

Multiple Temporalities and the Nonhuman Other

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Abstract In this article I pose a series of questions about the relationships between the temporal rhythms of late capitalism and the flourishing of those relational "onto-epistemologies" so celebrated by recent theorists of the ontological turn. Bringing together recent research in political and environmental anthropology influenced by the ontological turn and the temporal insights of Michel Serres, one of the most neglected forefathers of posthumanism in science and technology studies, I explore some of the political-economic transformations that are currently impeding recognition of these ontological multiplicities. By more explicitly theorizing the temporalities of these transformations as embodied in key conservationist and educational institutions, my argument is that we can simultaneously deepen our understanding of "worlds-otherwise" and work toward clarifying the institutional conditions that so strongly mitigate against the flourishing of those worlds.

Keywords environmentalism, temporality, the ontological turn, posthumanism, neoliberal conservation

A t least since Barbara Adam's 1998 Timescapes of Modernity, critical environmental theorists have been preoccupied with thinking about the relationships between diverse temporal frameworks and perceptions of environmental responsibility across a range of cultural contexts. As Michael Lipscomb has pointed out in a recent contribution to an edited volume on the Frankfurt School and the environmental crisis, "Our capacity to admirably relate to a non-human nature, in the material-temporal historical contexts in which we are ensconced, is very much a matter of temporal responsibility." And again: "In interrupting the seamless flow of our capitalist-bureaucratic experience of time, the demands of environmentalist concern open up the possibilities and necessities of being able to think along different temporal registers." And yet again, perhaps most succinctly: "The cultivation of temporal alternative[s] has a central political importance."

- 1. Lipscomb, Critical Ecologies, 281.
- 2. Ibid., 284.
- 3. Ibid., 282.

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During the past few years, references such as these to the importance of rethinking relationships to time have proliferated in the hands of an otherwise theoretically eclectic range of environmental and political theorists. From Sheldon Wolin and Jacques Derrida to Rob Nixon and Robyn Eckersley,4 there is growing recognition of a "temporal disjunction" by which "political time is out of synch with the temporalities, rhythms, and pace governing economy and culture"—especially when it comes to addressing the environmental problems with which we are beset in late industrialism. Despite significant disciplinary and political differences, scholars from political science, anthropology, philosophy, and related fields have continued to argue that without a far more diverse and expansive set of temporal horizons than are currently mobilized in economics, law, and the media, we simply cannot understand or address what Val Plumwood called some years ago "the ecological crisis of reason." 5 We cannot understand, says Timothy Mitchell in Carbon Democracy, the millions of years of geologic compression that we have burned through in less than fifty.6 We cannot adequately conceptualize, notes Thom van Dooren, the mass extinction event in which we are so firmly implicated.⁷ Likewise, we have no way of experiencing or anticipating, as Elizabeth Cartwright has pointed out in a recent article on hydraulic fracturing, "the long-term time element that is associated with developing cancers, neurotoxicities, developmental delays, and reproductive problems [and that] precludes any immediate actions."8 And we are woefully blind, argues Kim Fortun as part of her 2014 reflections on Bruno Latour's invocation of the ontological turn, to the "longue duree in which environmental problems become manifest"—a reality that presents significant problems for effective environmental governance.9

Building on this growing interdisciplinary consensus about the imperative of thinking more carefully about the timescales within which to understand the depths of the current environmental crisis, in this article I ask: How might more explicit engagement with the temporal transformations at work in the global economy today facilitate a deeper appreciation of those socio-natural configurations toward which theorists of the recent ontological turn invite us? Toward what neglected trajectories of poststructuralist thought might it be useful to return in our efforts to foreground the links between more expansive temporalities and more diverse nature-culture ontologies? And perhaps most importantly, what institutional conditions might create openings for the return or remembering of the kinds of perceptions of temporal depth that might render

^{4.} Wolin, "What Time Is It?"; Derrida, Specters of Marx; Nixon, Slow Violence and the Environmentalism of the Poor; Eckersley, "Democracy in the Anthropocene"; Guyer, "Prophecy and the New Future."

^{5.} Plumwood, Environmental Culture.

^{6.} Mitchell, Carbon Democracy.

^{7.} Thom van Dooren, Flight Ways.

^{8.} Cartwright, "Eco-Risk and the Case of Fracking," 211.

^{9.} Fortun, "From Latour to Late Industrialism," 311.

more audible what Sian Sullivan has called "the communiques of other(ed) culturenature ontologies"?¹⁰

This essay forms part of a broader effort to think about the relationships between changing perceptions of temporality and the anthropological recognition of different nature-culture ontologies. It brings together recent reflections on late capitalist (or what Fortun calls "late industrial") time, contemporary experiments in posthumanism across the disciplines, and the writings of a somewhat neglected poststructuralist centrally concerned with the relationship between time and the environment: Michel Serres. By so doing, it argues that the language of ever-emergent "assemblages" and perpetually transgressive, transversal "becomings" so widely embraced by theorists of the ontological turn may ultimately represent a rather serious impediment to the kind of longue duree thinking that is essential to combating the short-termism of the contemporary economy. In short, the claim that I develop here is that this focus on "becomings" often suffers from a dangerous (though perhaps largely unintended) presentism that conceptually mirrors the short-termism of the global economy and in so doing renders us insufficiently sensitive to what Nixon has called "slow violence"11—that is, the slowly catastrophic unfolding of environmental injury across significantly extended time spans that is an increasingly central part of what Adam has called our "timedistanciated" economy.12

I defend this proposition in three sections. First, I provide a description of the often underacknowledged political-economic background conditions against which efforts to bring back ontological multiplicity in anthropology and adjacent disciplines have acquired such urgency in recent times—namely, the singularization of value registers so characteristic of neoliberal capitalism. My primary interlocutor here is Sullivan, who in recent years has been at the forefront of exploring this singularization through sustained reflection on the financialization of environmental value that is currently both constricting mainstream approaches to the ecological crisis and rendering ontological multiplicity less and less thinkable. Second, I show how despite the considerable nuance of this approach, more explicit attention to the short-termism of contemporary capitalism is an important asset in the struggle to expand engagement with those "worlds-otherwise" that remain at the center of the ontological turn. My central contribution here is to point out that there remains a neglected connection between the foreshortening of time characteristic of the contemporary global economy and the singularization of value registers that is at least implicitly of such concern to those committed to radical alterity. And third, in the spirit of more centrally foregrounding these connections between time and environmental awareness, I conclude by offering an abbreviated exploration—partial but nevertheless, I hope, provocative—of the explicit

^{10.} Sullivan, "Nature on the Move III," 53.

^{11.} Nixon, Slow Violence and the Environmentalism of the Poor.

^{12.} Adam, Timescapes of Modernity, 55.

relationship between "the presence of the past" in the present and more vitalist understandings of nonhuman agency, as found in the work of Latour's often neglected teacher, Serres. I focus at some length on Serres because he has been engaged in some of the most daring efforts to think beyond the dominant Western nature/culture binary in relation to temporal concerns. The suggestion emergent from my rereading of his 1995 The Natural Contract is that we consider more fully the potential dangers of the move in anthropology and adjacent disciplines toward embracing an analytic of "becomings" as part of which, as Fortun has argued (though more specifically in relation to Latour), everything seems endlessly capable of "being composed anew." Perhaps paradoxically, such models, while liberating us from the rigidities of both human exceptionalism and progressivist time, may ultimately prove to be obstacles in our efforts to embrace ontological multiplicity.

The Collapse of Ontological Difference

The overwhelmingly dominant response to the current environmental crisis at the United Nations, the International Union for the Conservation of Nature, the World Business Council for Sustainable Development, and most of the elite environmental nongovernmental organizations in the developed world is to work toward the establishment of what they call a "green economy." According to the new economists, who have multiplied in the years since the global financial crisis of 2007-2008, and in line with the argument long made by ecological modernizers that continued economic growth and environmental sustainability are essentially compatible, what needs most urgently to be done is to put prices on formerly externalized environmental goods. We simply have our balance sheets wrong, they tell us. There are incomplete entries for all the "services" performed by nature, which include things like supporting services (for example, bee pollination), provisioning services (the growth of food), regulating services (the maintenance of nutrient cycles), and perhaps most amorphously, cultural services. We will continue to destroy those with whom we share the planet if we do not properly (and by properly they always mean monetarily) account for their existence by making them visible on markets. If only nature could be properly priced; if only the amount of carbon stored in the Amazon could be rendered compatible with the amount of carbon emitted by the coal companies; if only the "services" provided by wetlands could respond to market signals, then, they tell us, we could halt environmental destruction. How much is the world worth? The growing movement for the recognition of "Natural Capital" (which held its inaugural conference in Edinburgh in 2013) can tell you if you care to find out.

UK-based anthropologist Sullivan has been at the forefront of calling attention to the massive ontological shifts demanded by this green growth agenda, which has

^{13.} Bennett and Connolly, "Crumpled Handkerchief," 170.

^{14.} Fortun, "From Latour to Late Industrialism," 315.

involved a sustained effort to invert, conflate, and rescale the boundaries between people, things, and nonhuman beings as the natural world becomes fragmented and flattened into exchangeable units such as amounts of carbon emitted or stored. As she explains, a massive effort to render the agency of the natural world quantifiable is under way in reports like the 2005 Millennium Ecosystem Report, in which more and more "natural services" are translated into the terms of market accounting. This restructuring of the natural world into the terms of "natural capitalism" represents, I follow Sullivan in suggesting, an ontological flattening of dramatic proportions, as the heterogeneity of the diverse life-worlds of bees, stones, and river basins is translated into the onedimensional categories of market exchange. The result of these processes of translation is a substantial conceptual narrowing that diminishes sensitivity to culturally diverse notions about how best to relate to the plethora of nonhuman agencies with which we are surrounded. As Sullivan notes, drawing on Paul Feyerband, "folding all of the living, breathing natural world into the discursive and calculative value-frame of substitutable capitals . . . encourage[s] a similar reduction of ways of talking about, thinking about, and relating with diversity."15 This is not, of course, as she recognizes, to say that accounting practices have no role in conservation but simply to register alarm about the wholesale subsumption of environmental values to the monocultural logic of corporate accounting. As Katherine Yusoff has similarly lamented: "This new political scene of ecosystem service economies represents a new ontology of biotic subjects—be they plant, animal, microbe or fungi—in which their value as entities is inscribed into capitalist modes of production as the defining characteristic of their life's work."16

Not only are natural resources (itself a utilitarian conception that sidelines possibilities for less instrumental human-nature relations) more and more hegemonically constructed as "ecosystem service providers," but the earth itself—no longer conceptualized as the embodiment of God or Gaia—is increasingly talked about at the United Nations Environment Program (UNEP) and the World Business Council for Sustainable Development as a "business" or corporation. As one former UNEP official put it recently:

Much of what we regard as wealth creation has in fact represented a running down of our common capital. Like any other business, Earth Incorporated, simply cannot function for long on that basis. In fact, if we were to present its accounts on a business basis, Earth Incorporated would be, in a very real sense, like the current banking crisis, heading steeply in the process of liquidation: bankruptcy.¹⁷

Earth Incorporated is, officials tell us, the most important business operating in the markets today. And it is not the only strange entity to make its way onto markets of late. Related transformations into the languages and logics of the business firm are

^{15.} Sullivan, "Notes on 'Natural Capital' and 'Fairy-Tales."

^{16.} Sullivan, "Natural Capital Myth," 18. Emphasis added.

^{17.} Sullivan, "Natural Capital Myth," 15.

happening also to growing numbers of human beings. As anthropologists have repeatedly pointed out over the past few years, we see growing evidence of related forms of ontological transformation at work when human beings are reconceptualized as minifirms or microenterprises, thereby further blurring the distinctions between corporations and human beings. As Anna Tsing has recently pointed out, people are increasingly treated not as sellers of labor power but as small businesses in and of themselves; no longer FedEx employees, but independent contractors responsible for the procurement of their own healthcare, support services, and benefits packages. 18 James Ferguson has likewise observed the surprising discursive moves by which poor South Africans are repositioned, as part of arguments in favour of basic income grants, as "human capital" or, more specifically, as a "kind of micro-enterprise, earning a rate of return on invested capital."19 And, perhaps most broadly, Ilana Gershon has summarized this shift from liberal to neoliberal conceptions of personhood by noting that "from a liberal perspective, people own their bodies and their capacities to labour, capacities they can sell in the market. In contrast, by seeing people as businesses, a neoliberal perspective presumes that people own their skills and traits, that they are a collection of assets that must be continually invested in, nurtured, managed and developed."20

Culture, then, or at least one very particular aspect of culture—namely, the business model of the limited liability corporation—is cannibalizing nature, fracturing and homogenizing both ecosystems and human beings into measurable "services" and manageable "assets" that might earn substantial rates of return, all the while assuring us that these translations into monetary value are the only ways to save ourselves and to avoid planetary crisis. While I am not convinced that such monetization is necessarily bankrupt or always reductively counterproductive, ²¹ I am worried about the singularization of value that it heralds and the ontological flattening (of people into small businesses and trees into stocks of capital) upon which it insists. It is against this backdrop of commodified value-singularization that the posthuman turn toward recognizing a plurality of ontologically distinct human/nature entanglements has acquired such power of late.

The Earth Is Not a Firm! In Pursuit of Ontological Alternatives

"Behind the contemporary proliferations and circulations of the fetishized abstractions of nonhuman nature," notes Sullivan, "is a deepened muting and deadening of the enunciative possibilities of non-human natures; accompanied by an intensified 'tuning out' as irrelevant and obstructive, of the *communiqués* of other(ed) culturenature ontologies."²²

- 18. Tsing, "Supply Chains and the Human Condition."
- 19. Ferguson, "Uses of Neoliberalism," 176.
- 20. Gershon, "Neoliberal Agency," 539.
- 21. For an example of how ecosystem services are working productively in the Florida Everglades, see Cattelino, "Cultural Politics of Water in the Everglades and Beyond."
 - 22. Sullivan, "Nature on the Move III," 154.

If we accept this description of the corporate-led flattening of nonhuman natures as a relatively fair assessment of the contemporary state of human/other-than-human relations—at least in its mainstream contours—how, we might ask, do we tune back in? How have social theorists and, in particular, environmental anthropologists and political ecologists influenced by the ontological turn sought to more consciously come back into relationship with these too-often financialized, commodified others? Although I take seriously the warnings of feminist geographers such as J. K. Gibson-Graham about the dangers of overemphasizing and thereby inadvertently further solidifying the power of capitalism to remake the world in its own image—in this case its capacity to dramatically reshuffle and singularize the relations between humans and other-thanhumans—I share with Fredric Jameson and other post-Marxist cultural critics an enduring sense of the centrality of the economic in shaping the "structures of feeling" most characteristic of our time.23 It is against these overdeterminations that theorists of the ontological turn have so productively sought to carve out analytic and emotional space for alternative socio-natures resistant to the reductionist logics of contemporary finance.

To challenge the socio-natural disembedding that has accompanied this proliferation of interest in ecosystem services, limited liability wetlands, and human beings as microenterprises, recent work in environmental and political anthropology has sought to recover a far wider set of "natural agencies" than are usually acknowledged by the advocates of "ecosystem services." As Sullivan and her colleagues have recently noted, "We should . . . be sensitive to the cognitive implications of selecting an 'ecosystem services' framework, which (like other choices of framing before it) contracts our ways of knowing biodiversity and nature in general, with the associated cost of crowding out much of the rich variety of ecological thinking."24 It is this "rich variety of ecological thinking" that has formed the center of recent work by ethnographers influenced by the ontological turn. Although not as explicitly concerned with the processes of commodification that preoccupy Sullivan, many of these theorists are implicitly committed to recognizing the heterogeneous entanglements of life-worlds in ways that explicitly resist both their reduction to the ontological categories most familiar to Western modernity and their capture by business logics. To provide just a few examples: As Marisol de la Cadena has recently pointed out of an Aymara (highland indigenous) community in Peru with whom she has worked for many years, when they speak of the anger of the mountains soon to be destroyed by Canadian and Australian mining companies, they are not using metaphors.25 The mountains will get angry, her Andean friends tell her. And they are right. They mean what they say. These angry mountains defiantly resist the reductionist, human-centered languages of "natural capital"—as does the

^{23.} Gibson-Graham, End of Capitalism as We Knew It; Jameson, "End of Temporality."

^{24.} Martin, McGuire, and Sullivan, "Global Environmental Justice and Biodiversity Conservation," 126.

^{25.} de la Cadena, "Indigenous Cosmopolitics in the Andes."

wonder occasioned by the ethnographic recognition that forests think and have languages of their own or that dogs dream, as Eduardo Kohn has so movingly observed of the Runa of Ecuador. Anthropologists of the ontological turn have persuasively argued that these mountains, forests, and animals are not just social constructions (or varieties of metaphor) but embodiments of radically different ways of existing, imagining, and relating that defy the basic tenets and assumptions of Euro-modernity. As Mario Blaser has put it most succinctly, writing about a recent conflict between the Canadian Department of Fisheries and the Mowachat First Nation in British Columbia over the fate of a young orca whale that the tribe insisted on keeping with them on the grounds that it was an embodiment of their recently deceased chief: "Luna is not a whale for the Mowachat Nation. It is Tsux'lit, a different entity that is not easily translatable as the social construction of an animal."²⁷

As sympathetic as I am to this move to deepen our commitment to radical alterity28 in the form of a recognition of things like the multitude of nonrepresentational languages spoken by the natural world29 or the ontological multiplicity of whales, it also seems to me increasingly urgent to further interrogate the cultural, sociological, and economic conditions of contemporary Western institutions—institutions that, despite considerable efforts at reform in some quarters, are rendering this multiplicity less and less thinkable. Despite highly innovative recent work on aspects of the green economy, like REDD+ (reducing emissions from deforestation and forest degradation) programs and other "neoliberal conservation" initiatives, it seems to me that much more can still be said about the institutions most centrally involved in the economic reductionism that, as I have already suggested, implicitly provides the backdrop against which the ontological turn has acquired such force over the past few years. In the space that remains, I sketch the contours of what I have in mind by drilling down into one aspect of contemporary institutions that has preoccupied environmental theorists from Adam to Nixon: the temporal orientations that underpin practices of deepening commodification, or what I have called here "ontological flattening." As I have tried to show thus far, one of the major impediments to the recognition of agential diversity or "vibrant matter" is the flattening of the world into the homogenous accounting categories of the business firm. And the particular institutional condition characteristic of the modernday business firm on which I focus the remainder of this essay is what economists call "short-termism"30—that is, the foreshortening of the temporal registers upon which the value reductionism of much of corporate accounting is based. While Sullivan and others have acknowledged in passing the ways in which economic short-termism

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26. Kohn, How Forests Think; Kohn, "How Dogs Dream."
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^{27.} Blaser, "Political Ontology," 878.

^{28.} Hage, "Critical Anthropological Thought and the Radical Political Imaginary Today."

^{29.} Kohn, How Forests Think.

^{30.} Dallas, "Short-Termism, the Financial Crisis, and Corporate Governance"; Bennett, Vibrant Matter.

prevents precisely the kinds of full accounting toward which adherents of PES (payments for ecosystem services) schemes strive because it fails to acknowledge the time lags and nonlinearity of ecological effects that make practices like offsetting deeply problematic, they have not by and large thought in a sustained way about the temporal orientations that anchor key institutions of environmental finance and biodiversity conservation.³¹

Why focus on time and not on other conditions equally characteristic of the institutions of late modernity? For three primary reasons. First, because I share with Nixon and Adam the intuition that without a significantly more expansive set of temporal frameworks than are regularly deployed by ecological economists and other ecomodernizers, the nature/culture binary so critiqued by theorists of the ontological turn is unlikely to be dislodged or even productively relativized. As Adam explains,

From a temporal perspective, there is no nature-culture duality: we are nature, we constitute nature and we create nature through our actions in conditions that are largely pre-set for us by evolution and history. Instead of emphasis on dualities—such as external and internal, spatial and temporal, natural and cultural—focus on time facilitates additional understanding of the interactive and constitutive aspects of socio-environmental praxis.³²

Although Adam's empirical focus is on the long-term hazards of radiation, ozone damage, and hormone-disrupting chemicals, her recognition of the importance of temporal depth and multiplicity to any acknowledgment of the degree to which human and other-than-human worlds interpenetrate is an intervention that needs to be even more closely heeded by those committed to unraveling the nature/culture binary.

Second, because it seems to me that the sort of temporal narrowing so characteristic of institutions anchored in neoclassical economic assumptions is one of the conditions that most significantly distinguishes "us" (and by "us" I mean the industrialized West responsible for the vast majority of the world's carbon emissions) from those cultures that seem to enact—or at least strive toward—more emancipatory possibilities for human/nonhuman entanglements. As Fredrick Berkes has recently put it: "In indigenous and other rural communities of the world, one almost always finds institutions with rules that serve to limit short-term self-interest and promote long-term group interest."³³ Among the architects of the global financial order who are among the foremost supporters of ecosystem services, REDD+, biodiversity offsetting, and a range of other ontologically singular approaches to addressing the environmental crisis, the trend is in precisely the opposite direction: toward an all-consuming presentism. As Laura Nader puts it most succinctly, "We all need a deeper sense of time, but an imperative

^{31.} Sullivan, "Notes on 'Natural Capital' and 'Fairy-Tales."

^{32.} Adam, Timescapes of Modernity, 15.

^{33.} Berkes, quoted in Sullivan, "Nature on the Move III," 54.

need for a deeper sense of time applies first [and, I would add, most urgently] to those who operate with the price-earnings ratio measuring growth by quarters instead of centuries."³⁴ This is a point recently echoed by Jameson, who has likewise pointed toward what he calls "the narrowing and the urgency of the time frame" most characteristic of the "microtemporality [that] accompanies and as it were condenses the rhythms of quarterly 'profit-taking.'"³⁵ For the growing number of haute finance participants in the creation of biodiversity offsetting and carbon trading programs, this conceptualization of time into "quarters instead of centuries" is undoubtedly central to the work of delivering immediate returns on investments in "natural capital."

And third, because I worry that the theoretical grounding of at least some of the recent ontological turn has uneasy—if also largely unintended—reverberations with the presentism of large conservation organizations with close connections to corporate finance. More specifically, I worry that the Deleuzian focus on "becomings" and the Latourian emphasis on "compositionism"—despite the emancipatory potential of these conceptual orientations—may inadvertently authorize a rather narrow preoccupation with emergent futures and always forward-running "lines of flight." Despite the enormously creative use to which these theorists have been put by Sullivan and others, my worry is that the "always-emergent" quality of "becoming-other" that is so central for both Gilles Deleuze and Latour may inadvertently lead to a presentism that downplays the kinds of extended temporal horizons necessary for a full reckoning with ongoing environmental, epistemic, and ontological injustice. As Rosemary-Claire Collard, Jessica Dempsey, and Juanita Sundberg have recently pointed out, influential neoliberal conservation organizations like the Breakthrough Institute, which have seized upon the conceptual resources provided by such theorists, seem to have precisely this quality—that is, to be increasingly amnesiac about the extent of environmental violence that has everywhere characterized the modernist project (or what they call, following Ann Stoler, "imperial ruination").36 As they demonstrate, it is precisely Latour's call to "turn our back, finally, to our past, and to explore new prospects, what lies ahead, the fate of things to come" that lends ideological support—albeit perhaps inadvertently—to the projects of the institute, which are "relentlessly focused on the future" and which by and large fail to address ruination, wreckage, and the ongoing violence that so routinely flattens worlds-otherwise into the impoverished terms of "economic rationality and human-centered managerialism."37

How, then, up against the powerful short-termism that underwrites these ontological transformations, might concerned scholars work toward institutional arrangements

^{34.} Nader, "Afterword," 321.

^{35.} Jameson, "End of Temporality," 704.

^{36.} Collard, Dempsey, and Sundberg, "A Manifesto for Abundant Futures," 323.

^{37.} Ibid. Deleuze, too, maintains a focus on perpetual emergence that can inadvertently work against historical reckoning. As he similarly explains: "History amounts only to the set of preconditions, however recent, that one leaves behind in order to 'become'; that is, to create something new" (Deleuze, Negotiations, 171).

that inculcate, sustain, or at least make creative space for more expansive experiences of time that might actually allow us to experience these other-than-human realities and relations? How, to borrow from Derrida, might we find ways to resist or reconfigure the "delinearized temporality" so characteristic of the postindustrial era? Or as Nixon has wondered in a recent book that makes the slowness of environmental disaster central to the contemporary problematic: "What forces—imaginative, scientific, activist—can help extend the temporal horizons of our gaze not just retrospectively but prospectively as well," so that we are better able to feel, theorize, and teach what Fortun has called "the slow disasters of our times"?³⁸

The Temporal Underpinnings of Radical Alterity: A Forgotten Voice?

The poststructuralist philosopher of science who has arguably done the most both to acknowledge the extent of contemporary environmental collapse and to understand the natural world in ways that dissolve, or at least substantially dilute, the human/nonhuman binary (and the whole configuration of values built upon that binary) is Serres—a teacher of Latour but one whose eclectically poetic temperament has rendered him far more ambivalently embraced by contemporary social scientists. I turn to him now because of his powerful articulation of the relationship between time perception and more expansive kinds of environmental awareness.

The son of a fisherman and a lover of Homer's Odyssey, images of fishermen and ships recur throughout Serres's writing. "In days gone by," he tells us in the second chapter of his 1995 The Natural Contract, "two men lived out in the often intemperate weather: the peasant and the sailor. How they spent their time, hour by hour, depended on the state of the sky and on the seasons. We've lost all memory of what we owe these two types of men." While often read as nostalgically antimodernist, Serres exalts those who "live out in the intemperate weather" because they represent for him vital counterweights to the figure of the contemporary specialist who lives always, and dangerously, indoors. "In which time," he continues, "are we living? The universal answer today: in the very short-term. To safeguard the earth or respect the weather, we would have to think toward the long term, and because we don't live out in the weather, we've unlearned how to think in accordance with its rhythms and its scope." Making the links between rhythm and scope explicit, he presses on:

[Those powers have] eradicated long-term memory, the thousand-year-old traditions, the experience accumulated by cultures that have just died or that these powers are killing. . . . If there is a material, technological, and industrial pollution, which exposes weather to conceivable risks, then there is also second pollution, invisible, which puts

^{38.} Nixon, *Slow Violence and the Environmentalism of the Poor*, 62; Fortun, "To Fieldwork, to Write." 39. Serres, *Natural Contract*, 28.

^{40.} Ibid., 29.

time in danger, a cultural pollution that we have inflicted on long-term thoughts, those guardians of the Earth, of humanity, and of things themselves. 41

And then, with devastating clarity, he concludes: "If we don't struggle against the second [form of pollution], we will lose the fight against the first."42 Again and again throughout The Natural Contract, this is a point to which Serres returns: the fight against industrial pollution must also, and more centrally, be a fight against short-termism. The struggle against environmental disaster must never be waged exclusively in economic or technological terms, since what provides the greatest hope of endurance is "long-term memory" and "thousand-year old traditions." Perhaps the most critical way of combatting the pervasive short-termism of politics, administration, and the media, he tells us, is to learn to listen more attentively to those "long-term men" who have "fallen silent forever." Despite the androcentrism of this formulation, Serres is adamant that "we moderns" are amnesiacs who need constant reminding of those voices from the distant past who had different, and often much longer-term, orientations to the world. 43 Weaving backward and forward in time, from Greek mythology and Plato's conception of the polis to twelfth-century Benedictine monks, Serres makes an argument—as much embedded in his words as in the tenor and texture of the text as a whole—about the kind of historical scope that must be brought to bear on environmental problems as apparently contemporary as industrial pollution. While Latour has described Serres as "indifferent to temporal distances"—bringing into the "same time frame" everyone from Livy and Lucretius to La Fontaine and Max Ernst⁴⁴—Serres has insisted that this eclectic moving back and forth between different time periods (or what he calls "crumpled time") is essential to learning to think according to the vast scope of the natural world. 45 Contrary to the accusations of his critics that he is engaged in profoundly ahistorical "free association," Serres understands attentiveness to the perpetual "presence of the past" as critical to the cultivation of perceptual habits that might ultimately change our sensorium. Now that we "live indoors," it is this kind of historical scope that affords us the greatest chance of being able to viscerally apprehend the vastly extended time frames of natural cycles (such as, for example, the mixing of the waters of the oceans, which, he tells us, is estimated at five thousand years).

Central to his repeated insistence that the "ancients" may be far more "contemporary" than "we moderns" (who are, on the contrary, "archaic in three-fourths of our actions") is his refusal to accept the notion of any sort of temporal rupture separating "us" from "them" or "past" from "present." As he explains, "In earlier times, people dreamed. Now we think. Once people sang poetry; today we experiment efficiently.

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41. Ibid., 30–31. Emphasis added.
42. Ibid., 31. Emphasis added.
43. Serres and Latour, Conversations on Science, Culture, and Time, 42.
44. Ibid, 44.
45. Ibid.
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History is thus the projection of this very real exclusion into an imaginary, even imperialistic time. The temporal rupture is the equivalent of a dogmatic expulsion."46 The persistent refusal of this "dogmatic expulsion" is what makes his approach to understanding environmental catastrophe particularly enlightening in the contemporary moment when, too often, we are surrounded by an all-consuming presentism justified by the intensifying sense that the world is utterly different from how it was at any other time in history. As a recent review article on urban political ecology concludes, taking aim at that quintessentially rupturing notion of the Anthropocene: "The academic promise of thinking through the lens of a wholly new era is accompanied by an omnipresent urge to assign it privilege; the danger of a multidisciplinary undertaking preoccupied with an unprecedented present can easily lead to a-historicism [and] universalism."47 While the Anthropocene presents perhaps the most vivid case of a contemporary temporal rupture, the dangers of thinking ourselves caught in an "unprecedented present" are not confined to political ecologists of the urban influenced by the Anthropocene. Indeed, similar critiques have been leveled at Latour's recent "inquiry into modes of existence" by science and technology studies scholars like Fortun, who have likewise noted that Latour's "meso-sociology of association," for all its promises, seems to suffer from a pronounced lack of historical depth, at least of the sort required by those concerned with tracking the "slow violences" and distributional injustices of chemical residues. "The politicaleconomic is largely absent," Fortun rightly notes. "The way history weights the present and future, at all scales and in all systems, is discounted. All attention is on what can be composed anew."48 Given this presentism among even those most actively worried about the ecological crisis and all the grim novelty that it heralds—a presentism that, I have suggested, has its implicit counterpart in the calculative short-termism that drives much of the contemporary global economy—Serres's unwavering commitment to historical depth, or thinking according to nature's (always multiple) "rhythms and scope," serves as a timely reminder of the connectedness between historical breadth and our capacity to experience other-than-human realities. If we as academics and concerned global citizens are committed to deepening our attentiveness to the "rhythms and scope" of the natural world—or, as Sullivan has put it, "the communiqués of other(ed) culturenature ontologies"—we need to better understand the temporalities that mitigate against such attentiveness and to engage in democratic discussion about the institutional reforms necessary to better embrace (and teach) those temporalities.

For just one example of what this might look like, let us consider briefly the contemporary university. After all, it is easy to remain critical of organizations like the Breakthrough Institute and the accounting practices of the "new conservation" professionals, but the foreshortening of time that is of such concern to Serres is equally

^{46.} Ibid., 50. Emphasis added.

^{47.} Rademacher, "Urban Political Ecology," 147. Emphasis added.

^{48.} Fortun, "From Latour to Late Industrialism," 315. Emphasis added.

problematic in the contemporary university. The nurturing of connectedness between broader temporalities and the perception of "other(ed) culturenature ontologies" is a critical pedagogical task that needs to be continuously worked at in institutions like universities, which are more and more explicitly aligned with the corporate sector.⁴⁹ As growing numbers of scholars have lamented, universities—despite their historically radical potential—are increasingly falling prey to the short-sighted visions of corporate marketing agents, audit specialists, executive education advisers, and funding bodies closely allied with the demands of industry.50 How, up against this powerful shorttermism that is even more entrenched than it was when Serres first penned The Natural Contract, can those of us working inside these institutions in a pedagogical capacity deepen students' awareness of the "presence of the past in the present"?51 What curricular reforms are required of higher education at a time of highly accelerated production to make space for the slowness of historical unfolding? What habits of mind, what practices of reading, what forms of deliberation should we be teaching and practicing that might have a chance of making our students more viscerally attuned to the tempos of other-than-human worlds? At a time when, as geographer Nigel Thrift has recently observed, more and more young people are growing up in "heavily corporatized suggestible environments" defined by things like video games that lack "cogent storytelling" and that rely on a pervasive kind of "eternal present," how can we refine attentiveness to the range of slow-moving histories (or what sociologist John Urry has colorfully called "glacial time[s]") that are too often brushed off as "archaic" or at the very least unable to speak to the radically new particularities of a geologically distinct modernity?52 As Fortun again explains, "Teaching . . . encourages what can be called a recursive engagement with history, returning to history again and again, weighing its determinations and marginalizations, in turn understanding the present as . . . always weighted (and often soiled) by history."53 How do we find creative ways to continue to insist on the importance of history in what Anne Rademacher has described as "the history-evasive era now widely known as the Anthropocene"—an era in which so much is being theorized as radically "emergent" that we may, in fact, be losing sight of precisely the kind of historicity critical to nurturing other forms of value?54 These are questions that cannot be refined in a short essay of this sort, but I want simply to flag them here because they are suggestive of one angle worth pursuing as we turn, as I have proposed in this article, from thinking primarily about the ways in which our interlocutors in Amazonia or elsewhere come into relationship with other modes of being to theorizing more

^{49.} Thrift, "Place of Complexity."

^{50.} Mountz et al., "For Slow Scholarship."

^{51.} Bennett and Connolly, "Crumpled Handkerchief," 170.

^{52.} Thrift, "Halos," 155; Urry, Sociology beyond Societies, 158.

^{53.} Fortun, "From Latour to Late Industrialism," 322. Emphasis added.

^{54.} Rademacher, "Urban Political Ecology," 137.

closely the temporal frameworks undergirding those Western institutions that are arguably most responsible for the neglect and degradation of other-than-human beings.

Conclusion

My proposal in this short article has been that those of us concerned with other-thanhuman worlds and practices of worlding might learn a great deal by more carefully theorizing the institutional conditions that stand in the way of the flourishing of such worlds. This engagement with institutional conditions involves both acknowledging the political-economic dynamics that implicitly underpin our burgeoning interests in radical ontological otherness and interrogating theoretical frameworks that may inadvertently further entrench the short-term time orientations of those institutions.

Thinking with Serres has allowed me to explore the importance of nurturing conditions, particularly in the increasingly corporatized academy, that might safeguard against the predominance of implicitly presentist or predominantly future-focused theoretical orientations. These orientations, many of which take inspiration from the emergent "becomings" of Deleuze and the new "compositionism" of Latour, are unlikely, it seems to me, to be able to effectively challenge the ever-narrower time scales characteristic of financial markets toward which Serres has most poignantly called our attention. "Few periods have proved as incapable of framing immediate alternatives for themselves," Jameson has rightly warned, "[y]et a little thought suggests that it is scarcely fair to expect long-term projections or the deep breath of great collective projects from minds trained in the well-nigh synchronic habits of zero-sum calculation and of keeping an eye on profits."55 The kinds of narrative temporal flight in which Serres so routinely engages are, it seems to me, particularly powerful antidotes to the constrictively singular time frames or "well-nigh synchronic habits of zero-sum calculation" that are increasingly culminating in the flattening of ontological difference so frequently lamented by critics of the green economy. Again and again, Serres reminds us of the intimate connections between temporal and ontological diversity, or between different timescapes and different ways of understanding "objects" or "circumstances" of human-nonhuman interrelatedness. "We are always simultaneously making gestures that are archaic, modern, and futuristic," he concludes. "Every historical era is likewise multitemporal, simultaneously drawing from the obsolete, the contemporary, and the futuristic. An object, a circumstance, is thus always polychromic, multitemporal, and reveals a time that is gathered together, with multiple pleats."56 Remembering how to think in "crumpled" or "pleated" ways across significant time spans—as much toward ancient pasts as toward distant futures, according to speeds and rhythms both fast and slow—might allow us to listen more closely to the full range of temporalities with which we are surrounded and to thereby more viscerally appreciate the lives of the more-than-human. By better

^{55.} Jameson, "End of Temporality," 705. Emphasis added.

^{56.} Serres and Latour, Conversations on Science, Culture, and Time, 60.

attending not just to the social-justice implications of forests that think and glaciers that listen (crucial though those voices may be) but to the "multiple pleats" that are too often eclipsed by the institutional matrices within which many of us live and work, we may gain critical purchase on the temporal conditions necessary for a more visceral awareness of those forms and rhythms of life currently doomed to "slow disaster."

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