

A History of Environmental Futurity: Special Issue Introduction

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A History of Environmental Futurity

Special Issue Introduction

SUSIE O'BRIEN AND CHERYL LOUSLEY

Political struggles of all sorts are formed and fought over the power to shape “the future”—usually the future of a place or a people. Environmentalism has a somewhat different relationship to futurity than other social and political movements, because it is engaged with safeguarding *the future of the future* in presenting ecological viability as the foundation for all human and more-than-human worlds. Much attention thus turns to practical and speculative questions about what the planet will be like *in the future*: What climatic conditions will prevail and for how long? What forms of life will thrive in those conditions? How will human communities cope? Different visions of the preferred future and the pathways to achieve it also abound. Sustainability, resilience, the Anthropocene, and economic prosperity are some of the current frameworks vying to explain and shape what is to come, against a present shaped by capitalism, colonialism, and climate change and by myriad movements to shape alternative possibilities for living together well.

Yet the future is not only about what is to come or even about present imaginings. Futures also have histories. This special issue pays attention to futurity as a discursive formation, a historically specific mode of technology, knowledge, and power, because we think that frameworks of environmental futurity have profound implications not only for what is to come but also for the present and our understandings of the past. Imagined futures help to structure and organize social relations, often solidifying and legitimizing existing inequalities in the process. We pose these questions: Who gets to imagine and to occupy environmental futures? What publics and political possibilities are enabled and

which are foreclosed in particular imaginings of environmental futurity? What alternative futures have been or might be imagined from post-colonial and other marginalized perspectives? What are the historical conditions that shape their emergence, and what role do they posit for history and memory? And how—through what institutions, technologies, and genres—do different futures get produced and contested?

The essays in this issue pose diverse answers to these questions. They address the production of environmental futurity by focusing on the institutions and technologies, tropes, and genres through which it appears as a matter of concern. In their essays in this issue, Patricia Audette-Longo, Susie O'Brien, and Cheryl Lousley show how, in processes ranging from United Nations commissions to resource-industry environmental reviews, questions of environmental futurity come to crystallize debates about development, economic growth, indigenous sovereignty, and democracy, harnessing them to evolving data and theories focused on planetary boundaries.¹ And as Joshua Schuster's essay demonstrates, even seemingly unconnected projects such as scientific investigations into life on other planets reverberate into questions about the spatial and temporal boundaries of life on this one.² Imaginative acts of future projection define the literary and philosophical genres of speculative fiction, science fiction, and utopian thought, as both Schuster and Rebecca Evans discuss in their essays.³ But speculation is part of other practices as well. Richard Crownshaw and Catriona Sandilands, in their essays, point to commodity trading, futures markets, and habitat restoration, not to mention climate modeling, as other forms of speculative practice that involve imagining possible futures.⁴

Residual hierarchies and existing social relations of race, gender, sexuality, and class are often embedded in these projected futures, such as the recurring trope of the child as symbol of the future and normative family relations that Evans discusses in her essay.⁵ Humanities scholarship, however, also emphasizes how the past is more than an instrument for future prediction. Remembering is a social and place-based as well as personal process in which affective attachments and commitments—what matters and has mattered—give meaning to our cultures and identities. Narratives of the future provide insight into cultural memory—what has, and will have, mattered enough to be remembered, and by whom—but also reshape it, recursively rewriting remembered pasts in order to make certain futures possible, as O'Brien, Crownshaw, and

Sandilands each discuss in this issue.⁶ Different institutions and constellations of political actors produce different conceptions of environmental futurity; likewise diverse generic forms—including reports, policy documents, literary fiction, poetry, and prayer—help to determine the shape of environmental futurity, even as environmental futurity’s emergence as subject of intense imagination helps to reshape genre.

Interest in the fraught entanglement of agency and structure, materiality and representation informs our approach to the theme of environmental futurity. Compelled by practical questions of the future of the environment, we also wanted to be careful not to take for granted the solidity or priority of either of our two key terms, “future” and “environment.” The planetary scale, along with the teleological and biopolitical pull of environmental futurity, gives the concept an urgency that might appear legitimately to preempt other temporal agendas. We seek to examine the locations and assumptions from which this sense of urgency about the planetary future emerges and to illuminate the concerns it eclipses, centered on present need, for example, or the historical debts accumulated through colonialism.

To this end, our discussion in this introduction offers a (necessarily partial) account of the historical emergence of environmental futurity. While acknowledging that concerns about the intersecting domains of the environment and the future have waxed and waned over millennia, we consider the emergence of a particularly modern conception of environmental futurity in relation to three historical conjunctures: European colonialism, the development and deployment of nuclear weapons, and the naming of the Anthropocene. As we explore this history, we make particular note of the various temporalities and scales environmental futurity embodies.

Though we can trace long and independent histories of the future and the environment as concepts, the emergence of each is significantly conditioned by its entanglement with the other. This is particularly evident in the last hundred years. In their collection *The Future of Nature*, Libby Robin, Sverker Sörlin, and Paul Warde identify the 1940s and 1950s as a key period in which “the idea of ‘the environment,’ and the crisis about its future, emerged together.”⁷ They emphasize that the “prediction that the whole global system was falling into degradation was co-determined with the very discovery of that system.”⁸ Key to both discovery and prediction was the development of computer technology

and associated expertise, anticipating the advent, along with the development of the concept of sustainability, of “a new kind of expert, the systems analyst, the manager of information, the envisionser of global dynamics.”⁹ But in order to understand these developments, it is necessary to go back a few centuries.

Colonial Futurity

From the seventeenth century onward, Europeans sought to reconcile their future-oriented belief in the human imperative for growth and “improvement” with a growing recognition of the material limits of resources.¹⁰ As Richard H. Grove has meticulously documented, this recognition came first in the colonies, particularly tropical islands, whose circumscribed borders allowed them to function as natural laboratories in which to study the effects of radical shifts in human-environmental interactions.¹¹ Concerns about these effects initially tended to be fairly local and short-term (e.g., deforestation might lead to a shortage of wood for fuel and construction).¹² From the mid-eighteenth century on, however, colonial science began to raise concerns about the long-term impacts of practices of deforestation on soil and water on “future generations.”¹³ Island colonies such as Mauritius, whose delicate ecologies had already suffered severe disruption, offered scientific templates for measuring and predicting the global effects of intensive resource depletion.

Grove’s account of colonial science highlights a significant fault line in what is often read as a single narrative of futurity: colonialism as resource expansion in service to a vision of infinite capitalist growth. While the intensive exploitation of colonial resources served the short-term goals of economic imperialism, growing environmental consciousness allied itself with a different future-oriented trajectory of the colonial project: the prospect of moral improvement and the search for utopia.¹⁴ Grove points to the close association between emerging ideas of environmental futurity and projects of social reform. Ideals of conservation often went hand in hand with concerns about social welfare and public health and, at least in some instances, with women’s rights and abolitionist politics.¹⁵

Carolyn Merchant, for example, has traced the confluence of campaigns for universal suffrage with the United States’ early twentieth-century nature-conservation movement, many of whose most promi-

ment proponents were women.¹⁶ However, Merchant notes that nature conservation *also* served as a touchstone for the *antisuffrage* movement, which worried that “the ‘welfare of the State and Race’ would suffer if the burden of suffrage were added to all the other responsibilities of womanhood.”¹⁷ Suffrage and antisuffrage conservationists were united in their conviction that environmental protection was part of a broad agenda to secure the welfare of future generations.¹⁸ These discussions often proceeded from an assumed connection between the ongoing viability of the land and a particular vision of reproductive womanhood (a connection that persisted in some early strands of ecofeminism).¹⁹ The connection between progressive conservation and the heterosexual politics of “reproductive futurism” points to what Brigid Hains describes, in the nineteenth-century Australian context, as a constellation of “less savory aspects of environmental consciousness,” including “eugenics, Royal Commissions into the birthrate, fears of racial degeneration in the tropics, and acrimonious controversy over the future of white settlement in the interior.”²⁰

Popular conceptions of Darwinian science formed the backdrop to many of these projects, conflicts, and anxieties. The theory of natural selection stoked racialized fantasies of human improvement, such as the notion that a white “race” would “naturally” advance because it was seemingly superior to other “races.”²¹ As Patrick Brantlinger explains, a racialized notion of futurity underlay colonial extinction discourse.²² The fossil evidence of species extinction, so crucial to the emergence of the theory of evolution and to raising concern about escalating anthropogenic extinctions from the colonial era to the present, also played a role in the pervasive colonial discourse of “vanishing” peoples, or “races.”²³ Indigenous peoples and, at times, all non-European people were represented as people without futures, a fatalistic and convenient fiction that enabled and legitimized extraordinary forms of violence and land expropriation. From the eighteenth through the twentieth century, indigenous people particularly were widely represented in the West as dying out, in what was seen as an inevitable result of their “savagery” or their encounter with “civilization.” The civilized/savage binary opposition was a social and cultural hierarchy articulated through an imagined temporal frame in which different groups of people were imagined to be at different stages of historical time even while coinciding in

time.²⁴ This “denial of coevalness” to those labeled “primitive” or “savage” essentially assigned them to “a futureless past” and was often figured through the metaphor of the “savage as futureless child,” frozen in immaturity and unable to grow up.²⁵ Popular and scientific narratives of the nineteenth century, particularly in spectacles and fictions of the “last” of the “race,” would sentimentally mourn the loss of the future for indigenous people while nevertheless insisting on the inevitability of their disappearance.²⁶

The right to have a future, and the right to shape and “fashion” a future other than that envisioned “first in the West,” was thus foundational to decolonizing and national-independence movements of the twentieth century.²⁷ Moreover, recognition of the violence and exclusivity of many futurities—imagined as *not* to be shared with others—is one of the most important legacies of the genocides of the nineteenth and twentieth centuries. However, even as the murderous eugenics of the Nazi regime became a target of near universal condemnation, reproduction continued to play a central role in biopolitical discourses of futurity. Concerns about overpopulation, often emerging from the global North, deploy arguments about scarcity and declining biodiversity in the service of a program of continued regulation of the reproduction and mobility of people in the global South.²⁸

Forged in the framework of colonialism, the vision of environmental futurity that coalesced into the conservation movement of the nineteenth and twentieth centuries was explicitly biopolitical, concerned with groups of people as reproducing populations, and at times unabashedly racist. Colonial conservation practices had another, more direct effect on colonized people whose practices of land cultivation were condemned as primitive impediments to the European project of improvement. Throughout the nineteenth century, as Grove points out, forest-preservation measures in Asia and Africa were increasingly tied to the suppression of the indigenous people (and anticolonial struggle accordingly sometimes associated with resistance to official conservation measures).²⁹ The confluence of environmental conservation and indigenous displacement and suppression points to a cruel irony in the colonial history of environmental futures: the burgeoning of European environmental consciousness does show evidence (rarely acknowledged by historians) of the diffusion of some indigenous environmental philosophies into European thought (e.g., Alexander von

Humboldt's critiques of intensive resource exploitation drew inspiration from Hindu principles of nature).³⁰ However, as colonized cultures were consigned to a primordial past superseded by European civilization, the ecologically enlightened perspective on futurity that characterized diverse indigenous societies throughout Asia, Africa, North America, Australia, and New Zealand (e.g., the North American Indigenous commitment to the welfare of seven successive generations) was systematically sacrificed to the narrow temporal horizons of capitalist development.³¹

This sacrifice—of complex human and nonhuman ecologies and the futures that might have been—left the descendants of European colonizers with an impoverished imaginary conditioned significantly by fear. As Grove notes, “anxieties about environmental change, climate change and extinctions and even the fear of famine . . . mirrored anxiety about social form (especially where the fragile identity of the European colonist was called into question) and motivated social reform. At the core of environmental concern lay anxiety about society and its discontents.”³² These anxieties only grew throughout the twentieth century.

Postatomic Futures

In his history of colonial science, Grove demonstrates the ability of scientists to influence state policy by stoking “fears of environmental cataclysm.”³³ Fear—sometimes deliberately manufactured—played a prominent role in the imagination of environmental futurity throughout the twentieth century, nowhere more so, perhaps, than following the development of the nuclear bomb. In Donald Worster’s dramatic formulation, “the age of ecology opened on the New Mexican desert, near the town of Alamogordo, on July 16, 1945, with a dazzling fireball of light and a swelling mushroom cloud of radioactive gases.”³⁴ While Worster traces the confluence of the nascent scientific discipline of ecology with the development of atomic energy, he also acknowledges the massive influence of the advent of nuclear weapons on the public imagination. In Joseph Masco’s words, “America’s nuclear project” led to “the formation of new kinds of risk societies, unified not by national affiliation, but by exposure levels, health effects, and nuclear fear.”³⁵ The future of the planet and the long-term ecological viability of life became central political questions in the aftermath of the 1945 atomic bombings of Hi-

roshima and Nagasaki. Fears that no one would survive a nuclear bomb blast gave way—in the wake of research into the aftereffects of radiation on humans, plants, and animals—to different, and in some ways darker, terrors about the possibilities of surviving and coping with the uncertain aftermath.

The revelation that radioactivity persists long into the future, causing mutations in living tissue that can be passed to successive generations, opened a new horizon of environmental futurity for which civil defense appeared to be both necessary and futile. “By the mid-1950s,” Masco suggests, “it was no longer a perverse exercise to imagine one’s own home and city devastated, on fire, and in ruins; it was a formidable public ritual—a core act of governance, technoscientific practice, and democratic participation.”³⁶ Masco suggests that the Cold War exerted a powerful disciplinary effect on US citizens, “transform[ing] the apocalypse into a technoscientific project and a geopolitical paradigm, but also a powerful new domestic political resource.”³⁷ By “calibrat[ing] everyday American life into the minute-to-minute possibility of nuclear warfare” and “turning the domestic space of the home into the front line of the Cold War,” civil defense inaugurated a regime of preparedness that turned out to be readily convertible to other threats. In Hollywood cinema, nuclear imagery became a template for imagination of other kinds of disaster, ranging from tsunami to alien invader and even terrorism, that offer pretexts for mobilizing national community.³⁸ By the 1980s and 1990s, Cold War propaganda imagery of nuclear disaster was increasingly mobilized against itself to promote an antinuclear message, even as the nuclear energy industry presented itself as playing a central role in “strategies for a clean, low-carbon future.”³⁹

The prevailing problems of nuclear waste disposal, along with the long-lasting and uncertain health effects of radiation, undermine this message such that, more than any other technological development, nuclear energy helped to usher in an environmental futurity in which uncertainty and risk is the defining element. In his seminal study of risk society, Ulrich Beck distinguishes between an earlier, class-based distribution of social goods and bads and the new formation in which risks, such as those associated with nuclear energy, have a “boomerang effect” such that “even the rich and powerful are not safe from them.”⁴⁰ Moreover, ecological risks appear as a dynamic “with an *inherent tendency towards globalization*.”⁴¹ Beck elaborates this theme in *World Risk So-*

ciety, where he suggests that a globalized society is inevitable and that cooperation will be driven by shared fear.⁴² However, the characterization of a futurity defined by global risk tends to gloss quickly over the massive inequities that fueled the modernization project. As Barbara Rose Johnston has shown in her extensive work with people from the Marshall Islands, the speculative horizon of risk produced in the global North by its project of “nuclear colonialism” rests on *already-existing* injuries to people and their environments in the global South.⁴³ The devastating, intergenerational effects of radiation on Marshallese people, exacerbated by limited and censored government data and a lack of adequate health care, highlight the biopolitical—even necropolitical—dimensions of the nuclear project, whose efforts to secure the “global” (read Northern) future have depended on the sacrifice of people and lands in the global South in the past and present.⁴⁴

Awareness of nuclear threat paved the way for a recognition of human and planetary fragility that spawned the burgeoning environmentalism of the 1960s and '70s, from Rachel Carson's pesticide exposé *Silent Spring* to the anticipation of severe resource scarcity in the Club of Rome's *Limits to Growth*.⁴⁵ Yet early efforts to create world cooperation on environmental concerns foundered, because inadequate attention was given to the significant and persistent inequalities of the international economic order, making the future orientation of environmentalism appear a luxury in the context of widespread systemic poverty. In the 1980s the Brundtland Commission linked poverty and development to environment in its landmark report on sustainable development, *Our Common Future*, but was less effective in redressing inequalities of power and resources or reversing ecological decline.⁴⁶ Ending poverty is first among the seventeen sustainable development goals adopted in 2015 by the United Nations General Assembly to guide national governments and international cooperation to 2030. The generic, global-level articulation of the targets, however, repeats many of the weaknesses of earlier development initiatives in implying that poverty is an isolated lack or deficit to be remedied by standardized, expert-driven solutions rather than a localized and historical relationship of broader colonial and postcolonial political economies.⁴⁷

Several critics have noted the imperialistic dimensions of global ecology, according to which the global South is enlisted in the sustainability agendas of the global North.⁴⁸ There is also an often-overlooked

temporal dimension to the politics of global ecology, represented by what Philip Catney and Timothy Doyle identify as “serious trade-offs between the welfare of the now and the politics of the future.”⁴⁹ While “intergenerational justice” has gained traction in the global North—the argument that we need to save the earth “for our children and grandchildren”—this principle ignores the “colonialist realities of the global South, where people wrestle with massive environmental debts incurred upon them by centuries of exploitation by the North (the past and the present).”⁵⁰

Debt is a relationship both between creditors and borrowers and between past, present, and future, in that present expenditures are made possible by committing future resources and are encumbered by commitments made in the past. The significance of financial indebtedness in undermining ecological and social capacity, by diverting money to creditors rather than to national development and by intensifying resource extraction in order to fund debt repayment, came to prominence in the 1990s and 2000s with a series of campaigns and initiatives for debt relief of the poorest countries. But the politics of indebtedness are subtler than repayment and relief imply, with debt relief often contingent upon conditions, such as privatization of lands, water, and services, and future-restricting loans being assumed by political actors responding to short-term crises, often rising or falling prices for world commodities. They also involve the question of which creditors and which debts get recognized and repaid. The extraction of resources—whereby forests, for example, are dismembered for timber, minerals, or fossil fuels—is rarely acknowledged as a form of credit, especially not as a form of credit extended unjustly without permission of those whose long-term livelihoods are undermined in the process. When environmental debt is only considered through a universalized lens of intergenerational justice—a borrowing from our children’s future, as if risk were only ever in the future—the accumulative debts we already owe due to unjust ecological relations of the past and present remain occluded.

These considerations are also a matter of temporal scale. In coining the term “slow violence,” Rob Nixon highlights the crucial role of temporal frames in shaping the perception of environmental issues.⁵¹ The years- and decades-long pace of some ecological hazards and resource losses contributes to their social and political invisibility, discounted as forms of violence because they are “slow” and nonspectacular, while

their extended duration has devastating effects on health, communities, and ecosystems. Understanding histories of violence and oppression is thus crucial for appreciating the ecopolitical contexts, discursive regimes, and cultural practices of the present and future.

The Anthropocene

The timescale for nuclear radiation to decay by half is a difficult-to-imagine ten thousand years; “say, around the year 12035,” Peter van Wyck notes in his discussion of how one communicates the danger of a nuclear waste site to people three hundred generations into the future, a period beyond any expected continuity of language or other sign systems.⁵² At the turn of the millennium in the year 2000—a feeble number in comparison, yet a time of intensified fears and prophecies—climate change and fossil fuel extraction became the dominant focus of an environmental futurity now extended to an even harder-to-imagine time horizon with the proposition that we have entered a new geological era named the Anthropocene. “In keeping with geologic tradition,” Lori Ziolkowski writes, “for the Anthropocene to be classified as a new period in geologic time the changes we are currently imposing on the planet need to be preserved in the rock record a million years from now.”⁵³ Ziolkowski points out that radioactive isotopes do not last this long, nor will the atmospheric traces of climate change. Rather, the durable signs of large-scale human transformation of the planet will be a fossil record showing the extreme loss of animal and plant diversity and the extraction of rare minerals for computing technologies.⁵⁴

The planetary and temporal scales involved in such transformations of the earth far exceed what is possible to create, much less experience, on the scale of the human individual. For many, then, the idea of the Anthropocene entails “the collapse of the age-old humanist distinction between natural history and human history,” demanding a recognition of the planet-shaping force of humans *as a species*.⁵⁵ In his call to embrace Anthropocene thinking, historian Dipesh Chakrabarty, whose earlier work highlighted the chronopolitics of colonialism, describes a dawning realization “that all my readings in theories of globalization, Marxist analysis of capital, subaltern studies, and postcolonial criticism over the last twenty-five years, while enormously useful in studying globalization, had not really prepared me for making sense of this plane-

tary conjuncture within which humanity finds itself today.⁵⁶ Emphasizing planetary over political concerns, Anthropocene thinking thus brackets consideration of temporal unevenness or heterogeneity in favor of a posthuman universalism.

This focus plays out in a variety of future scenarios. Some of these visions retrofit older ideas for new realities: The technoutopian future imaginary that burgeoned in the 1990s, for example, finds contemporary fodder in technologies of carbon capture and other forms of geo-engineering that promise to stave off the damage of climate change.⁵⁷ The more reflexive vision of sustainability, which rose to prominence in the decades following the Brundtland Commission, also persists, in popular discourse and in institutions ranging from the United Nations to elementary schools to businesses. However, in the early decades of the twenty-first century, the meaning of sustainability has been modified and, in some instances, replaced by the concept of resilience, which is focused not on persistence or conservation but on the capacity to adapt in the face of inevitable turbulence.⁵⁸

New times also demand (or enable) more radical imaginings. In 1999 the Chicago Mercantile Exchange launched weather derivatives, investment instruments marketed as new tools for farmers seeking protection from unpredictable weather. Their less advertised function—crucial to the finance industry—is to provide an opportunity for stakeholders to profit from the increased meteorological volatility associated with climate change. For a certain class of investor, then, climate change ushers in new prospects for productivity and growth.⁵⁹ For others, the Anthropocene heralds not only darker times but a total eclipse of the future. Texts such as Alan Weisman's *The World without Us* and Roy Scranton's *Learning to Die in the Anthropocene* ask us to imagine and prepare for the extinction of our own species.⁶⁰ For Scranton, the harbinger of humanity's fate is the burned-out city of Baghdad, which he encountered as a US soldier in the early 2000s, a situation eerily echoed a few years later in the chaos and wreckage of New Orleans following hurricane Katrina: "The grim future I'd seen in Baghdad had come home: not terrorism, not WMDs, but the machinery of civilization breaking down, unable to recuperate from shocks to its system."⁶¹ The conclusion? "We're fucked. The only questions are how soon and how badly."⁶² A striking reversal of the optimistic vision of global progress that inspired the European colonial project, this vision of doom nevertheless echoes

its confident universalism and resurrects the denial of coevalness, only in the opposite direction. Where once the colonized world was seen by Europe as the embodiment of the past, the Anthropocene ushers in a different kind of temporal disjunction that Cheryl Lousley has termed the “gothic future” and Jennifer Wenzel has called a “projected future inferior,” in which those who have already begun to suffer the effects of climate change (primarily but not only in the global South) are reduced to a spectacle of the disastrous future that the global North is headed for (or may yet avert if bold steps are taken).⁶³

There is no doubt that climate change diminishes the capacity for people in significantly affected places to imagine a viable future. For Inuit in northern Labrador, for example, challenges to mobility, traditional subsistence practices, and spiritual connection to the land caused by shrinking ice are also associated with heightened rates of anxiety and depression.⁶⁴ However, Indigenous perspectives on climate change tend to challenge dominant visions of opportunity and catastrophe and lend support to critics who caution against climate reductionism—“a way of viewing the world as a place in which the future of societies and environments is seen in terms of climate alone.”⁶⁵ Counter to claims for the novelty of Anthropocene thinking, many Indigenous philosophies never did subscribe to the illusory distinction between human and natural history. For Anishnaabeg writer and activist Leanne Simpson, who views the extractivist practices that led to climate change as part of the long history of colonialism, environmental activism is a necessary part of a broader decolonial movement.⁶⁶ She notes that

the impetus to act and to change and to transform, for me, exists whether or not this is the end of the world. If a river is threatened, it's the end of the world for those fish. It's been the end of the world for somebody all along. And I think the sadness and the trauma of that is reason enough for me.⁶⁷

Simpson's work advances the project of global indigenous resurgence, in which traditional place-based cosmologies inform struggles for the restoration of sovereignty and, by extension, the revitalization of humans' connection to the earth.

These Indigenous cosmologies also inspire visions of the future in which the possibilities for human survival might include interplanetary movement and the cultivation of new worlds. Afrofuturism, for

example, borrows from traditional African mythology as well as from science, technoculture, and magic realism to challenge the spatiotemporal limitations of conventional (i.e., white [post]colonial) narratives of the future. African American poet Will Alexander, discussed in Schuster's essay, joins poetics and cosmology to imagine alternative environmental futures, "leav[ing] the Earth in order to come back to it with a new knowledge of 'the planet's otherness.'"⁶⁸ Meanwhile, African American novelist Octavia Butler finds, in the degraded present, seeds from which to cultivate intersectional ecofeminist parables of the future. Lauren, the protagonist of Butler's 1993 novel, *Parable of the Sower*, urges, "We can get ready. That's what we've got to do now. Get ready for what's going to happen, get ready to survive it, get ready to make a life afterward."⁶⁹ An activist who leads an army of the dispossessed to cultivate a new society based on environmental justice principles, Lauren is also the prophet of a new religion, "Earthseed," whose fundamental tenets, gathered in the form of what she calls "The Books of the Living," are "God is Change," "Shape God," and "The Destiny of Earthseed is to take root among the stars."⁷⁰

The essays in this issue do not converge around any such set of principles or exhortations. The collection is not for, or even about, a particular vision of the environmental future. Rather, it explores diverse visions of environmental futurity with the aim of tracing, in their political, affective, and aesthetic contours, a partial history of the present. This history contains seeds for the future. Which ones we will choose to cultivate and which will flourish cannot be determined in advance.

ABOUT THE AUTHORS

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NOTES

1. See Audette-Longo, "Prayers on the Record"; O'Brien, "Resilience Stories"; Lousley, "Global Futures Past."
2. See Schuster, "Another Poetry Is Possible."
3. See Schuster, "Another Poetry Is Possible"; Evans, "Fantastic Futures?"
4. See Crownshaw, "Climate Change Fiction"; Sandilands, "Fields of Dreams."
5. Evans, "Fantastic Futures?"
6. O'Brien, "Resilience Stories"; Crownshaw, "Climate Change Fiction"; Sandilands, "Fields of Dreams."
7. Robin, Sorlin, and Warde, *Future of Nature*, 63.
8. Robin, Sorlin, and Warde, *Future of Nature*, 63.
9. Robin, Sorlin, and Warde, *Future of Nature*, 65.
10. Robin, Sorlin, and Warde, *Future of Nature*, 63.
11. Grove, *Green Imperialism*.
12. Grove, *Green Imperialism*, 26.
13. The phrase "future generations" appears in a passage Grove quotes from Alexander von Humboldt's journals for travels to South America from 1798–1804, published in French and almost immediately translated into English, which describe consequences of deforestation in tropical forests of Venezuela. Humboldt's observations of effects on Lake Valencia occasion a more general observation that "by felling the trees that cover the tops and the sides of mountains, men in every climate prepare at once two calamities for future generations; the want of fuel and a scarcity of water." Grove, *Green Imperialism*, 367.
14. Grove, *Green Imperialism*, 480–81.
15. Grove, *Green Imperialism*, 205.
16. Merchant, *Earthcare*, 75.
17. Chittendon, quoted in Merchant, *Earthcare*, 76.

18. Merchant, *Earthcare*, 74–75. At the Second National Conservation Congress, held in Washington in 1910, the General Federation of Women’s Clubs endorsed “the enactment of laws which shall tend to the conservation of the vital forces represented in the mothers of the race and the children who are the country’s future citizens” (Merchant, *Earthcare*, 72).
19. For discussion, see MacGregor, *Beyond Mothering Earth*; Alaimo, *Undomesticated Ground*; Sandilands, *Good-Natured Feminist*.
20. Hains, “Mawson of the Antarctic, Flynn of the Inland,” 155. See also Edelman, *No Future*; Mortimer-Sandilands and Erickson, *Queer Ecologies*; Evans, “Fantastic Futures?”
21. Bowler, *Norton History of the Environmental Sciences*, 309–10; Brantlinger, *Dark Vanishings*, 169–75; Anderson, *Race and the Crisis of Humanism*, 14–24.
22. Brantlinger, *Dark Vanishings*.
23. Brantlinger, *Dark Vanishings*.
24. Brantlinger, *Dark Vanishings*; Fabian, *Time and the Other*.
25. Fabian, *Time and the Other*, 31; Brantlinger, *Dark Vanishings*, 2, 66.
26. Brantlinger, *Dark Vanishings*, 67.
27. Brathwaite, “Negus”; Scott, *Refashioning Futures*; Chakrabarty, *Provincializing Europe*, 6.
28. Mies and Shiva, *Ecofeminism*; Sandilands, “Sex at the Limits.”
29. Grove, *Green Imperialism*, 12.
30. Grove, *Green Imperialism*, 3, 16.
31. Fabian, *Time and the Other*; Chakrabarty, *Provincializing*; McKegney, “Indigenous Environmental Ethics.”
32. Grove, *Green Imperialism*, 14.
33. Grove, *Green Imperialism*, 1.
34. Worster, *Nature’s Economy*, 342.
35. Masco, “Mutant Ecologies,” 290.
36. Masco, “Survival Is Your Business,” 362–63.
37. Masco, “Survival Is Your Business,” 366.
38. Masco, “Survival Is Your Business,” 384, 385.
39. “Clean,” Canadian Nuclear Association, accessed May 10, 2010, <https://cna.ca/why-nuclear-energy/clean/>; see also Masco, “Survival Is Your Business,” 273.
40. Beck, *Risk Society*, 37.
41. Beck, *Risk Society*, 36, italics in original.
42. Beck, *World Risk Society*.
43. Johnston, “Nuclear Disaster,” 144.
44. Johnston, “Nuclear Disaster,” 146–53.
45. See Carson, *Silent Spring*; Meadows, *Limits to Growth*.
46. World Commission on Environment and Development, *Our Common Future*.
47. See Escobar, *Encountering Development*; Ferguson, *Anti-Politics Machine*.
48. See Ross, *Strange Weather*, 208; Sachs, *Global Ecology*.
49. Catney and Doyle, “Welfare of Now,” 181.
50. Catney and Doyle, “Welfare of Now,” 184, 176.
51. Nixon, *Slow Violence and the Environmentalism of the Poor*.

52. Van Wyck, *Signs of Danger*, xvi.
53. Ziolkowski, "Geologic Challenge of the Anthropocene," 37.
54. Ziolkowski, "Geologic Challenge of the Anthropocene," 37.
55. Chakrabarty, "Climate of History," 201.
56. Chakrabarty, "Climate of History," 199.
57. Mikulak, *Politics of the Pantry*, 50–59; Szeman, "System Failure," 812–14.
58. O'Brien, "Resilience Stories."
59. Crownshaw, "Climate Change Fiction."
60. Weisman, *World without Us*; Scranton, *Learning to Die in the Anthropocene*.
61. Scranton, *Learning to Die in the Anthropocene*, 14.
62. Scranton, *Learning to Die in the Anthropocene*, 16.
63. Lousley, "'Third World' as Gothic Future"; Wenzel, "CO₂ and the Coeval."
64. Cunsolo Willox et al., "Climate Change and Mental Health."
65. Barnes, "Rifts or Bridges?," 43; Hulme, "Reducing the Future to Climate."
66. Simpson, *Dancing on Our Turtle's Back*.
67. Simpson, *Dancing on Our Turtle's Back*, 2.
68. Schuster, "Another Poetry Is Possible."
69. Butler, *Parable of the Sower*, 52.
70. Butler, *Parable of the Sower*, 3, 125, 77.

BIBLIOGRAPHY

- Alaimo, Stacy. *Undomesticated Ground: Recasting Nature as Feminist Space*. Ithaca, NY: Cornell University Press, 2000.
- Anderson, Kay. *Race and the Crisis of Humanism*. London: Routledge, 2007.
- Audette-Longo, Patricia. "Prayers on the Record: Mobilizing Indigenous Futures and Discourses of Spirituality in Canada's Pipeline Hearings." *Resilience* 4, nos. 2–3 (2017): 66–93.
- Barnes, Jessica. "Rifts or Bridges? Ruptures and Continuities in Human-Environment Interactions." In "Whose Anthropocene? Revisiting Dipesh Chakrabarty's 'Four Theses,'" edited by Robert Emmett and Thomas Lekan, *RCC Perspectives* 2016, no. 2 (2016): 41–45.
- Beck, Ulrich. *Risk Society*. Translated by Mark Ritter. London: Sage, 1992.
- . *World Risk Society*. Cambridge: Polity Press, 1999.
- Bowler, Peter J. *The Norton History of the Environmental Sciences*. New York: W.W. Norton, 1993.
- Brantlinger, Patrick. *Dark Vanishings: Discourse on the Extinction of Primitive Races, 1800–1930*. Ithaca, NY: Cornell University Press, 2003.
- Brathwaite, Edward Kamau. "Negus." In *Islands*, 65–67. Toronto, ON: Oxford University Press, 1969.
- Butler, Octavia. *Parable of the Sower*. New York: Warner Books, 1993.
- Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 1963.
- Catney, Philip, and Timothy Doyle. "The Welfare of Now and the Green (Post) Politics of the Future." *Critical Social Policy* 31, no. 2 (2011): 174–93.

- Chakrabarty, Dipesh. "The Climate of History: Four Theses." *Critical Inquiry* 35 (2009): 197–222.
- . *Provincializing Europe: Postcolonial Thought and Historical Difference*. New ed. Princeton, NJ: Princeton University Press, 2009.
- Crownshaw, Richard. "Climate Change Fiction and the Future of Memory: Speculating on Nathaniel Rich's *Odds against Tomorrow*." *Resilience* 4, nos. 2–3 (2017): 127–46.
- Cunsolo Willox, Ashlee, Sherilee L. Harper, James D. Ford, Victoria L. Edge, Karen Landman, Karen Houle, Sarah Blake, and Charlotte Wolfrey. "Climate Change and Mental Health: An Exploratory Case Study from Rigolet, Nunatsiavut, Canada." *Climatic Change* 121, no. 2 (2013): 255–70. doi:10.1007/s10584-013-0875-4.
- Edelman, Lee. *No Future: Queer Theory and the Death Drive*. Durham, NC: Duke University Press, 2004.
- Escobar, Arturo. *Encountering Development: The Making and Unmaking of the Third World*. Princeton, NJ: Princeton University Press, 1995.
- Evans, Rebecca. "Fantastic Futures? Cli-fi, Climate Justice, and Queer Futurity." *Resilience* 4, nos. 2–3 (2017): 94–110.
- Fabian, Johannes. *Time and the Other: How Anthropology Makes Its Object*. New York: Columbia University Press, 1983.
- Ferguson, James. *The Anti-Politics Machine: "Development," Depoliticization, and Bureaucratic Power in Lesotho*. Cambridge: Cambridge University Press, 1990.
- Grove, Richard H. *Green Imperialism*. Cambridge: Cambridge University Press, 1995.
- Hains, Brigid. "Mawson of the Antarctic, Flynn of the Inland: Progressive Heroes on Australia's Ecological Frontiers." In *Ecology and Empire: Environmental History of Settler Societies*, edited by Tom Griffiths and Libby Robin, 154–68. Edinburgh, UK: Keele University Press, 1997.
- Hulme, Mike. "Reducing the Future to Climate: A Story of Climate Determinism and Reductionism." *Osiris* 26, no. 1 (2011): 245–66.
- Johnston, Barbara Rose. "Nuclear Disaster: The Marshall Islands Experience and Lessons for a Post-Fukushima World." In *Global Ecologies and the Environmental Humanities: Postcolonial Approaches*, edited by Elizabeth DeLoughrey, Jill Didur, and Anthony Carrigan, 140–61. New York: Routledge, 2015.
- Lousley, Cheryl. "Global Futures Past: *Our Common Future*, Postcolonial Times, and Worldly Ecologies." *Resilience* 4, nos. 2–3 (2017): 21–42.
- . "'Third World' as Gothic Future: Specters of Bare Life at the World Commission on Environment and Development." Lecture presented at the American Comparative Literature Association Annual Meeting, New York University, New York, March 20, 2014.
- MacGregor, Sherilyn. *Beyond Mothering Earth: Ecological Citizenship and the Politics of Care*. Vancouver: University of British Columbia Press, 2006.
- Masco, Joseph. "Mutant Ecologies: Radioactive Life in Post-Cold War New Mexico." *Cultural Anthropology* 19, no. 4 (2004): 517–50.
- . "'Survival Is Your Business': Engineering Ruins and Affect in Nuclear America." In *Cultural Anthropology* 23, no. 2 (2008): 361–98.
- McKegney, Sam. "Indigenous Environmental Ethics and the Limits of Cultural Evolutionary Thinking." In *Found in Alberta: Environmental Themes for the Anthropocene*, edited by

- Robert Boschman and Mario Tromo, 305–27. Waterloo, ON: Wilfrid Laurier University Press.
- Meadows, Donella Hager. *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New York: New American Library, 1972.
- Merchant, Carolyn. *Earthcare: Women and the Environment*. New York: Routledge, 1996.
- Mies, Maria, and Vandana Shiva. *Ecofeminism*. London: Zed Books, 1993.
- Mikulak, Mike, *The Politics of the Pantry: Stories, Food and Social Change*. Montreal: McGill-Queen's Press, 2013.
- Mortimer-Sandilands, Catriona, and Bruce Erickson, eds. *Queer Ecologies: Sex, Nature, Politics, Desire*. Bloomington: Indiana University Press, 2010.
- Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Cambridge, MA: Harvard University Press, 2011.
- O'Brien, Susie. "Resilience Stories: Narratives of Adaptation, Refusal, and Compromise." *Resilience* 4, nos. 2–3 (2017): 43–65.
- Robin, Libby, Sverker Sorlin, and Paul Warde, eds. *The Future of Nature: Documents of Global Change*. New Haven, CT: Yale University Press, 2013.
- Ross, Andrew, *Strange Weather: Culture, Science and Technology in the Age of Limits*. New York: Verso, 1991.
- Sachs, Wolfgang, ed. *Global Ecology: A New Arena of Political Conflict*. London: Zed Books, 1993.
- Sandilands, Catriona. "Fields of Dreams: A Backyard in Toronto, Ontario, 2016." *Resilience* 4, nos. 2–3 (Winter 2017): 111–26.
- . *The Good-Natured Feminist: Ecofeminism and the Quest for Democracy*. Minneapolis: University of Minnesota Press, 1999.
- . "Sex at the Limits." In *Discourses of the Environment*, edited by Éric Darier, 79–94. Oxford: Blackwell, 1999.
- Schuster, Joshua. "Another Poetry Is Possible: Will Alexander, Planetary Futures, and Exo-poetics." *Resilience* 4, nos. 2–3 (2017): 147–65.
- Scott, David. *Refashioning Futures: Criticism after Postcoloniality*. Princeton, NJ: Princeton University Press, 1999.
- Scranton, Roy. *Learning to Die in the Anthropocene: Reflections on the End of a Civilization*. San Francisco: City Lights Publishers, 2015.
- Simpson, Leanne. *Dancing on Our Turtle's Back: Stories of Nishnaabeg Re-Creation, Resurgence and a New Emergence*. Winnipeg, MB: Arbeiter Ring, 2011.
- Szeman, Imre. "System Failure: Oil, Futurity, and the Anticipation of Disaster." *South Atlantic Quarterly* 106, no. 4 (2007): 805–23.
- van Wyck, Peter C. *Signs of Danger: Waste, Trauma, and Nuclear Threat*. Minneapolis: University of Minnesota Press, 2004.
- Weisman, Alan. *The World without Us*. London: Picador, 2010.
- Wenzel, Jennifer. "CO₂ and the Coeval." Lecture presented at the American Comparative Literature Association Annual Meeting, New York University, New York, March 20, 2014.
- World Commission on Environment and Development. *Our Common Future*. Oxford: Oxford University Press, 1987.

Worster, Donald. *Nature's Economy: A History of Ecological Ideas*. Cambridge: Cambridge University Press, 1994.

Ziolkowski, Lori A. "The Geologic Challenge of the Anthropocene." "Whose Anthropocene? Revisiting Dipesh Chakrabarty's 'Four Theses,'" edited by Robert Emmett and Thomas Lekan, *RCC Perspectives* 2016, no. 2 (2016): 35–39.