In most East Asian countries, where the process of rapid urbanization and modernization was perceived as synonymous with Westernization, technology could be seen as the site of a double alienation, via the introduction of the new and of the foreign. In spite of, or more precisely because of this decalage, industry undertook a process of acceleration in order to “synchronize” these countries with the West. Technological development—which, as Yuk Hui notes, is the “source of synchronization of the global time axis since the beginning of globalization”—came to
constitute “a past the Chinese never lived” but whose unfettered power has nonetheless progressed at a much more tremendous pace than in the US or Europe.

Though the theories that purport to move beyond the human often portray themselves as non-racist or even anti-racist, their points of overlap with attempts to articulate the position of the nonhuman, as that which lies outside rather than beyond the human, are superficial. To quote Holly Jones and Nicholas Jones: “Theorizing racialized humans as cyborgs inhibits properly understanding the diverse ways in which social contexts—conditions external to and separable from human bodies—create and sustain racial classifications and hierarchies.”14 The opposition between blackness and whiteness is fundamentally different than the dualisms (male/female; human/machine; mind/matter) the figure of the cyborg was originally mobilized to overcome. To return to Jones and Jones’s argument, theorizing the relation of race to time via cyborg theory, on the one hand, does too much: it conjures an imaginary that is wholly incongruous with the materialities of oppression, or the “modalities of identity without hope of resolution” they engender.15 On the other, it does too little: it leaves us bereft of resources, ill-equipped to address the weight of empire or the timescales of oppression.

As a rule, racial and gender differences tend to index differentials in agency. Autonomy and sovereignty are thus poor descriptors of actual lived experience. As Jones and Jones argue, “Male bodies command kinds of power and respect unavailable, or available only at great cost, to female ones.” Posthumanism acknowledges the blurred boundaries between subject and context but fails to recognize that concepts such as “the cyborg body” or “hybridity” do not “match the empirical reality of race.”16 Without an adequate grasp on the social—the site where racial antagonisms are structured, managed, and mobilized—posthuman theory tends to displace the question of the alien (or xeno, in the jargon adopted by xenofeminist theory) to the terrain of technogenesis via an expansive consideration of the machinic, while failing to recognize that the frictions between human and machine are not ontological frictions but economic ones, felt primarily as toil, hardship, and labor time. Our machines are not made of sunshine but of finely congealed racialized lives, a situation that tends to intensify as the capital accumulated in industrially advanced countries “scours the globe for lower wages,” preventing the development of so-called peripheral formations and reappearing in the West “as the racial threat of cheap labor from the Global South.”17

Gesturing toward hybridity or cyborg identities cannot undo what Frank B. Wilderson III calls the tautology operating at the heart of racial
violence, if race is to be understood as a cyborg prosthesis, not all cyborgs can partake in social life. Further, asserting the right to cyborg individuation without considering the renewed intensity of racial oppression and neocolonial violence, the policing of wageless life, the deportation of immigrant labor, the global reach of the war on terror, and the racialized violence engendered by the penal and national security state would inevitably magnify the preexisting privileges that produce and reproduce race as “not only a probabilistic assignment of relative economic value but also an index of differential vulnerability” to state, non-state, or semi-state violence. Last but not least, dramatizing transcendence, exceptionalism, and selective pressures leads us back to a colonial matrix. Whether this matrix is rationalized via the rhetoric of merit or naturalized as the survival of the fittest is less relevant than the impact and consequence of its coding into law and policy.

**Chronotechnics**

Temporality is not simply a thing measured by calendars and clocks, it is an emotional or affective structure. Straight time, or what Elizabeth Freeman calls “chrononormativity”—maturation, marriage, reproduction, inheritance—is tied to the notion of “the good life,” and the imperatives of upward mobility, employment opportunity, and durable intimacy, which bind personal agency to the political economy. Conversely, chrononormativity has a punitive relation to minorities and the marginal. As Damien M. Sojoyner sustains, “Time’s structural effect on Black people dissolves and is reconfigured as Black people’s lack of desire, will, or internal fortitude to change their circumstances in the present moment.” Black Americans are more likely to do time than to invest in immortality, unlike the affluent transhumanists. Poverty and precariousness also take a toll on one’s grasp of temporality—who can plan ahead when the dearth of forms of assistance and relief, the uncertainty of prospects, institutional and social pressures, precariousness and isolation, all seem to conspire to nullify the possibility of a rational or efficacious response to existential crisis?

Out of sync with the progressive temporality of economic growth, national identity, upward mobility, and heteronormative reproduction, the experience of marginal or minority groups makes manifest the “profound connection between differential temporalities and differential justices.” These differential temporalities are defined primarily by adjournment or by temporal lags: “To be black in the United States meant that one had to wait for nearly everything.” Hence, as Michael Hanchard sustains, “the
struggle for black civil rights can be conceived of as a movement to reduce waiting” or eliminate “the differentials of human time.”

Race, technology, and time are also imbricated in the multiple narratives of familiarization and defamiliarization through which emotional investments are managed, micromanaged, and mismanaged, and through which the relation between affects and abstractions is produced and reproduced. Wendy Chun proposed describing race itself as a form of technology, a machine that operates the interface between the visible (skin color) and the invisible or barely visible (cultural disposition, temporal status). The racial machine is not, strictly speaking, a technical apparatus; it is a semantic network, whose function is to foreclose, inhibit, preclude from enunciation, and force into the domain of the unthought, counterhegemonic renderings of history, chronology, and experience.

It is difficult to mourn lives one cannot imagine to be worth living, moreover when geographical and chronological distances are conflated. The nonurban and non-white never die in the “here and now”; they die as they lived: somewhere in the past—hence the lack of urgency in stopping US military drone killings, or the outsourcing of environmental hazards to the poorest and most vulnerable nations.

Rather than express disenchantment with the declining valence of futurity, what I find worth exploring is how temporality functions as a proxy for whiteness and empire. In other words, the questions I would like to pose are: Can one argue for a non-reactionary form of political and social “chance” while divesting from forward-looking time perspectives? Can “utopia” point to a time not of these times—and, by extension, to a world not of this world—rather than to a form of futurism or futurology? How to rearticulate the relation between the temporal and the technological while departing from the racial trappings of modernity? How to theorize truancy or fugitivity rather than future-oriented ontology? How to account for those who exist in different, subversive relations to chrononormative hegemony? Or for the great many lives left unscripted by officially sanctioned narratives and their multiple, disjunctive experiences of time?

**Counter-futurisms**

Afrofuturism, arguably the most important aesthetic movement of the postmodern era, has always been charged with a dual task: first, to decolonize technology by decoupling it from narratives of white modernity that “positioned Africa […] at the furthest remove from the terminus of history,” and second, to subvert the Malthusian or apocalyptic ethos of Western temporality.
The term Afrofuturism, a portmanteau of “Afro” (as in “of Africa”) and “futurism,” is usually attributed to Mark Dery from an interview with Samuel Delany, Greg Tate, and Tricia Rose in a 1993 issue of *South Atlantic Quarterly*. But the previous year Mark Sinker had already described the specificity of black science fiction in his seminal article “Loving the Alien: In Advance of the Landing,” published in British experimental music magazine the *Wire*. In contradistinction to white eschatology, “the central fact in Black Science Fiction,” Sinker argued, “is an acknowledgment that Apocalypse already happened.” Departing from vulgar Hegelianisms, Afrofuturism turns the Malthusian timeline on its head: the slave-ships “landed long ago” and “already laid waste [to] whole societies, abducted and genetically altered swathes of citizenry, imposed without surcease their values.” For those who, after being abducted, survived the traumatic transatlantic voyage in the hulls of the slave ships to be sold to work on plantations, mines, or the construction industry, “Armageddon [has] been in effect.”

Rather than enabling a civilizing project, modernity instituted a de-civilizing void, whose dark trajectory began with the Middle Passage and slowly seeped into every corner and crevice of the colonial empires. Within the vortex of colonial trade, “Africa and America—and so by extension Europe and Asia—are already in their various ways Alien Nations.” There is no redemptive dimension, temporal or otherwise, to a world that, to paraphrase Richard Wright, contains “no spiritual sustenance, had created no culture which could hold and claim [one’s] allegiance and faith.”

Because the experience of the enslaved as the subject who is forced to share the fate of the object bankrupts the very notion of “humanity,” the ideation of survival inevitably takes on a nonhuman form: the Detroit-based electronic music duo Drexciya fictionalized an underwater world—the Black Atlantis—populated by the descendants of the pregnant women routinely thrown overboard by slavers, midway across the ocean. Their unborn babies, known as Drexciyans, somehow develop the ability to breathe liquid oxygen and thrive in the deep seas.

The boundary between science fiction and social reality, as Donna Haraway noted, is observer dependent. Science fiction became the central literary vehicle for the articulation of the Afrofuturist imaginary because its very conventions as a genre focus on the experience of being “at odds with the apparatus of power in society […] of cultural dislocation, alienation and estrangement.” Alien abduction—to be secretly kidnapped by nonhuman beings in possession of superior technology for the purpose of intrusive medical examinations, usually of a sexual nature, and
with a focus on the reproductive system—is a cipher for the accumulation and reproduction of bodies as units of labor power. Kodwo Eshun, a crucial theorist of Afrofuturism, highlights Toni Morrison’s argument, from a 1991 interview with Paul Gilroy, that the enslaved Africans, who “experienced capture, theft, abduction, mutilation, and slavery were the first moderns [because] they underwent real conditions of existential homelessness, alienation, dislocation, and dehumanization that philosophers like Nietzsche would later define as quintessentially modern.”

Sun Ra, the experimental composer credited as the father of Afrofuturism, used to say he came from Saturn.

In his science-fiction film *Space Is the Place* (1972–74), Sun Ra wagers the future of the black race on a game of cards he plays against a character called the Overseer. Revisiting this scene for her lecture performance *Afrogalactica: A Brief History of the Future*, the Franco-Canadian artist Kapani Kiwanga points to the symbolic confrontation between two incomparable worldview: the Overseer draws a card with a picture of a luxury vehicle, the “foremost symbol of material gain in twentieth-century America.” In response Sun Ra holds up a card featuring a flying saucer, with the word “judgment” underneath. Whereas for the pimp-like Overseer, salvation can only be attained via inclusion in the marketplace (hence urging black people to rise *from* their community rather than *with* it), Sun Ra aims to resettle black life on a different planet—on a place not of this world—via the sonic transportation medium. The flying saucer, in Kiwanga’s view, is the space-age iteration of a recurring motif in the Afro-American imaginary, the “cestial chariot,” which she traces back to the spiritual “Swing Low, Sweet Chariot,” written by Wallace Willis circa 1862, which describes an angel-sent ship “coming for to carry me home.” The ever-present image of evasion or escape acquires here a two-fold dimension, conjuring at once the Underground Railroad (a network of secret routes used by African Americans to escape the slave states of the South) and the transcendental realm of sonic sanctuary, a soundscape able to comfort and assuage hurt, fear, and hunger.

*The Last Angel of History* (1995), by the Black Audio Film Collective’s John Akomfrah, opens with a story about the 1930s bluesman Robert Johnson, who was said to have sold his soul to the devil at a crossroads in the Deep South. In return for his soul, Johnson was given the secret of a black technology now known as the blues—the same technology that later begat jazz, soul, R&B, rap, and, by extension, Sun Ra, Lee “Scratch” Perry, Public Enemy, Jimi Hendrix, George Clinton, Afrika Bambaataa, Ishmael Reed, and Earth, Wind & Fire. Two hundred years into the future, a data thief is charged with the task of refining the crossroads and collecting
the techno-fossils buried there. Put together, these elements yield a code, the key to an Afrofuture. But the data thief only has one clue: the phrase “mothership connection.” Syncretism, sampling, and assemblage emerge here as the fundamental operations for constituting and reconstituting the terms of an orphaned collective life, burdened by centuries of abuse. But these operations also “unravel any linear model of the future,” creating a modality of time which is “plastic, stretchable and prophetic,” and most importantly, forked into futurism and fugitivity.

Flight and fugitivity, as H. L. T. Quan sustains, are the sites of black radical praxis, a form of ungovernability from below. The term Afrofuturism is something of a misnomer, which forces the genre into a kinship with Italian Futurism, and by extension fascism. Though certain elements of Afrofuturism, as they have been sublated into pop culture, acquired a technophilic dimension (for example, the Marvel Studios film *Black Panther*) or tend to orient themselves toward mythological history (ancient Egypt, the Ethiopian Empire, Dogon cosmology) or fetishize underexamined idioms of Afro-American history (like the moniker Black Star, after the Black Star Line, the shipping company incorporated by Marcus Garvey in order to facilitate the repatriation of black Americans back to Africa with the aim of establishing an ethno-nation, a project that mirrors the fascist impulse toward racial segregation). Afrofuturism remains, for the most part, a counter-futurist chronopolitical intervention, a form of temporal rather than spatial fugitivity that wholly departs from the future qua totalizing dimension.

**Conclusion**

In 2003, Fredric Jameson famously said that it’s easier to imagine the end of the world than to imagine the end of capitalism. As Lauren Berlant has argued, the same attachments that help reproduce what is damaging in the world are at the same time those that hold the world together as coherent representation. Capitalism is not just a form of political economy, it’s an affective structure, a way of ordering daily life. Giving up one’s attachments, however cruel or toxic, would mean giving up the world and one’s position in it. This is the reason, I believe, why it remains so difficult to willfully refuse to orient oneself toward the future, even as increasing numbers of people fall out of the social, characterized as a bad investment or not worth investing in because there is no future to extract—from lives or labor-time. In his book *The Parasite* (1980), Michel Serres replaces the term “exchange value” with “abuse value,” describing all modalities of exchange as forms of exploitation. Parasitism, Serres
argues, is the true model for the “complete, irrevocable consumption” that only works in one direction: “One feeds on another and gives nothing in return.”36 This irreversibility mirrors the linearity of modern temporality. Without the parasite there is no arrow of time, no asymmetry, no pro-

gressivity.

Instead of thinking about the future as a place one must find a way into, I find it helpful to think of the future as an entity with whom we entered a parasitic relation. To exit this relation would entail rendering ourselves unavailable for investments in temporality qua transcendence. To quote Evan Calder Williams in the guise of a conclusion, if by future we mean simply “that sensation of coming unstuck” in and from the “forms that bind lives, materials, and systems, in variably punitive ways, to a mode of time designed around the continuity of the present,”37 fugitivity or truancy—as figures of thought—may offer an exit strategy, a route toward non-futurology.

5 See Marina Vishmidt’s “Accumulating Futures,” in this volume.
7 Roberto Mangabeira Unger, Social Theory: Its Situation and Its Task; A Critical Introduction to “Politics” (New York: Cambridge University Press, 1987), 158.
8 This quote was attributed to Jodi Dean in the aftermath of the Occupy movement, taken as an indictment of its failure to project a global vision of the future.
10 Ibid.
12 Immortality is also by and large a male fantasy: as a rule, men wish to live longer, women wish to look younger. There is no known account of women obsessed with immortality. Even the infamous Countess Báthory was said to bathe in the blood of virgins to retain her youthful looks, not to prolong her life.
13 Syed Mustafa Ali, “Transhumanism and/as Whiteness,” ISSSI 2017 Summit: Digitalisation for a Sustainable Society (Gothenburg: MDPI, 2017), 2,


22. Ibid.


27. Public Enemy, quoted in ibid.

28. Ibid.

29. Ibid.


31. Afrofuturism is mostly a product of the African diaspora, and has been at times accused of being especially Anglophone-centric.


33. Ibid., 288.


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The series Counter-Histories pushes back against the grand narrative of the end of history as the triumph of globalized neoliberal democracy, opening a space for the articulation of counternarratives.
Not long ago, a melancholic Left and a manic neoliberalism seemed to arrive at an awkward consensus: the foreclosure of futurity. Whereas the former mourned the failure of its utopian project, the latter celebrated the triumph of a global marketplace. The radical hope of a singularly different, more equitable future was displaced by a belief that the future had already come to pass, limiting posthistorical society to an uneventful life of endless accumulation. Today, however, our joint futural horizon appears to reveal a different set of openings and closures. Amid an abundance of neo-futurisms, posthumanisms, futurologies, speculative philosophies, and accelerationist scenarios, there is also an expanding awareness of a looming planetary catastrophe driven by the extractionist logic of capitalism. The tropes of the “end of history” and “end of the future” are being replaced, on the one hand, by crisis-laden motifs of the “end of life as we know it” or “end of employment,” and on the other hand, by a return to the future through a series of themed exhibitions, festivals, and biennials. Political ecology appears to have trumped political economy. Likewise, there is a resurgence in the popular imagination of the promises and threats of artificial intelligence and automation. Despite this return to the future, the temporal horizon of our present moment is perhaps more aptly characterized by the “shrinking future” of just-in-time production, risk management, high-frequency trading, and the futures market. In *Futurity Report*, theorists, historians, and artists address the precarious futurity of the notion of “the future” itself: Which future? Whose future?

With contributions by T. J. Demos, Diedrich Diederichsen, Haytham El-Wardany, Kodwo Eshun, Sven Lütticken, Silvia Maglioni and Graeme Thomson, Achille Mbembe, Doreen Mende, China Miéville, Pedro Neves Marques, Johannes Paul Raether, Natascha Sadr Haghighian, Felicity D. Scott, Kerstin Stakemeier, Ana Teixeira Pinto, Marina Vishmidt, and McKenzie Wark