

Planetary Praxes: Performing Humanity under Ecological Emergency

by

Shelby Elizabeth Brewster

BA, Marshall University, 2012

BFA, Marshall University, 2012

MA, The Ohio State University, 2015

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This dissertation was presented

by

Shelby Elizabeth Brewster

It was defended on

April 5, 2021

and approved by

Emily Wanderer, Assistant Professor, Anthropology

Bruce McConachie, Professor Emeritus, Theatre Arts

Kathleen George, Professor, Theatre Arts

Michelle Granshaw, Associate Professor, Theatre Arts

Dissertation Director: Patrick McKelvey, Assistant Professor, Theatre Arts

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“Planetary Praxes” theorizes new forms of human/nonhuman relationships developing in response to the rapidly increasing disruption of known and lived environmental norms. Through the interdisciplinary lens of performance, I theorize the planetary as a rubric for analyzing this shift, as it emphasizes the nonhuman and the earth’s inherent alterity. This intervention derives from two conceptual shifts: the material conditions of the ecological emergency which foreground the connections among humans and planetary others, and the theorization of the Anthropocene, which emphasizes the geological power of the human species. Both produce “planetary imaginaries” best rendered through performance. Further, I argue that the ecological changes under the label “climate change” demands considerations of the planetary in order to imagine alternative environmental futures.

I examine a variety of practices—political protest, museum exhibition, and artistic production—which I argue have become sites for negotiating ecological relationships. I ask how these relationships form under the conditions of planetary emergency, including global warming, environmental racism, ocean acidification, the inequities of global capitalism, and biodiversity loss. These rapidly shifting ecological (and political) circumstances rework an extensive history of articulating humanity in relation (or in opposition) to nature. Ultimately, I argue that identifying and understanding these emerging ways of being, which I call planetary praxes, are imperative to forge a future of ecological justice.

I show how a range of planetary praxes—ways of being human—are developing during

this current time of environmental upheaval. These include practices that uphold Eurocentric ways of being that perpetuate human exceptionalism and the instrumentalization of nature, as well as performance practices that can enable new ways of living by creating new relations between humans and nonhumans, displacing the centrality of humanity, and imagining new relationships to nature. This project demonstrates the significance of performance as a lens to understand how we move through the world. By attending to the ways humanity is a praxis—a doing, a performance—we might move toward those forms which are less violent and more just.

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Preface

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1.0 Introduction: After Man, Towards the Planetary¹

*We will go onwards in a different mode of humanity, or not at all.*²

*Let us remain exposed, and let us think about what is happening [ce qui nous arrive] to us: Let us think that it is we who are arriving, or who are leaving.*³

*The move toward a more expansive notion of humanity must be made with care.*⁴

*So for us to deal with global warming, this will call for a farreaching transformation of knowledge— this pari passu with a new mutation of the answer (its “descriptive statement”) that we give to the question as to who as humans we are.*⁵

The Smithsonian National Museum of Natural History in Washington, DC. The marble floors reflect the light shining through the glass-paned ceiling. Footsteps and voices echo through

1. In this title I follow Sylvia Wynter’s construction “Towards the Human, After Man.” Her theorization of being human as praxis is foundational to this dissertation. Similarly, I have taken up Wynter’s use of guide-quotes throughout this text. See Sylvia Wynter, “Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument,” *CR: The New Centennial Review* 3, no. 3 (2003): 257–337.

2. Val Plumwood, “A Review of Deborah Bird Rose’s *Reports from a Wild Country: Ethics for Decolonisation*,” *Australian Humanities Review*, no. 42 (2007).

3. Jean-Luc Nancy, *After Fukushima: The Equivalence of Catastrophe*, trans. Charlotte Mandell (New York: Fordham University Press, 2015), 8.

4. Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018), 50.

5. Sylvia Wynter, “Unparalleled Catastrophe for Our Species? Or, to Give Humanness a Different Future: Conversations,” in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham, NC: Duke University Press, 2015), 24, original emphasis.

the cavernous space as visitors wend their way through the bones of monsters long extinct. Their fossilized skeletons loom overhead.

A bright, sunny day in Oakland, California. A group of people gather in a public park. Some wear colorful bird costumes. Other hold flying puppets aloft, the wispy fabric of their wings fluttering in the breeze. A person sporting metallic lipstick plays a guitar and sings. The group walks around Lake Merritt, a colorful procession.

A small crowd wanders through a tent, its walls lined with lightboxes. Each illuminated square shows an image from a natural history museum: dioramas, taxidermy, museumgoers. The reflections of viewers stare back as they examine each photograph.

A small herd of bison roams a snowy, remote landscape in the northeast corner of Russia. They share a fenced area with sheep, deer, and horses. Their hooves tamp down the permafrost, the layer of soil that stays frozen year-round. Or it did, before rising global temperatures.

This dissertation examines how contemporary performance can construct the planetary, which I articulate as a conceptual totality encompassing the ecological realities of the planet and the operations of capitalism. Following theorists of the Anthropocene, this includes considerations of geologic or deep time and species-being, “humanity’s capacity to take its own ‘life-activity’ as its object.”⁶ The idea of the Anthropocene has become a turning point in artistic practice, criticism, and theory. Ecological and environmental topics have long occupied dramatists and performance artists, and ecocritical approaches to drama have demonstrated historical perspectives on the relationships between landscapes and humans. However, I seek to counter these perspectives by focusing on performances which address both the introduction of the Anthropocene into theoretical discourse and the realities of increasing climate weirding—the

6. Ben Dibley, “‘Nature Is Us’: The Anthropocene and Species-Being,” *Transformations*, no. 21 (2012).

disruption of known and lived environmental norms—in the first decades of the twenty-first century. If, as Whitney Bauman argues, the illusion of climate stability as objective reality gave rise to ways of life which considered nature as subdued, then in this time of climate upheaval what new ways of living are emerging?⁷ It is these ways of living which I name planetary praxes: the ways ecological emergency on a planetary scale prompts new—and influences old—ways of being human.

My dissertation theorizes the multiplicity of ways that the humanity is performed in the Anthropocene, and argues that the planetary is an imperative conceptual framework in light of the vagaries of climate disaster and global capitalism. That is, different versions of planetarity are emerging as ways to make sense of dramatically shifting ecological realities. These include performance practices that uphold what Bauman has called “the logic of mastery”: the Eurocentric way of thinking which perpetuates the exceptionalism of the human and the instrumentalization of nature.⁸ By continuing to center the human and casting human technology as the solution to climate crises, these practices perpetuate the construction of the planetary which undergirds capitalism. Furthermore, they leave unchallenged the ways the negative effects of capitalism are displaced upon bodies and places cast as Other, including those marked by racial, ethnic, gender, or species difference.

I also explore performance practices that can enable new ways of living by creating new relations between humans and nonhumans, displacing the centrality of humanity, and imagining new relationships to nature, including intervening in the capitalist framework of Cheap Nature.⁹

7. Whitney A. Bauman, “Climate Weirding and Queering Nature: Getting Beyond the Anthropocene,” *Religions* 6, no. 2 (2015): 742–54.

8. Bauman, “Climate Weirding and Queering Nature,” 748.

9. Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso Books, 2015).

They strive toward shifted senses of scale, recognition of the embeddedness of humans within their environment, and alternative sets of relations beyond neoliberal capitalism. Ultimately, these performance practices bring about new ways of being planetary, formations that become essential in the effort to apprehend the specificities of climate crises and envision ways of living and being otherwise.

1.1 What's in a Name?: The Anthropocene and Its Discontents

*If the Anthropocene is already here, the question then becomes, what can we do with it as a conceptual apparatus that may serve to undermine the conditions that it names?*¹⁰

The concept of the Anthropocene has become a sort of theoretical flashpoint, a chameleon-like concept taken up by scholars, scientists, pundits, artists, and activists. Though the material phenomena of climate change (global warming, species extinction, ocean acidification, etc.) are included within the Anthropocene rubric, the terms are not synonymous. At its simplest, the Anthropocene names a new geological epoch in which human activity will leave traces in the planet's fossil record. The earliest conceptualization of the Anthropocene emerged in 2000, when paleoecologist Eugene F. Stoermer and chemist Paul Crutzen published "The 'Anthropocene'" in The International Council for Science's *Global Change Newsletter*.¹¹ Crutzen and Stoermer outline historical attempts to describe humanity's effects on the planet and

10. Heather Davis and Zoe Todd, "On the Importance of a Date, or Decolonizing the Anthropocene," *Acme* 16, no. 4 (2017): 763.

11. Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene,'" *Global Change Newsletter* 41 (May 2000): 17–8.

offer several examples which demonstrate the increase of human-driven environmental change throughout the Holocene. Because of this evidence, which includes the introduction of greenhouse gases, rise in species extinctions, and alteration of landmass, they propose “the Anthropocene,” a new geological epoch defined by human activity. This periodization makes legible human effects on geology and ecology, effects that will have repercussions for thousands of years and leave evidence in the planet’s geological record.¹² Crutzen and Stoermer claim that a specific starting date for the Anthropocene is arbitrary, though they advocate for the late eighteenth century due to an increase of atmospheric carbon dioxide and the beginning of the Industrial Revolution. Various origination points have been suggested, including the beginning of nuclear weapons testing and the invention of agriculture.¹³ No official decision has been made of this writing, but the impact of the Anthropocene as a discursive development is clear.¹⁴

There have been a vast number of projects attempting to illuminate the social, political, and ecological aspects of the Anthropocene. Much of this scholarship focuses on explaining the specific environmental effects of the Anthropocene, making various cases for the epoch’s existence with evidence from a variety of scientific fields. This work serves as a foundation for the theorizations of the Anthropocene which I draw from in my own project. Other thinkers have targeted the epoch’s philosophical dimensions, uncovering the implications of this human-centered frame for humanism, posthumanism, and the nature/culture binary. Arianne Conty, for example, points out the disjuncture between current trends in philosophy, which reject the human

12. Crutzen and Stoermer, “The ‘Anthropocene,’” 17.

13. On the political and material implications of designating a start date, see Davis and Todd, “On the Importance of a Date, or Decolonizing the Anthropocene”; Kathryn Yusoff, “Anthropogenesis: Origins and Endings in the Anthropocene,” *Theory, Culture & Society* 33, no. 2 (2016): 3–28.

14. Eileen Crist, “On the Poverty of Our Nomenclature,” *Environmental Humanities* 3, no. 1 (2013): 129–47.

exceptionalism of modernity, and the human-centric Anthropocene.¹⁵ Conty identifies two intellectual camps: one scientific (humans had little influence on the world prior to the Anthropocene, in which their agency reaches all aspects of the planet) and one philosophical (the nature/culture divide is a modernist myth, and human activity has always affected the environment). Conty maintains that social scientists in particular are representative of the philosophical camp, exemplified by the work of Bruno Latour. But she ultimately concludes that as both camps consider human and nonhuman action as agential forces, they both “ignore causal reasoning that would implicate ideology and politics in favour of effects that are best resolved with material technological solutions.”¹⁶

Despite a proliferation of publications treating it, the Anthropocene is far from universally accepted. Some scholars have criticized the concept (and its proponents) as dangerously apolitical. Christophe Bonneuil and Jean-Baptiste Fressoz critique the ahistoric, apolitical, and techno-optimistic position of many so-called “Anthropocenologists.”¹⁷ Bonneuil and Fressoz seek to historicize the Anthropocene, showing that Crutzen and Stoermer’s work itself has historical antecedents, other thinkers who argued that humanity had planetary-level effects.¹⁸ They rightfully insist that the “Anthropocene imaginary” is not neutral.¹⁹ As part of the legacy of imperial history, Anthropocenic knowledge can all too easily be lent to a totalizing master narrative that supports technocratic solutions.²⁰

15. Arianne Conty, “Who Is to Interpret the Anthropocene?,” *La Deleuziana: Rivista Online di Filosofia* 4 (2016): 19–44.

16. Conty, “Who Is to Interpret the Anthropocene?,” 22.

17. Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History, and Us* (New York: Verso Books, 2016), 7–1.

18. Bonneuil and Fressoz, “Welcome to the Anthropocene,” chap. 1 in *The Shock of the Anthropocene*.

19. Bonneuil and Fressoz, *The Shock of the Anthropocene*, 64.

20. Bonneuil and Fressoz, *The Shock of the Anthropocene*, 48.

Others have gone even further than critiquing the Anthropocene to outright rejection, proposing alternative concepts for understanding contemporary times: Capitalocene;²¹ Chthulucene;²² Narcisscene;²³ Plantationocene.²⁴ Jason W. Moore has proposed Capitalocene as an alternative to Anthropocene, as this period of global change is more accurately described as the Age of Capital rather than the Age of Man.²⁵ Donna J. Haraway moves beyond Moore's argument in articulating the "Chthulucene." She emphasizes remaining in the present rather than focusing on apocalyptic predictions for the future, as much Anthropocene discourse entails. Haraway advocates for interspecies collaboration as a rejection of both capitalism and anthropocentrism: "Living-with and dying-with each other potently in the Chthulucene can be a fierce reply to the dictates of both Anthropos and Capital."²⁶ Collectively, these critiques render the apoliticism and ahistoricism of Anthropocenic rhetoric visible, which I find particularly generative as I grapple with the concept. Moreover, even as the work of these scholars challenges many aspects of Anthropocene discourse, it also demonstrates its widespread circulation as a theoretical force, one that needs to be addressed. I approach the Anthropocene as "an ethical pointer...a designation of the human obligation toward the geo- and biosphere, but also towards thinking about the geo- and biosphere *as concepts*."²⁷ In order to do so, I take up the

21. Jason W. Moore, ed., *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism* (Oakland, CA: PM Press, 2016).

22. Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016).

23. Mark Sagoff, "Welcome to the Narcisscene: Returning Humans to the Center of the Cosmos," *The Breakthrough* 9 (2018), <https://thebreakthrough.org/journal/no-9-summer-2018/welcome-to-the-narcisscene>.

24. Sophie Sapp Moore et al., "Plantation Legacies," *Edge Effects*, January 22, 2019, <https://edgeeffects.net/plantation-legacies-plantationocene/>.

25. Moore, *Capitalism in the Web of Life*, 77.

26. Haraway, *Staying with the Trouble*, 2.

27. Joanna Zylińska, *Minimal Ethics for the Anthropocene* (Ann Arbor: Open Humanities Press, 2014), 19, original emphasis.

theoretical constellation of planetary praxis under ecological emergency in an attempt to understand emerging forms of the human in the Anthropocene.

1.2 Methodological Constellations: Planetary

*What might change if we thought in terms of planetary histories and temporalities, as well as planetary scales? Finally, what might open up if we follow this logic and examine how the biological and the social are being shifted and recombined, acknowledging again that biology is always shaped by environments, never fixed? How this might produce new grammars of affect and politics?*²⁸

Regardless of the specifics of their naming, the material conditions of the current and future biosphere demand new ways of understanding the world. While differences persist between them, life and nonlife are entangled together under these conditions, even when not of their making. If “the warming condition is as universal as any can be,” what sense of the universal can generate ethical—less violent—ways of being in this world?²⁹ The collection of theoretical interventions under the rubric of the planetary have emerged as new ways to conceptualize this universal.

The sense of a universal is not novel in present theory, nor restricted to Western philosophy. Perhaps the most well-known contribution to this intellectual discourse, and one that

28. Miriam Ticktin, “From the Human to the Planetary: Speculative Futures of Care,” *Medicine Anthropology Theory* 6, no. 3 (2019): 148.

29. Andreas Malm, *The Progress of This Storm: Nature and Society in a Warming World* (London: Verso Books, 2018), 174.

has continued relevance for contemporary environmental thought, is James Lovelock's Gaia theory. Of course, the conceptual frame of "the global" has also developed across a myriad of academic disciplines. However, as many have pointed out, the global has been appropriated by capital and can contribute to its violences rather than counter them: "The global space produced by capitalism is the technological 'global village,' hyper-connected thanks to the technological innovations of the twentieth century, from the telephone to the Internet; it is also the space of declining transport costs and massive container ships; and it is at last the space of 'neoliberalism' where national frontiers are not allowed to restrain the free market and free trade, the space of 'deregulation, privatization and the withdrawal of the state.'"³⁰ Postcolonial scholars in particular have argued that the Eurocentric framework of globalization, while ostensibly critiquing unequal power structures, in fact perpetuates the agendas of neoliberalism and capitalism. For example, Masao Miyoshi, rejecting the premise that any concept of a universality is inherently repressive and exclusionary, proposes replacing humanism with planetarianism.³¹ Restoring a conceptual totality to the intellectual world is necessary, especially because of the future of the environment; thus Miyoshi's field of literary studies should have one goal: "to nurture our common bonds to the planet."³²

Gayatri Spivak echoes many of these concerns in her own articulation of planetarity, which has become one of the most influential versions of the concept. Spivak also emphasizes the ethical urgency of imagining the planetary, focusing on the inherent alterity of the planet and the need to articulate the specificity of planetary relations as a rejection of the undifferentiation

30. Frédéric Neyrat, "Economy of Turbulence: How to Escape from the Global State of Emergency," *Philosophy Today* 59, no. 4 (2015): 663.

31. Masao Miyoshi, "Turn to the Planet: Literature, Diversity, and Totality," *Comparative Literature* 53, no. 4 (2001): 283–97.

32. Miyoshi, "Turn to the Planet," 295.

of the global. Like Felipe Cervera's call to reimagine performance studies in light of planetarity, which I address below, Spivak advances a complete reorganization and reorientation of her discipline, "propos[ing] the planet to overwrite the globe" as a unit of analysis.³³ Paul Gilroy likewise argues that "the planetary suggests both contingency and movement. It specifies a smaller scale than the global, which transmits all the triumphalism and complacency of ever-expanding imperial universals."³⁴

Since these early examples of planetary discourse, other scholars in literary studies have taken up the planetary as an important theoretical framework which counters the failures of globalization. In *Shades of the Planet: American Literature as World Literature*, editors Wai Chee Dimock and Lawrence Buell adopt the planetary as a unit of literary and historical analysis, an alternative to increasingly problematic use of the nation. Following Spivak's articulation of planetarity, Dimock and Buell seek to "enfold" literature into the entire human species.³⁵ The planet becomes a "set" which "describes and redescribes its subsets."³⁶ Susan Stanford Friedman similarly deploys planetarity to address the inadequacies of other critical frameworks. She argues that modernist studies, even with the introduction of alternative or other modernities, perpetuates the primacy of the West. Therefore, Friedman aims to "unthink" Western epistemological supremacy by reconceptualizing modernity on the planetary scale, as "a geohistorical condition that is multiple, contradictory, interconnected, polycentric, and recurrent for millennia and across the globe."³⁷

33. Gayatri Chakravorty Spivak, *Death of a Discipline* (New York: Columbia University Press, 2003), 72.

34. Paul Gilroy, *After Empire: Melancholia or Convivial Culture?* (Abingdon: Routledge, 2004), xii.

35. Wai Chee Dimock, "Introduction: Planet and America, Set and Subset," in *Shades of the Planet: American Literature as World Literature*, ed. Wai Chee Dimock and Lawrence Buell (Princeton: Princeton University Press, 2007), 5.

36. Dimock, "Introduction," 8.

37. Susan Stanford Friedman, *Planetary Modernisms: Provocations on Modernity Across Time* (New York: Columbia University Press, 2015), 4.

Like Friedman, Amy J. Elias and Christian Moraru identify a planetary turn in contemporary theory. They also present planetarity as a move away from the totalizing framework of globalization and the inability of postmodern theoretical approaches to adequately address current conditions.³⁸ Furthermore, they argue that a “planetary geoculture” is increasingly influencing the ways people understand and imagine themselves in the twenty-first century.³⁹ They see the planet as “a living organism, as a shared ecology, and as an incrementally integrated system both embracing and rechanneling the currents of modernity is the axial dimension in which writers and artists perceive themselves, their histories, and their aesthetic practices.”⁴⁰ I follow their claim that relationality as integral to planetarity, as well as their emphatic argument that planetarity is necessary to understand contemporary life. Moraru further defined his approach to planetarity in *Reading for the Planet: Toward a Geomethodology*. In this work, he aims to create a particular methodology more appropriate to contemporary times, which he identifies as post-1989, with the end of the Cold War and the increase of global interconnection.⁴¹ Moraru, like Friedman, hopes to articulate a planetary epistemology, which he argues is “necessarily underwritten by an apposite ethics.”⁴² He describes the planet as a relational, open world-system, a “spatial, shareable finitude [that] only begins to reveal itself gradually to humans, from outer space or on the ground, in the second half of the twentieth

38. Amy J. Elias and Christian Moraru, “Introduction: The Planetary Condition,” in *The Planetary Turn: Relationality and Geoaesthetics*, ed. Amy J. Elias and Christian Moraru (Evanston, IL: Northwestern University Press, 2015), xi.

39. Elias and Moraru, “Introduction,” xii.

40. Elias and Moraru, “Introduction,” xii.

41. Christian Moraru, *Reading for the Planet: Toward a Geomethodology* (Ann Arbor: University of Michigan Press, 2015), 3.

42. Moraru, *Reading for the Planet*, 5.

century.”⁴³ These scholars all wrestle with the (im)possibility of addressing a totality, in this case through literature.

Despite this profusion of approaches to planetarity within literary studies, the planetary turn’s mark on theatre and performance studies has thus far been relatively limited. Felipe Cervera has articulated the potential for planetarity within the field, but his work remains the only explicit engagement with planetarity. In “Planetary Performance Studies,” Cervera traces the history of Performance Studies international (PSi) and advocates for a new planetary framework for performance studies as a field. Most significantly, this entails articulating multiple histories for the discipline, as well as moving toward the legitimation of collective authorship.⁴⁴ Cervera’s interventions are essential to my articulation of planetary praxis, as I will demonstrate.

Alongside this discourse of the planetary as a theoretical frame through which to better understand ways of inhabiting the world (which I will discuss in the following section), I opt for the planetary as the most useful way to understand the current state of nature under global capital. Marx identified metabolic rifts as an inherent part of capital, “where one molecule after another is extracted by labor and technique to make things for humans, but the waste products don’t return so that the cycle can renew itself.”⁴⁵ Under current conditions—whether named the Anthropocene or not—these rifts are becoming planetary chasms.⁴⁶ This is an issue of degree, not an issue of kind. Metabolic rifts are integral to capitalism itself, and these divisions have now reached the scale of overriding planetary boundaries.

43. Moraru, *Reading for the Planet*, 52.

44. Felipe Cervera, “Planetary Performance Studies,” *Global Performance Studies* 1, no. 1 (2017).

45. McKenzie Wark, *Molecular Red: Theory for the Anthropocene* (London: Verso Books, 2015), xiv.

46. John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift: Capitalism’s War on the Earth* (New York: Monthly Review Press, 2010), 29.

Moreover, just as an ecological perspective does not automatically engender justice or radical politics, planetarity does not guarantee relations which will allow for the flourishing of both humans and nonhumans.⁴⁷ Some versions of the planetary follow Spivak's exhortation to make room for alterity, for the ever-withdrawing Other of nature.⁴⁸ As I will discuss throughout this dissertation, other versions of the planetary instead expand instrumentalist views of nature to a grander scale. Any conceptions of "solution," new proposed ways of being human in the world, must not only address the role of capital in creating the current crisis, but must actively counter it. As Mark Fisher writes, "anti-capitalism must oppose Capital's globalism with its own, authentic, universality."⁴⁹

And so I have elected to adopt the planetary as a frame for understanding ways of existing in the biosphere today. While I derive insights from many planetary thinkers, I aim to unify ecological and economic understandings through my theorization of the planetary. As exemplified by some works that devote attention to both the political and geological dimensions of the Anthropocene, a multi-faceted approach to planetarity is possible, though not necessarily common. My particular intervention into planetarity recognizes the interrelation of natureculture and involves specific attention to the nonhuman. Moreover, with the exception of Felipe Cervera's work, planetarity has remained largely absent from theatre and performance studies

47. Alexander R. Galloway, "The Swervers," *Culture and Communication* (blog), May 6, 2017, <http://cultureandcommunication.org/galloway/the-swervers>. "Many thinkers will simply conflate the assemblage with a secondary host of concepts—among them ecology, ecosystem, environment, decentralization, and distribution—the notion being that thinking in terms of assemblages means thinking ecologically (and that thinking ecologically means being a good moral actor). No matter that ecology has less to do with assemblage than it does to a word like economy, both stemming from the Greek root meaning house or household; in other words the "economy" originally referred to the circulation and store of goods in and out of the household, and an "ecology" represents the interaction and balance of such circulation."

48. "Nature is not simply natured nature (an object to be shaped or that is manipulable), naturing nature (a producing subject), but also a *denaturing nature*—a movement of withdrawal, an antiproduction preceding all production." Frédéric Neyrat, *The Unconstructable Earth: An Ecology of Separation*, trans. Drew S. Burk (New York: Fordham University Press, 2019), 134.

49. Mark Fisher, *Capitalist Realism: Is There No Alternative?* (Winchester, UK: Zero Books, 2009), 79.

despite the so-called “planetary turn” in literary and cultural studies.⁵⁰ My project brings this significant theoretical discourse to bear on performance, with the aim of shifting the discipline’s conversation concerning environmental performance. The planetary offers a sense of totality without erasing difference, and “serve[s] as a reminder for us that there is an excess to our acts of world-making and that it is perhaps imprudent or even irresponsible to forget about it in all kinds of discussions—those concerning politics, ethics or even our everyday existence.”⁵¹ It is everyday existence—what it means to be a human—with which I am concerned in this project.

1.3 Methodological Constellations: Praxis, or, What Does it Mean to Be Human?

*The Anthropocene marks itself not only stratigraphically into the planet but also into what it means to be human.*⁵²

While I do not necessarily completely subscribe to the concept of the Anthropocene given its complicated relationship with environmental politics, I recognize the way its introduction has prompted a series of reckonings with what it means to be human. This is the essential question of this project: what are the ways of being human that are emerging under the planetary circumstances of environmental damage and capitalist consumption? The Anthropocene concept forces us to recognize who we are and what a human is: praxis.⁵³

My adoption of the term praxis stems from its use within performance studies, as a way

50. Friedman, *Planetary Modernisms*, x.

51. Zylinska, *Minimal Ethics for the Anthropocene*, 26.

52. Jemma Deer, *Radical Animism: Reading for the End of the World* (London: Bloomsbury, 2021), 14.

53. Neyrat, *The Unconstructable Earth*.

to emphasize the value of embodied action in the production of knowledge. Praxis has been characterized as a mode of working: a way to undertake a specific project, often an ethnographic one. Praxis emerges in this way in the work of D. Soyini Madison and Dwight Conquergood, for example. Both scholars employ performance ethnography as an ethical project to “explicitly engage subjugated knowledges.”⁵⁴ Stephen Farrier, on the other hand, situates praxis within the rehearsal room. He explains that the concept is often used as a substitute for “practice,” or to denote “an effort of will to transform theoretical concepts and considerations into shared physical activity.”⁵⁵ Overall, however, praxis remains undertheorized within the field. While multiple concepts of praxis are mobilized throughout performance studies discourse, they are not always fully articulated. In this dissertation I aim to formulate a theory of praxis while also demonstrating the ethical necessity of such formulation.

In planetary praxis, I understand praxis to be a similar unification of theory and practice—both thinking and doing. I take an expansive view of what constitutes performance, as I emphasize the importance of performative practices in constructing various manifestations of planetarity and of the human. This view, and my mobilization of “praxis” is informed by performance studies’ disciplinary understanding of the possibility of theorizing out of performance. Though my particular thematic focus differs from their work, both Rebecca Schneider and José Esteban Muñoz stand as models of this kind of scholarship. Just as Muñoz draws out his concept of queer utopianism from a specific archive of cultural production, historically situated in the post-Stonewall moment, so will I draw out planetary praxis through

54. E. Patrick Johnson, “Introduction: ‘Opening and Interpreting Lives,’” in Dwight Conquergood, *Cultural Stuggles: Performance, Ethnography, Praxis*, ed. E. Patrick Johnson (Ann Arbor: The University of Michigan Press, 2013), 9.

55. Stephen Farrier, “Approaching Performance Through Praxis,” *Studies in Theatre and Performance* 25, no. 2 (2005): 129.

the archive of practices I have identified.

Beyond the legacy of the concept within performance studies, the concept of praxis is also founded in the work of Black studies scholars who have interrogated the racialization of definitions of the human. As Alexander Weheliye writes, “what different modalities of the human come to light if we do not take the liberal humanist figure of Man as the master-subject but focus on how humanity has been imagined and lived by those subjects excluded from this domain?”⁵⁶ By examining the human from the perspective of the marginalized, “humanity emerges as an object of knowledge...a heuristic model and not an ontological *fait accompli*.”⁵⁷ Zakiyyah Iman Jackson similarly illuminates how blackness constructs the human, but with a focus on how the human-animal boundary is racialized and gendered: “Eurocentric humanism needs blackness as a prop in order to erect whiteness: to define its own limits and to designate humanity as an achievement as well as to give form to the category of ‘the animal.’”⁵⁸ Megan H. Glick likewise interrogates the border between species, both its scientific and symbolic constructions.⁵⁹ Like Glick, I understand “the human” to be “a historical production that shifts according to time and place.”⁶⁰ It is this production I have named praxis, and this dissertation is concerned with the shifts in its meaning and practice given the exigencies of contemporary social, political, cultural, and ecological conditions.

By adopting praxis as a conceptual frame, I hope to emphasize the ways human(ity) is *performed*—done, accomplished, practiced, embodied. In this I invoke theories of performance,

56. Alexander Weheliye, *Habeas Viscus: Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human* (Durham, NC: Duke University Press, 2014), 8.

57. Weheliye, *Habeas Viscus*, 8.

58. Zakiyyah Iman Jackson, *Becoming Human: Matter and Meaning in an Antiracist World* (New York: New York University Press, 2020), 4.

59. Megan H. Glick, *Infrahumanisms: Science, Culture, and the Making of Modern Non/Personhood* (Durham, NC: Duke University Press, 2018), 24.

60. Glick, *Infrahumanisms*, 9.

but also the work of Sylvia Wynter.⁶¹ Wynter articulates *Homo oeconomicus* as the normative human category imposed by the West, which “over the last five hundred years, has brought the whole human species into its hegemonic, now purely secular (post-monotheistic, post-civic monohumanist, therefore, itself also transumptively liberal monohumanist) model of being human... This is a model that supposedly preexists—rather than coexists with—all the models of other human societies and their religions/cultures.”⁶² Not only does this concept of humanity necessitate the “symbolic death” of non-normative subjects, but, as I demonstrate throughout this project, also the symbolic and material death of non-human subjects.⁶³ Critically, *Homo oeconomicus* is relentlessly and irredeemably capitalist. Insofar as *Homo oeconomicus* takes up capitalism as its mode of “material provisioning,” there can be no alternative, for in this mode none are visible.⁶⁴

Wynter articulates this category as a *biocentric* one; that is, the Western monohumanist liberal Man is supposedly both natural and scientific.⁶⁵ However, Wynter shows, using Fanon’s work, that the human is not biocentric but is hybrid, defined by both *bios* and *logos/mythoi*.⁶⁶ In this opening, Wynter sees the opportunity for other conceptions of the human because “*humanness* is no longer a *noun*. *Being human* is a *praxis*.”⁶⁷ Rather than articulating what the human is, “we need to speak instead of our *genres of being human*.”⁶⁸ While there are multiple

61. As I was completing this dissertation, it came to my attention that Jennifer Gabrys, a media studies scholar, has also been exploring planetarity through the lense of praxis. See “Becoming Planetary,” *Accumulation, e-flux architecture*, October 18, 2018, <https://www.e-flux.com/architecture/accumulation/217051/becoming-planetary/>. Though Gabrys also draws on the work of Sylvia Wynter, she focuses specifically on environmental sensors as ways of apprehending the planet, whereas I explore a wider range of praxes.

62. Wynter, “Unparalleled Catastrophe for Our Species?,” 21.

63. Wynter, “Unparalleled Catastrophe for Our Species?,” 19.

64. Wynter, “Unparalleled Catastrophe for Our Species?,” 22.

65. Wynter, “Unparalleled Catastrophe for Our Species?,” 23.

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

67. Wynter, “Unparalleled Catastrophe for Our Species?,” 23, original emphasis.

68. Wynter, “Unparalleled Catastrophe for Our Species?,” 31.

genres of being human, it is clear that certain forms of praxis have dominated planetary history. Wynter argues that “our present ethnoclass (i.e., Western bourgeois) conception of the human, Man, which overrepresents itself as if it were the human itself.”⁶⁹ Man has literally dominated, as this conception depends upon the violent destruction of other ways. As Clare Colebrook writes, these are the “forms of planet-exploitative luxuries that have generated personhood in its modern Western liberal sense.”⁷⁰

In charting the multiplicity of planetary praxes which I derive from my selected archive, I hope to articulate a variety of genres of being human that have emerged and are emerging in the face of climate emergency and ecological breakdown. I am particularly invested in the ways that nonhumans are implicated in these praxes, especially considering their violent erasure as part and parcel of capitalism. To put this another way, what ways of being human are prescribed, performed, and promoted under ecological emergency?

1.4 Methodological Constellations: (Ecological) Emergency

“Plants and animals die and die and die. No one entirely knows who they are; no one knows what will replace them. This is moral monstrosity on a planetary scale.”⁷¹

The changes to the earth’s material realities have been assigned many names, both in the

69. Sylvia Wynter, “Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument,” *CR: The New Centennial Review* 3, no. 3 (2003): 260.

70. Clare Colebrook, “We Have Always Been Post-Anthropocene: An Anthropocene Counterfactual,” in *Anthropocene Feminism*, ed. Richard Grusin (Minneapolis: University of Minnesota, 2017), 8.

71. Kathleen Dean Moore, “Anthropocene Is the Wrong Word,” *Earth Island Journal*, (Spring 2013), https://www.earthisland.org/journal/index.php/magazine/entry/anthropocene_is_the_wrong_word.

past and the present: global warming, climate change, the Anthropocene, climate crisis, environmental destruction, climate breakdown. There is also a variety of scholarly conversation about the term “ecology” and its differences from “environment” or “nature.”⁷² Ecology emphasizes interrelation and connection in a way that neither of the latter terms does. Further, the intellectual baggage of the concept of “nature” has rendered it difficult to use. Though I employ each of these terms variously throughout this dissertation, I primarily understand the ecology of the biosphere as what is at risk, the rich variety of life and non-life that composes the planet: “the senses in which they appeared to (were present in such a way as to be sensed by) others, the sense in which they effected the world (made things happen), their sense meaning and significance) for others, the ways they themselves sensed (experienced) the world, the senses in which they constituted a community.”⁷³ Humans are neither exempt from nor exceptional within this ecological community of the planet.⁷⁴

Through our cohabitation on this planet, humans face an ethical obligation and demand to these innumerable others: “the demand to be ethically responsive to those who exceed our immediate sphere of belonging but to whom we nevertheless belong.”⁷⁵ Cohabitation—as part of an ecology—means we are “always already involved, obligated, entangled.”⁷⁶ This entanglement is not an end result, but instead a beginning.⁷⁷ The question then becomes not if we will respond,

72. See, for example, Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007).

73. Mick Smith, “Ecological Community, the Sense of the World, and Senseless Extinction,” *Environmental Humanities* 2, no. 1 (2016): 22.

74. Smith, “Ecological Community, the Sense of the World, and Senseless Extinction.”

75. Judith Butler, “Precarious Life, Vulnerability, and the Ethics of Cohabitation,” *Journal of Speculative Philosophy* 26, no. 2 (2015): 140.

76. Zylinska, *Minimal Ethics for the Anthropocene*, 95.

77. Alexis Shotwell, *Against Purity: Living Ethically in Compromised Times* (Minneapolis: University of Minnesota Press, 2016), 10.

but how. Moreover, “this response is not just discursive but also affective and corporeal.”⁷⁸ It is, to use the terms I have adopted here, praxis.

If, then, the planetary community is an ecological one, how can its current state be described? Crisis? Apocalypse? Catastrophe? Emergency? Disaster? The end of the world? What name to give the deterioration and destruction of the conditions necessary for much of the planet’s life to flourish, and its concomitant the crisis of meaning, the destabilization of apparently unchangeable truths?⁷⁹ Each has been variously adopted for one reason or another. I have taken up emergency in the hopes of capturing some of the urgency climate change requires, as planetary boundaries have been and will be crossed.⁸⁰ But also because, as Sam Haddow writes, “the term ‘emergency’ always presupposes some kind of performance...emergencies undertake a dialogue with *the emergencies to come*, as such occupying an ‘interval’ between present and future.”⁸¹ This is especially the case of the ecological emergency, where the effects of historical activities are only now being felt and understood.

If “to name an event an ‘emergency’ is to open a dialogue with its strategies of redress,” then the multiple praxes I identify in this dissertation will, in some small way, point toward modest possibilities of partial recuperation and getting on together.”⁸²

78. Zylinska, *Minimal Ethics for the Anthropocene*, 142.

79. “We are being exposed to a crisis of meaning.” Jean-Luc Nancy, *After Fukushima: The Equivalence of Catastrophe*, trans. Charlotte Mandell (New York: Fordham University Press, 2015), 8; “the environmental crisis is also a crisis of meaning” David Farrier, *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction* (Minneapolis: University of Minnesota Press, 2019), 4.

80. See “The Nine Planetary Boundaries,” Stockholm Resilience Centre, accessed February 15, 2021, <https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>.

81. Sam Haddow, *Precarious Spectatorship: Theatre and Image in an Age of Emergencies* (Manchester: Manchester University Press, 2020), 3.

82. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*, 10.

1.5 Theoretical Contributions

*Scholarship and politics are like that too—passing on in twists and skeins that require passion and action, holding still and moving, anchoring and launching.*⁸³

This dissertation contributes to two areas of scholarship: performance studies and environmental humanities. Performance remains understudied within environmental humanities, though many writers adopt performance studies methodologies in their work. For example, many scholars have drawn from Judith Butler’s work on performativity to make ecocritical arguments.⁸⁴ Other scholars use the concept of performance and its attendant theoretical insights to understand ecologies and environments, even in projects that do not explicitly address performance.⁸⁵ This project aims to further expand the scope of environmental humanities to include performance. Further, as I argue throughout this dissertation, performance (and praxis) are essential concepts to understand how humanity arrived at this point, and to prefigure new planetary futures, to “help us to veer away from linear temporal ideas of futurity as we think about, perform, and produce a future ‘otherwise.’”⁸⁶

Environmental humanities is a rich, multidisciplinary field that addresses a wide range of topics. This dissertation works alongside conversations on the relationship between humans and

83. Haraway, *Staying with the Trouble*, 10.

84. Vikki Bell, “From Performativity to Ecology: On Judith Butler and Matters of Survival,” *Subjectivity* 25, no. 1 (2008): 395–412.

85. Brian Noble, *Articulating Dinosaurs: A Political Anthropology* (Toronto: University of Toronto Press, 2016); Nicole Seymour, *Bad Environmentalism: Irony and Irreverence in the Ecological Age* (Minneapolis: University of Minnesota Press, 2018); Zoe Hughes, “Performative vs. Performing Taxidermy or the De- and Reconstruction of Animal Faces in Service of Animal Futures,” *Configurations* 27, no. 2 (2019): 163–86.

86. Rebecca Schneider, “That the Past May Yet Have Another Future: Gesture in the Times of Hands Up,” *Theatre Journal* 70, no. 3 (2018): 289.

nature (especially, but not only, animals); political ecology; nature in the museum; extinction studies; ecocriticism; and environmental ethics. My analysis of the multiple versions of the human, and by extension “nature,” is particularly indebted to work by Ursula K. Heise,⁸⁷ Deborah Bird Rose,⁸⁸ Jamie Lorimer,⁸⁹ Timothy Morton,⁹⁰ Nicole Seymour,⁹¹ and Mick Smith.⁹² Like many scholars invested in these conversations, I pay particular attention to the ways current climate conditions trouble supposedly settled ontological categories and the material conditions necessary for life’s flourishing. As Heise writes, “instead of shared philosophical foundations or clearly defined political aspirations, these new fields focus on clusters of problems and questions.”⁹³ The questions I investigate in this dissertation, alongside other environmental humanities scholars, include: In what ways does climate change affect humans’ self-understanding? What is nature? What are the social and political meanings of animals? Ultimately, like any humanist, I am concerned with the central question of what it means to be a

87. Ursula K. Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford: Oxford University Press, 2008); Ursula K. Heise, *Imagining Extinction: The Cultural Meanings of Endangered Species* (Chicago: University of Chicago Press, 2016).

88. Deborah Bird Rose, *Wild Dog Dreaming: Love and Extinction* (Charlottesville: University of Virginia Press, 2011); Deborah Bird Rose, “Anthropocene Noir,” *People and the Planet 2013 Conference Proceedings*, 2013, 1–39; Deborah Bird Rose, “In the Shadow of All This Death,” in *Animal Death*, ed. Jay Johnston and Fiona Probyn-Rapsey (Sydney: Sydney University Press, 2018), 1–20.

89. Jamie Lorimer, “Multinatural Geographies for the Anthropocene,” *Progress in Human Geography* 36, no. 5 (October 2012): 593–612; Jamie Lorimer, *Wildlife in the Anthropocene: Conservation after Nature* (Minneapolis: University of Minnesota Press, 2015).

90. Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007); Timothy Morton, *Dark Ecology: For a Logic of Future Coexistence* (New York: Columbia University Press, 2016); Timothy Morton, *Humankind: Solidarity with Non-Human People* (New York: Verso Books, 2017).

91. Nicole Seymour, *Strange Natures: Futurity, Empathy, and the Queer Ecological Imagination* (Chicago: University of Illinois Press, 2013); Nicole Seymour, *Bad Environmentalism: Irony and Irreverence in the Ecological Age* (Minneapolis: University of Minnesota Press, 2018).

92. Mick Smith, “Citizens, Denizens and the Rex Publica: Environmental Ethics, Structures of Feeling and Political Expression,” *Environmental Values* 14 (2005): 145–62; Mick Smith, “Dis (Appearance): Earth, Ethics and Apparently (In) Significant Others,” *Australian Humanities Review*, no. 50 (2011): 23–44; Mick Smith, “Ecological Community, the Sense of the World, and Senseless Extinction,” *Environmental Humanities* 2, no. 1 (2016): 21–41.

93. Ursula K. Heise, “The Environmental Humanities and the Futures of the Human,” *New German Critique* 43, no. 2 (2016): 21.

human. I bring performance theory to bear on these questions, as I demonstrate that humanity itself is performative: something that is done—praxis.

Performance studies is a similarly eclectic discipline. Through the selection of particular objects of analysis and my formulation of planetary praxis, this dissertation engages in and builds on performance studies discourses of embodiment; temporality; display; politics; and ecology. For example, I revisit Rebecca Schneider’s foundational work in *Performing Remains* with an eye toward reframing her argument on the (after)life of performance to include nonhumans. Additionally, I bring together conversations on temporality from both performance studies and queer theory to theorize the political potentials of planetary praxis.

This dissertation departs from the tradition of environmental theatre and performance studies, which has largely concentrated on ecocriticism. The majority of this scholarship continues to focus on written drama that perpetuates Western epistemologies, with insufficient acknowledgement of the role such cultural production plays in the instrumentalization of nature. My project expands the archive of environmental performance to include a variety of other examples beyond scripted drama, such as art objects, museum exhibitions, and nature reserves. My dissertation charts a different path for performance studies, following Felipe Cervera’s call for a planetary framework in which, among other things, “foreground[s] relationality as the most visible planetary paradigm thus far...this relationality should bring forth the materiality of the planet into critical consideration within the humanities.”⁹⁴

The work of Una Chaudhuri demonstrates the development of theatrical ecocriticism, examining the environmental politics of the Western theatrical tradition. Her 1994 article “‘There Must Be a Lot of Fish in That Lake:’ Toward an Ecological Theater” remains a

94. Cervera, “Planetary Performance Studies.”

theoretical touchstone. Recasting Benjamin's Angelus Novus as looking backward on a "mountain of garbage," Chaudhuri ultimately calls for a reexamination of (Western) theatre history and practice as decidedly anti-ecological.⁹⁵ She argues that modern drama in particular has proven it to be a site of "ecological alienation" wherein nature becomes reduced to mere scenery.⁹⁶ Chaudhuri identifies the use of ecology and the environment as a metaphor, within both theatre and theatre criticism, as anti-ecological techniques that theatre scholars must resist in order to achieve "a remapping of humanism" which opposes the anti-ecological mindset that the natural world exists only for our consumption.⁹⁷ Throughout this essay Chaudhuri repeatedly asserts the ability or possibility for theatre to settle the question of the nature/culture divide: that is, are human beings (and the culture we create) part of nature or outside of it? Chaudhuri argues that, despite its anti-ecological origins, theatre can contribute to the ecological transvaluation necessary in the face of environmental disaster. However, this transvaluation requires reckoning with the form's humanist origins and traditions, which I believe has yet to be adequately done within theatre and performance studies.⁹⁸

Baz Kershaw's 2007 *Theatre Ecology: Environments and Performance Events* offers another way to interrogate performance's relationship with environmental thought, ultimately calling for an ecological theatre rather than ecodrama(turgy). Kershaw deploys the theoretical

95. Una Chaudhuri, "'There Must Be a Lot of Fish in That Lake': Toward an Ecological Theater," *Theater* 25, no. 1 (1994): 23–4.

96. Chaudhuri, "'There Must Be a Lot of Fish,'" 25.

97. Chaudhuri, "'There Must Be a Lot of Fish,'" 30.

98. Chaudhuri's more recent work expands on this early scholarship to some degree. See, for example, Una Chaudhuri, "The Silence of the Polar Bears: Performing (Climate) Change in the Theater of Species," in *Readings in Performance and Ecology*, ed. Wendy Arons and Theresa J. May (New York, NY: Palgrave Macmillan, 2012), 45–57; Una Chaudhuri, *The Stage Lives of Animals: Zooësis and Performance* (New York: Routledge, 2016); Louis Bury, "Strangeness and Beauty: Dear Climate (Una Chaudhuri, Oliver Kellhammer, and Marina Zurkow) Interviewed," *BOMB Magazine*, March 30, 2020, <https://bombmagazine.org/articles/dear-climate-una-chaudhuri-oliver-kellhammer-and-marina-zurkow/>.

concepts of theatre and ecology to displace the dominant paradigm of nature/culture inherited from the Enlightenment, and that has contributed so significantly to climate change. He suggests that natural and cultural realms share structural, organizing principles because they emerge through overlapping performance systems, or “the performance commons.”⁹⁹ A key conclusion of his, relative to ecocritical scholars here, is that since the nineteenth century Western theatre has become increasingly separated from the environments it is meant to model. He describes this as “hermetically sealed.” Therefore, for Kershaw, immersive and participatory performances point the way for new performance ecologies.¹⁰⁰ Like both Kershaw and scholar Bruce McConachie, I recognize the imbrication of nature with culture, particularly as this applies to performance.¹⁰¹ Kershaw also recognizes the inadequacy of inherited methods and language; he maintains that new, more sophisticated methods are needed to allow for multiple perspectives and further erode binaries.¹⁰² While I share similar thoughts regarding the difficulty of addressing climate change via common methods, I depart from Kershaw’s conclusion that participatory performances are the (only) solution to this inadequacy. By using the critical perspectives afforded by performance (writ broad), I argue that damaging ways of living on this planet can be challenged, and more ethical ways of living can be realized.

99. Baz Kershaw, *Theatre Ecology: Environments and Performance Events* (Cambridge: Cambridge University Press, 2007), 21.

100. Kershaw, *Theatre Ecology*, 311–6.

101. See Bruce McConachie, *Evolution, Cognition, and Performance* (Cambridge: Cambridge University Press, 2015).

102. Kershaw, *Theatre Ecology*, 22–4.

1.6 Chapter Summaries

The first chapter examines praxes of techno-optimism in the Anthropocene through an analysis of Pleistocene Park and its Wild Field wilderness reserve. Since 1977, a number of scientists led by Sergey Zimov have been engaged in an effort to ecologically restore a region in Siberia, returning it to its state during the Pleistocene (the geological era that began about 1.8 million years ago). Pleistocene Park will eventually include native species, such as bison and reindeer. But the ultimate goal of the project involves the revival or de-extinction of the woolly mammoth, led by a Harvard research team. Zimov and his team also established the Wild Field Wilderness Reserve, a portion of the park that is accessible to the public.

As future sites for de-extinct animals, these spaces become performances of both the planetary past future: theme parks for the Anthropocene. By focusing on the restoration of extinct ecosystems and species to rescue the planet (and the human species) from climate loss, the planetary relation created here performs a techno-optimism and fetish for so-called charismatic extinct species. I consider Pleistocene Park and Wild Field in line with amusement parks and zoos, in the legacy of performative spectacles like the World's Fair. Thus, in this chapter I argue that Pleistocene Park and Wild Field are commodifications of de-extinction rhetoric. Further, as an effort of planetary engineering, Pleistocene Park engages in speculative ecological restoration to an Earth of the past, echoing rhetorics of terraforming and geoengineering perpetuated by science fiction writers and scientists alike.¹⁰³

Following on these praxes of nature's instrumentalization, in the second chapter I

103. Terraforming entails the reshaping of an extraterrestrial planet's geology and atmosphere to resemble that of Earth.

interrogate (historical) constructions of similar narratives within the space of the natural history museum. This chapter explores several museum spaces, the ecological narratives they create, and the planetary relations they perform. I examine the exhibit *We Are Nature: Living in the Anthropocene* at the Carnegie Museum of Natural History and the newly redesigned Hall of Fossils at the Smithsonian's National Museum of Natural History. I approach both as examples of what Margaret Werry calls "museological performance."¹⁰⁴ Considering the vitality of the objects within the space of the museum, as Werry does, reveals the ways these exhibitions do (or do not) reconceptualize ontological distinctions between human, animal, and thing.

We Are Nature: Living in the Anthropocene, on display from October 2017 to August 2018, offered multiple ways of understanding the Anthropocene through the museum's vast collections. In light of the history of constructions of nature created by such institutions, CMNH's own industrial-capitalist legacy, and the potential for the Anthropocene as a theoretical project to erase indigenous epistemologies, the museum emerges as a fraught site through which to negotiate the "we" of the exhibition's title. Similarly, the Smithsonian's new fossil hall reframes traditional museum objects (fossils) within a narrative of deep time, emphasizing humanity's place in planetary history. I delineate the stories of the Anthropocene that each exhibit performs, and explore how their goals are in tension with the institution of the natural history museum. I use the concept of museological performance, as well as the histories of natural history museums, to theorize how the exhibits create a particular version of planetary relations that are not necessarily anti-capitalist or ecologically responsible. I show how these institutions ultimately reinscribe humanistic ideas about the relationship between humans and

104. Margaret Werry, "House Arrest: Museological Performance, Animacy, and the Remains of Rural America," in *Performing Objects and Theatrical Things*, ed. Marlis Schweitzer and Joanne Zerdy (New York: Palgrave Macmillan, 2014), 76–88.

nature, even as they strive to represent it otherwise. That is, both CMNH and the Smithsonian perform particular ways of being planetary that reinforce ideologies of nature that undergird capitalism and promote a humanism at the core of instrumentalization of nature, differentiated inequalities of global capital, and the narrative of the Anthropocene itself.

In contrast, the third chapter explores alternative museum practices which perform progressive versions of planetarity, particularly through disturbance and subversion of the conventional dramaturgies of natural history museums. The chapter focuses on three case studies: Not An Alternative's The Natural History Museum, the Museum of Capitalism by FICTILIS, and the Center for Land Use Interpretation. Each of these is an example of a museological performance external or counter to natural history museums that exercise significant political, social, and cultural power. Collectively, these practices perform radical planetarity that acknowledges the damages of global capitalism and envisions other possibilities that do not perpetuate the dangerous humanisms which emerge in some conceptions of the Anthropocene.

The Natural History Museum, a project by NYC-based collective Not An Alternative, is a mobile pop-up museum that holds exhibitions around North America, including within institutional natural history museums. The nimbleness of The Natural History Museum, as well as its emphasis on collectivity as a rejection of capitalist imperatives and the promotion of Indigenous voices, demonstrates a way of performing the museum otherwise. Their philosophy of "institutional liberation" offers an avenue for intervention in capitalist ideologies and disruption of invisible financial flows.¹⁰⁵

105. Not an Alternative, "Institutional Liberation," *e-flux journal* 77 (November 2016). <https://www.e-flux.com/journal/77/76215/institutional-liberation/>.

Similarly, artistic collective FICTILIS (Andrea Stevens and Timothy Furstnau) created the Museum of Capitalism, a travelling institution that archives, historicizes, and displays material manifestations of capitalist ideology and practice. Examples include banners adorned with the logos of financial institutions that went bankrupt during the 2008 crisis (created by artist group Superflex) and a video installation composed of visitor testimonials of experiences with capitalism (by artist Tara Shi). It also accepts artifact donations from the general public. The Museum adopts a speculative perspective, presenting materials from the vantage point of a future Earth without capitalism. As such, the Museum of Capitalism both critiques the inequality and destruction perpetuated by global capitalism and allows for the possibility of a non-capitalist relationship between humans and nonhuman nature. Finally, the American Land Museum, an ambitious effort by the Center for Land Use Interpretation, represents an alternative approach to curating nature. The American Land Museum consists of locations-as-artifacts, demonstrating the importance of place and reimagining what artifacts can be. These exhibits cannot be removed from their ecological context for display in dioramas. Instead, the American Land Museum expands the characteristics of a natural history museum to interrogate the ways land is used in the United States.

The final chapter treats performance practices which strive for ways of connecting with nonhuman others outside of the circuits of capital. I focus on two specific case studies, Remembrance Day for Lost Species (RDLS) and Extinction Rebellion. RDLS is a coalition of artists, organizations, and foundations that come together every year on November 30th to bear witness the extinction of species, cultures, and habitats. I consider the performance practices brought together under RDLS as examples of planetary praxis which foreground ethical witnessing and queer capitalist temporality. I draw on theories of witnessing as a performative

act, as well as theoretical interrogations of the construction of time under capital. I show how RDLS practices queer normative environmental relations, approaching animal death “aslant.”¹⁰⁶ RDLS represents a praxis of memorializing loss through the creation of a queer timespace which recognizes the radical alterity of the nonhuman and resists the vast unmarked loss of biodiversity perpetuated by global capitalism.

Extinction Rebellion, a grassroots environmental activist movement, also adopts practices of grieving for nonhuman death. I analyze the group’s adoption of mourning practices within political actions, what I call mourning-as-protest. I show how Extinction Rebellion similarly offers a queer (as in nonnormative) ecological relationality which strongly rejects that of capital’s linear progress. Together, Extinction Rebellion and RDLS not only critique existing environmental relationality, but also offer alternative praxes which are ecologically just.

106. Elizabeth Freeman, *Time Binds: Queer Temporalities, Queer Histories* (Durham, NC: Duke University Press, 2010).

2.0 The Nature of Our Ancestors: De-extinction and Planetary Techno-Optimism

*A propensity for redesigning nature seems to be an inherent part of life itself.*¹

In late 1801, American artist and museum man Charles Willson Peale set off on an expedition to a farm in northern New York. The gigantic bones of an unknown mammal had been uncovered there, and Peale hoped to procure them for display in his Philadelphia Museum—the first natural history museum in the United States which he had founded a few years earlier. Throughout the eighteenth century similar remains had been discovered in various locations. A skeleton with traces of flesh and skin had been discovered in the Siberian tundra just two years earlier, in 1799. In what is now the state of Kentucky, French and British explorers took advantage of the Indigenous Shawnee’s familiarity with the landscape, following them to fossilized remains at Big Bone Lick. The gigantic bones excavated there, and in other locations across the continent, belonged to some unknown creature: the American *incognitum*.² The *incognitum* captured the imagination of the emerging nation’s leaders; George Washington, Benjamin Franklin, and Thomas Jefferson all owned fossilized *incognitum* teeth.³ Naturalists on both sides of the Atlantic debated the nature of the fossils’ creaturely origins: “Did they represent the skeletal elements of one species or two? If only one type of animal had contributed the fossils, was it the same one found in Siberia? Was the animal a geographic variety of the

1. George M. Church and Ed Regis, *Regenesis: How Synthetic Biology Will Reinvent Nature and Ourselves* (New York: Basic Books, 2014), 104.

2. See Stanley Hedeon, *Big Bone Lick: The Cradle of American Paleontology* (Lexington: The University Press of Kentucky, 2008).

3. Mark V. Barrow Jr., *Nature’s Ghosts: Confronting Extinction from the Age of Jefferson to the Age of Ecology* (Chicago: University of Chicago Press, 2009), 17.

elephant, or was it some unknown elephant-like species? Was it herbivorous or carnivorous? Was it extant or extinct? If extant, where was it now located? If extinct, what had caused its extinction?”⁴ Could the American *incognitum* be related? The reputation of the young United States partly rested on the answers to these questions.

The 1801 discovery of new *incognitum* bones in New York especially enthused Thomas Jefferson, who had just been elected president the year prior. Jefferson, a friend of Peale’s, had a long-held fascination with the *incognitum*, particularly as the mythology around this mysterious mammal intersected with the (hi)story of the United States as “the gigantic bones became symbols of the new nation’s natural antiquity, the equivalent, in the eyes of the founding fathers, of the Greek and Roman ruins.”⁵ As Claudine Cohen acknowledges, “nowhere else has the search for and interpretation of paleontological remains been so closely linked to the search for a national identity.”⁶ Jefferson fervently believed that the *incognitum* was alive somewhere on the North American continent; he charged Lewis and Clark to search for living examples in their expedition into the Louisiana Territory.⁷ Jefferson hoped the natural bounty of the American landscape would stand up to the longer cultural history of the European continent. Famous French naturalist George-Louis Leclerc, Comte de Buffon, had argued in *Histoire Naturelle, Générale et Particulière* (1749–89) that the mammals of the New World were “punier, less vigorous, and less fertile” than those of the Old World.⁸ The discovery of a majestic *incognitum*

4. Hedeon, *Big Bone Lick*, 51.

5. Paul Semonin, *American Monster: How the Nation’s First Prehistoric Creature Became a Symbol of National Identity* (New York: New York University Press, 2000), 5.

6. Claudine Cohen, *The Fate of the Mammoth: Fossils, Myth, and History*, trans. William Rodarmor (Chicago: University of Chicago Press, 2002), 102.

7. Barrow Jr., *Nature’s Ghosts*, 17–9. See also Ellis L. Yochelson, “Mr. Peale and His Mammoth Museum,” *Proceedings of the American Philosophical Society* 136, no. 4 (1992): 492–5. Yochelson implies that Jefferson’s desire to find living specimens of said mammals influenced his decision to make the Louisiana Purchase.

8. Barrow Jr., *Nature’s Ghosts*, 17.

on the North American continent would give Jefferson evidence to discount de Buffon's snubbing of New World wildlife. Jefferson's hopes were never fulfilled. The bones found in New York were in fact from an extinct mastodon.

For both Jefferson and Peale, these large skeletal spectacles—and the living creatures they represented—were matters of national pride. When Peale excavated the bones, an event depicted in his famous painting *The Exhumation of the Mastodon* (1806–8), the scientific concept of extinction was in its infancy. The idea that creatures could disappear from the earth entirely proved somewhat contentious as it disrupted the period's dominant scientific paradigm: the Great Chain of Being. This perspective understood the natural world as part of a divinely created universe marked by a hierarchy where “organisms could be arranged from simple to more complex, with man being the highest type on earth, standing just below the angels.”⁹ By the end of the eighteenth century the Great Chain of Being “had become a ubiquitous feature of the language of zoological classification.”¹⁰ The hierarchical organization and human supremacy of the Great Chain of Being extended outward from natural science into politics and society, particularly to justify absolute rule in the English monarchy.¹¹

In April 1796, young French anatomist Georges Cuvier disrupted this understanding of the universe when he empirically demonstrated the concept of extinction. In a public lecture at the Paris Museum Cuvier argued that Indian and African elephants demonstrated such significant differences that they were in fact separate species. Many tooth fossils found in Europe and North America appeared similar to living elephants. However, Cuvier argued that the differences they

9. Yochelson, “Mr. Peale and His Mammoth Museum,” 492.

10. Harriet Ritvo, *The Platypus and the Mermaid, and Other Figments of the Classifying Imagination* (Cambridge, MA: Harvard University Press, 1997), 28.

11. Arthur O. Lovejoy, *The Great Chain of Being: A Study of the History of an Idea* (Cambridge, MA: Harvard University Press, 1971).

displayed sufficiently proved that they must also be from other species, of which no living examples had been found. In the years immediately following Cuvier's declaration, naturalists identified more and more extinct animals, lending his hypothesis further support. Those who accepted this theory gradually integrated extinction into structures of knowledge which reaffirmed the human exceptionalism on which the Great Chain of Being was predicated. London fossil collector James Parkinson, for example, argued that "the successive creation and destruction of species represented phases in the progress of nature toward a more perfect form: the human species."¹² Scottish geologist Charles Lyell maintained that, because extinction was an intrinsic part of nature, man "should not lament or feel guilty about the havoc we commit."¹³ Lyell's work would become the foundation of modern geology.¹⁴

Critics have adopted the languages of theatricality and/or performativity to describe the political work of public display in the production of paleontological knowledge. The popular fascination that accompanied the initial scholarly furor of early paleontology contributes to this rhetorical strategy. As Cuvier's discoveries "afford[ed] a performative dimension to natural history similar to that which enabled exponents of the physical sciences to astound audiences with their carefully choreographed mastery over nature."¹⁵ He displayed a seemingly supernatural ability to describe the entirety of an unknown creature from only a fragment of bone, capitalizing on "the theatrical potential of his paleontological predictions, in which the conventionally distinct acts of discovery and demonstration were inextricably intertwined."¹⁶

12. Barrow Jr., *Nature's Ghosts*, 43.

13. Barrow Jr., *Nature's Ghosts*, 45.

14. For an examination of the racist foundations of Lyell's work, see Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018), especially Chapter 2.

15. Gowan Dawson, *Show Me the Bone: Reconstructing Prehistoric Monsters in Nineteenth-Century Britain and America* (Chicago: University of Chicago Press, 2016), 3.

16. Dawson, *Show Me the Bone*, 6.

Cuvier was not alone in exploiting the theatricality of extinction; Peale, too, embraced the concept's performative potential at his Philadelphia Museum. His painting *The Exhumation of the Mastodon* memorialized his quest to unearth the fossils, including his invention of a new kind of water wheel to prevent the pit from filling during the excavation. Peale was a talented showman. With his son Rembrandt, Peale assembled the nation's first complete reconstruction of a fossil vertebrate from bones he had exhumed from several different sites in New York.¹⁷ He debuted this display, "the ninth wonder of the world," on Christmas Eve, 1801.¹⁸ The exhibition set off "mammoth fever" across the city of Philadelphia.¹⁹ Peale and his son hosted an elaborate thirteen-person dinner beneath the immense ribcage of the skeleton, which later went on a European tour.²⁰

More than two hundred years after Peale exhumed his first fossils, the sociocultural and scientific phenomenon of the mammoth seems to have hardly decreased. The mammoth, as "the totem animal of vertebrate paleontology" and "the symbol of a vanished by familiar era, a symbol of those Ice ages that in our mind tend to merge with the earliest history of humanity," continues to carry symbolic weight.²¹ Like dinosaurs, which often serve as children's first encounter with the phenomenon of extinction, mammoths have captured the imagination.²² Their fossilized remains (or plaster casts of them) tower over science and natural history museums. They appear in animated films, most notably Disney's *Ice Age* franchise. As Cohen explains,

17. Keith Thomson, *The Legacy of the Mastodon: The Golden Age of Fossils in America* (New Haven: Yale University Press, 2008), 48.

18. Yochelson, "Mr. Peale and His Mammoth Museum," 497.

19. Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History* (New York: Henry Holt and Company, 2014), 36–7.

20. Thomson, *The Legacy of the Mastodon*, 49.

21. Cohen, *The Fate of the Mammoth*, xxxiii.

22. For more on extinction and children's toys, see Ursula K. Heise, "Introduction: From the End of Nature to the Beginning of the Anthropocene," in *Imagining Extinction: The Cultural Meanings of Endangered Species* (Chicago: University of Chicago Press, 2016), 1–18.

“extinct animals reconstituted by the sciences of prehistory are being integrated into our world in various ways. Science becomes a reservoir of images by turn familiar, threatening, or strange, figures that are terrifying or touching, and that feed, for better or for worse, the stories, images, and dreams of our daily existence.”²³

The reservoir of images that Cohen describes might also soon support the *material* (re)integration of mammoths into the world, as scientists in the emerging field of de-extinction work toward the restoration of this charismatic creature. Sometimes characterized as resurrection science, de-extinction includes “the whole range of efforts to provide systematically a new life to extinct species (or provide changes to enable survival for endangered species) by means of scientific inquiry and related technologies.”²⁴ With the development of genetic engineering, DNA sequencing, cloning, and other synthetic biology techniques, scientists hope to develop the ability to recreate animals that have disappeared or revive those that are endangered. The woolly mammoth is one of the most popular candidates for this effort. As of 2019 there were two separate research teams engaged in mammoth de-extinction efforts: the Harvard Woolly Mammoth Revival Team led by Dr. George Church and Dr. Akira Iritani’s group at Kinki University in Japan.²⁵

I identify both these contemporary de-extinction efforts and the early scientific conversations on extinction as paleontological performance; these scientific concepts are worked out in culture just as much as in the laboratory. Beginning in the late eighteenth century scientists

23. Cohen, *The Fate of the Mammoth*, 18.

24. Markku Oksanen and Helena Siipi, “Introduction: Towards a Philosophy of Resurrection Science,” in *The Ethics of Animal Re-Creation and Modification: Reviving, Rewilding, Restoring*, edited by Markku Oksanen and Helena Siipi, (London: Palgrave Macmillan, 2014), 10.

25. Beth Shapiro, *How to Clone a Mammoth: The Science of De-Extinction* (Princeton: Princeton University Press, 2015), 8. Iritani’s team claimed they would successfully produce a living mammoth by 2016, a milestone they did not reach.

offered public lectures at a variety of institutions, such as emergent natural history museums. Attending such performances was a leisurely pastime for the upper and middle classes, especially in Britain.²⁶ Cuvier presented many of his important discoveries in such performances, which sometimes included tests of fossil specimens. Paleontological theatricality became even more apparent with the construction of Peale's skeleton. To advertise his new display, Peale sent Moses Williams, an enslaved Black person, through Philadelphia's streets on horseback in "Native American" dress.²⁷ Williams was born enslaved in the Peale household, and after he was freed he worked in Peale's museum.²⁸ Williams' position in the museum, where he worked as a silhouette cutter, "puts [him] up for the same scrutiny as the displays—because it featured his subordinated status within a practice of visual order."²⁹ Williams' theatrical performance of Indianness highlights the social implications of natural history, its connections to racial ideologies, the (supposed) connection between fossils and indigeneity, and the role of all of these ideas in constructing American identity.

Contemporary conversations around (de-)extinction echo the theatricality of these nineteenth-century predecessors, albeit in quintessential twenty-first-century style. In March 2013, TEDxDeExtinction was held in Washington, DC. Luminaries of the de-extinction movement gave talks in TEDx's characteristic conversational style with titles like "Bringing

26. See, for example, Bernard Lightman, *Victorian Popularizers of Science: Designing Nature for New Audiences* (Chicago: University of Chicago Press, 2007); Iwan Rhys Morus, "Seeing and Believing Science." *Isis* 97 (2006): 101–10; Iwan Rhys Morus, "Worlds of Wonder: Sensation and the Victorian Scientific Performance." *Isis* 101 (2010): 806–16.

27. Kolbert, *The Sixth Extinction*, 36.

28. Williams became a well-known silhouette artist whose life and work have recently been uncovered by scholars. See, for example, Gwendolyn DuBois Shaw, "'Moses Williams, Cutter of Profiles': Silhouettes and African American Identity in the Early Republic," *Proceedings of the American Philosophical Society* 149, no. 1 (March 2005): 22–39; Ellen Sacco, "Racial Theory, Museum Practice: The Colored World of Charles Willson Peale," *Museum Anthropology* 20, no. 2 (September 1996): 25–32.

29. Sacco, "Racial Theory, Museum Practice," 28.

Back the Birds of Our Dreams,” “(Some) Extinction is (Not Necessarily) Forever,” and “Why and Why Not is a Matter of Specifics.”³⁰ Like Cuvier’s sensational 1796 lecture, these TED Talks present specific scientific arguments, create and solidify scientific authority, and attract popular attention.³¹ “The Dawn of De-Extinction: Are You Ready?,” the TED Talk delivered by well-known US-American writer and entrepreneur Stewart Brand, exemplifies the ways scientists deploy performance to promote their scientific endeavors. With his wife, Ryan Phelan, in 2015 Brand founded Revive & Restore, a conservation organization that develops genetic technologies to preserve biodiversity and supports de-extinction projects at several institutions around the world, including Harvard’s Woolly Mammoth Revival.³² As in most TED Talks, Brand renders a complex topic digestible for a non-specialist audience, providing an overview of various de-extinction efforts without falling into complex jargon. He offers a clear and concise explanation of synthetic biology and genetic manipulation of the passenger pigeon, walking his audience through each step of the process. Paradoxically, however, Brand also relies on retaining a mystical aura around the de-extinction: “Tinker Bell is going to come fluttering down. It is a Tinker Bell moment, because what are people excited about with this?” The passenger pigeon will surely be revived, because as soon as the genome is sequenced, George Church will “work his magic.”³³ Popular accounts of de-extinction similarly traffic in this type of rhetoric, as they emphasize the spectacle within the science. For example, science writer Ben Mezrich describes

30. “TEDXDeExtinction,” Revive & Restore, accessed June 24, 2019, <https://reviverestore.org/events/tedxdeextinction/>.

31. The popularity of de-extinction remains one of its supporters strongest arguments. See the following section for a discussion of the imaginative power of de-extinction.

32. “What We Do,” Revive & Restore, accessed June 24, 2019, <https://reviverestore.org/what-we-do/>.

33. Stewart Brand, “The Dawn of De-Extinction: Are You Ready?,” February 2013, TED, https://www.ted.com/talks/stewart_brand_the_dawn_of_de_extinction_are_you_ready?language=en.

the work in Church's lab as "appear[ing] like magic to the uninitiated,"³⁴ and paints Church as "the face of the genetic revolution" who knew he was destined for great things even as a child.³⁵

Brand also makes a moral argument through his TEDTalk, exhorting his audience to take appropriate action in the face of extinction: "Don't mourn. Organize."³⁶ For Brand, "organizing" means the technological resurrection of species like the passenger pigeon, the bucardo, and the aurochs, "because the fact is, humans have made a huge hole in nature in the last 10,000 years. We have the ability now, and maybe the moral obligation, to repair some of the damage."³⁷ Thus Brand's speech epitomizes what I call planetary techno-optimism: a praxis of an Anthropocenic humanity as a benevolent technological superpower with both the ability and the obligation to save the planet's life.

In naming this praxis planetary techno-optimism I build on the existing framework of techno-optimism, a wide-ranging sociocultural phenomenon which describes faith in and dependence on technology. Scientists Michael Huesemann and Joyce Huesemann identify techno-optimism as the primary paradigm of our age, one that rests on a number of myths and significant ignorance on behalf of the public. They trace the history of techno-optimism from the idea of progress which developed in the Enlightenment, including specific manifestations of these concepts in the United States. Environmental techno-optimism—sometimes termed ecopragmatism or ecomodernism—holds that "modern technologies, by using natural ecosystem flows and services more efficiently offer a real chance of reducing the totality of human impacts

34. Ben Mezrich, *Woolly: The True Story of the Quest to Revive One of History's Most Iconic Extinct Creatures* (New York: Atria Books, 2017), 21.

35. Mezrich, *Woolly*, 19.

36. See "'Solidarity with the Dead': Ecological Grief, Political Mourning, and Ethical Planetarities" in this dissertation for alternative practices of ecological mourning.

37. Brand, "The Dawn of De-Extinction."

on the biosphere.”³⁸ By *planetary* techno-optimism, I emphasize the scope of such formulations and their implications for the praxis of humanity as a “genre of being human.”³⁹

There are two specific characteristics of techno-optimism as theorized by Huesemann and Huesemann that bear particular relevance to my theorization of planetary techno-optimism. First, the Law of Techno-Optimism: the more knowledge one has about a particular technology, the less optimism one has in it.⁴⁰ For example, climate scientists who have more knowledge about technological fixes tend to be much more cautious about their possibilities than the media or the lay public. To this relationship between knowledge and optimism, I add the role of spectacle. These techno-fixes lend themselves to speculative imaginings of their possibilities on the part of the media, but (as I will demonstrate in this chapter) also on the part of the scientists themselves.

Second, Huesemann and Huesemann argue that techno-optimism is marked by a technological imperative, “a highly deterministic view of technology” which can be summed up as “whatever can be done technically, will be done and should be done.”⁴¹ This concept manifests in (at least) three different ways:

First, it is used as an excuse to avoid democratic deliberation as well as ethical decision making with respect to the development and acceptance of innovative technologies. Second...the technological imperative makes new technologies appear inevitable by hiding the fact that the course of technological development is directed by special interest groups and powerful social classes...[Third] belief in the technological imperative discourages not only critical thinking but also promotes a culture-wide passive acceptance of any new technology, no matter how destructive.⁴²

38. Breakthrough Institute, “An Ecomodernist Manifesto,” April 2015, <https://www.ecomodernism.org>, 17.

39. Sylvia Wynter, “Unparalleled Catastrophe for Our Species? Or, to Give Humanness a Different Future: Conversations,” in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham, NC: Duke University Press, 2015), 31.

40. Michael Huesemann and Joyce Huesemann, *Techno-fix: Why Technology Won't Save Us or the Environment* (Gabriola Island, BC: New Society Publishers, 2011), 154.

41. Huesemann and Huesemann, *Techno-fix*, 243.

42. Huesemann and Huesemann, *Techno-fix*, 245.

In the case of the technologies I discuss in this chapter—de-extinction and geoengineering—the technological imperative takes on a planetary valence. Partly by drawing on Anthropocene discourse, planetary techno-optimism positions the human as not only separate from but as ruler over “nature” at the scale of the whole planet, as “the subject that has formed modern Western thought...whose unequivocal goal of mastery has fractured the earth to the point of threatening destruction of its environment and itself.”⁴³ This approach to climate change operates under the assumption that “our problems and the Earth’s problems will be solved with the same mastery mentality that landed us here in the first place. We just need to be better stewards, or we just need “cleaner” technologies, or we just need to live more simply and lightly on the land.”⁴⁴ In this view planetary history is one of change, thus climate change is merely another instance of Earth’s natural rhythms which humans can mitigate and adapt to using technological innovation. Planetary techno-optimism, then, enacts a praxis of humanity as always technological masters, a way of living that cannot help but pursue control over the planet through technology. As “the planet has been remade, is being remade, will be remade,” this praxis relies on the expertise of scientists to optimize the biosphere for maximum human benefit.⁴⁵

This chapter analyzes two closely related examples of planetary techno-optimism. First, the movement to de-extinct woolly mammoths as practiced by George Church’s Harvard Woolly Mammoth Revival group since 2009.⁴⁶ Second, Pleistocene Park, where Russian environmental

43. Julietta Singh, *Unthinking Mastery: Dehumanism and Decolonial Entanglements* (Durham, NC: Duke University Press, 2017), 19.

44. Whitney A. Bauman, “Climate Weirding and Queering Nature: Getting Beyond the Anthropocene,” *Religions* 6, no. 2 (2015): 743.

45. Oliver Morton, *The Planet Remade: How Geoengineering Could Change the World* (Princeton, NJ: Princeton University Press, 2016), 5.

46. Church has been caught up in the fallout of the exposure of sexual harasser Jeffrey Epstein. While the MIT Media Lab has been the main scientific institution forced to account for its financial and social associations with Epstein, Church also took both funding from and meetings with him. Church has also drawn criticism for his DNA dating app project, which he claims will reduce inherited diseases, as eugenicist. See Sharon Begley, “Citing ‘Nerd

scientist Sergey Zimov has been pursuing de-extinction and geoengineering via habitat restoration since the 1970s. Scholars and journalists often connect these two endeavors but their explicit connection is unclear. However, I consciously link woolly mammoth de-extinction and Pleistocene Park through the planetary relation which they perform. Together, they demonstrate Jamie Lorimer’s assertion that “conservation after the Anthropocene is performative, actively shaping subjects and ecologies in relation to the knowledge by which it is informed.”⁴⁷ What subjects and ecologies—what praxes—are created and promoted by these techniques? I argue that, by focusing on the restoration of extinct species and landscapes in order to rescue the planet from ecological disaster, this praxis performs an ethical orientation of planetary techno-optimism and fetishizes charismatic species. Moreover, considering the theatrical dimensions of both pursuits demonstrates the praxis they promote. Specifically, I attend to what Rebecca Schneider called (in another context) “the warp and draw of one time in another time— the *theatricality* of time,” wherein performance offers access to a/the past, making it available again.⁴⁸ In a very concrete way, these scientific endeavors approach the past as “a future direction in which one can travel...an unfamiliar landscape waiting to be (re)discovered” through technological means.⁴⁹

The following section examines the project and practice of de-extinction, with particular focus on the mammoth, as a manifestation of planetary techno-optimism. Whether or not these animals ever come to reside in Pleistocene Park, the possibilities of their “resurrection” and the successful de-extinction of other species prompt questions of authenticity and the meaning of

Tunnel Vision,’ Biologist George Church Apologizes for Contacts with Jeffrey Epstein,” *STAT*, August 5, 2019, <https://www.statnews.com/2019/08/05/citing-nerd-tunnel-vision-biologist-george-church-apologizes-for-contacts-with-jeffrey-epstein/>.

47. Jamie Lorimer, *Wildlife in the Anthropocene: Conservation after Nature* (Minneapolis: University of Minnesota Press, 2015), 12.

48. Rebecca Schneider, *Performing Remains: Art and War in Times of Theatrical Reenactment* (New York: Routledge, 2011), 6, original emphasis.

49. Schneider, *Performing Remains*, 22.

“nature.” Would de-extinct mammoths be “natural” and/or “wild”? What are the implications of their “wildness” for understanding animals in the Anthropocene, which has been described as the end of nature?⁵⁰ Next, I articulate Zimov’s work in Pleistocene Park as an example of geoengineering, a technological solution designed to (re)shape planetary functions at a large scale. These practices engage in speculative ecological restoration to a planet of the past, echoing rhetorics of terraforming perpetuated by science fiction writers and scientists alike.⁵¹ Unlike many other geoengineering projects, however, Zimov describes his work as “natural” as opposed to “artificial,” a performance of mastery disguised as a return to a lost, essential wildness. I explore the ways Pleistocene Park both departs from and exemplifies a praxis of environmental mastery. The final section analyzes Wild Field Wilderness Reserve, the public-facing component of Pleistocene Park. Drawing on theories of visibility in zoos, studies of ecotourism, and Schneider’s theorizations of reenactment, I explore Wild Field’s practices of display—both actual and speculative—and how they reify versions of the human as apart from and superior to “nature.”

50. See, for example, Bill McKibben, *The End of Nature* (New York: Random House, 1989); Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007); Jedediah Purdy, *After Nature: A Politics for the Anthropocene* (Cambridge, MA: Harvard University Press, 2015).

51. See Chris Pak, *Terraforming: Ecopolitical Transformations and Environmentalism in Science Fiction* (Liverpool: Liverpool University Press, 2016).

2.1 “A Bit of Cloning”: De-extinction and the Authenticity of the (Anthropocene) Animal

*The stakes of bringing animals into our philosophical thinking about ethics and politics are mammoth.*⁵²

De-extinction is a scientific technique, a conservation strategy, and a cultural discourse. But it is also, I argue, part of a praxis of planetary techno-optimism which articulates and depends upon particular definitions of animal life. Through the creation of (de-extinct) life, de-extinction solidifies historical ideologies of human exceptionalism or speciesism in the guise of restoring lost wildness to the world. The practice of de-extinction depicts humans as outside of nature, and therefore capable of mastering it, while simultaneously claiming to restore an essential wildness to humanity and to the planet. I call this rhetorical move a mask of wildness, and I explore its implications for the possibility for an ecologically just future.

In what follows I outline the ways de-extinction constructs the nonhuman in order to “subjugate all other needs, interests and values of nature to those of humanity.”⁵³ Interrogating this specific construction of the nonhuman has repercussions for defining ways of being human in the Anthropocene, what I term planetary praxis. For, as Kelly Oliver explains, the articulation of the animal as other is at the heart of “everything we take to be distinctively human that assures us of our mastery over all other creatures and the earth.”⁵⁴ Practitioners of de-extinction acknowledge the importance of animals because they embody wildness for human benefit. However, their understandings of the animal (in this case, but not limited to, the extinct woolly

52. Kelly Oliver, *Animal Lessons: How They Teach Us to Be Human* (New York: Columbia University Press, 2009), 20.

53. Helen Kopnina et al., “Anthropocentrism: More than Just a Misunderstood Problem,” *Journal of Agricultural and Environmental Ethics* 31, no. 1 (2018): 119.

54. Oliver, *Animal Lessons*, 4.

mammoth) disguise the ecological relationality at the core of the de-extinction project. Perspectives from both de-extinctionists themselves and outside observers demonstrate how this movement reifies the human as not only distinct from the animal but the ultimate agent capable of rescuing extinct species from the ravages of geologic time through technology. This understanding of the human in turn depends upon the definition of what I term the Anthropocene animal, an interdependence that becomes particularly apparent in the phenomenon of de-extinction.

Cultural and scientific fascination with (de)extinction can be traced through the long history of interest in fossilized fragments of life in natural history museums and in popular culture. On one hand, de-extinctionists, including Church and Brand, purposefully address their work to audiences beyond the insular community of their scientific and academic peers. On the other hand, journalists flock to the work of de-extinctionists as its apparently miraculous nature appeals to broad audiences. In addition to publications in scientific journals, de-extinctionists have been featured by TEDx, in publications like *Time* magazine, and in popular nonfiction books chronicling their crusade against death itself.⁵⁵ De-extinctionists have also inspired fictional narratives; Michael Crichton's 1990 novel *Jurassic Park* and its subsequent film adaptation directed by Steven Spielberg introduced de-extinction into the cultural lexicon. Spielberg's film has become a cult classic. Two sequels followed: *The Lost World: Jurassic Park* (1997) and *Jurassic Park III* (2001). Almost thirty years after its premiere images from the original *Jurassic Park* continue to circulate widely online as memes and gifs (figure 1). De-extinction has reached further audiences through the franchise's 2015 revival with the release of *Jurassic World*—the first of a planned trilogy.

55. See, especially, Mezrich, *Woolly*.



Figure 1. A meme showing Dr. Ian Malcolm (Jeff Goldblum) reacting to the de-extinction of dinosaurs in Steven Spielberg's *Jurassic Park* (1993).

The scientists in the *Jurassic Park* films used ancient DNA extracted from an insect preserved in amber to resurrect the dinosaurs. Real-world de-extinctionists employ a variety of techniques, some of which closely resemble those in Spielberg's film, to revive extinct species and rescue those dangerously close to disappearing. The field includes three main methods: back-breeding, cross-species cloning, and genetic engineering. Projects sometimes employ different methods at different stages with varying degrees of success.

Scientists and their supporters capitalize on the public's fascination with de-extinction as both speculative and spectacle. The selection of the mammoth, "one of the most vivid heroes in our paleontological imagination," as a candidate for resurrection only feeds into the image of de-extinction as science fiction come to life.⁵⁶ Amy Fletcher argues that de-extinction projects

56. Cohen, *The Fate of the Mammoth*, xxxiii.

“repeatedly [shift] from science to spectacle.”⁵⁷ She maintains that institutions invested in a project to de-extinct the thylacine (an Australian marsupial which was declared extinct in 1936) in order to garner public attention, especially through an excessively optimistic attitude toward ancient DNA research and the circulation of particularly affective imagery. Institutions like natural history museums certainly have a stake attracting the media and the public, and Fletcher offers several frames through which de-extinction might be understood as a publicity stunt. But where Fletcher argues that the spectacularization of de-extinction is an anomaly among scientific pursuits, I understand scientific practice as always already theatrical. The spectacular origins of extinction as examined in this chapter’s introduction specifically point to the inherent theatricality of de-extinction as a discipline. Further, I contend that explicitly connecting theatricality and de-extinction is imperative to critique planetary techno-optimism and pursue ecological justice. Maintaining a distinction between “normal science and spectacular science” perpetuates the myth of scientists’ objectivity, absolving them of responsibility for the ways their work moves through the world.⁵⁸

Within planetary techno-optimism, equipped with scientific understanding and technological tools humans can answer the desperate call of the Anthropocene animal, which must be rescued from the geological past and an uncertain ecological future. Not only does the Anthropocene animal require revival, but under planetary techno-optimism it might even be enhanced in the process. As George Church and Ed Regis write, de-extinction and other synthetic biology technologies allow humans to “improve what nature has already accomplished.”⁵⁹ I do

57. Amy Fletcher, “Genuine Fakes: Cloning Extinct Species as Science and Spectacle,” *Politics and the Life Sciences* 29, no. 1 (2010): 48.

58. Fletcher, “Genuine Fakes,” 54.

59. Church and Regis, *Regenesis*, 16.

not aim to make a moral judgement of de-extinctionists or synthetic biology technology (though I do maintain that the movement's most vocal proponents appear dangerously ignorant of the history of science and the ways it upholds social, racial, and political inequity). De-extinction may in fact have a place in bioconservation efforts. Instead, I argue that the particular understanding of the (Anthropocene) animal which de-extinctionists espouse continues to be masked by a spectacular performance of wildness or "naturalness," which hinders rather than promotes justice.⁶⁰

In the case of de-extinction, technological interventions ostensibly have the welfare of animals and ecological systems as their guiding principles, especially under the urgency of the supposed Sixth Extinction, "the current wave of extinction [which] follows five previous mass extinction events that have devastated the planet over the last half billion years."⁶¹ Unlike Earth's previous extinction events (the Big Five), the Sixth Extinction can be attributed to human actions.⁶² Church and Regis argue that "the most obvious reason for resurrecting extinct species is to attenuate, even partially, the wave of mass extinction that is currently taking place and is a hallmark of the Holocene—our own epoch. If the continuing loss of countless species is a tragedy, then the introduction of effective countermeasures, and the increase in species diversity that will accompany them, can only be viewed as a benefit."⁶³

The philosophical implications of resurrection science, perhaps even more than technological challenges, make de-extinction unlikely at this juncture.⁶⁴ De-extinction, as

60. I discuss this further in the following section.

61. Ashley Dawson, *Extinction: A Radical History* (New York: OR Books, 2016), 11.

62. See Anthony D. Barnosky et al., "Has the Earth's Sixth Mass Extinction Already Arrived?," *Nature* 471, no. 7336 (2011): 51–57.

63. Church and Regis, *Regenesis*, 101.

64. Oksanen and Siipi, "Introduction," 6.

planetary techno-optimism, articulates an understanding of Man (and it is nearly always men) as master of nature. Along with other proposed technological solutions, this planetary praxis is one of management, echoing the discourse of neoliberal financialization. Like the ecosystem services model that describes nature in terms of its available contributions to (human) capital, de-extinction approaches the nonhuman as something to be managed, mitigated, accelerated, hacked.⁶⁵ Resurrection science hinges on “an understanding of technology as somehow extrinsic to social and political relations, as if technological solutions [are] somehow historically neutral mechanical forces, rather than themselves intrinsic part of political processes and social organization.”⁶⁶ As such, many concerns and critiques of de-extinction have been dismissed by its proponents (self-described ecopragmatists and/or ecomodernists) as anti-science, anti-technological, anti-progress, and sometimes anti-human.

In his defense of climate engineering, *Whole Earth Discipline: An Ecopragmatist Manifesto* (2009), Brand champions a variety of scientific “solutions” to ecological challenges, because humans “are as gods and *have* to get good at it.”⁶⁷ Brand’s depiction of scientific progress is brazenly ahistorical and ignorantly apolitical. He dismisses critiques of genetic engineering and characterizes rising standards of living in the “developing” world as problematic for the planet’s future. In Brand’s view, synthetic biology offers the opportunity “to ‘play Nature,’ to reverse-engineer the tangled genetic code of eons and ‘refactor’ it—write fresh genetic code that is manageable, that actually does have intelligent design instead of the infinity

65. The use of “hacking” as a metaphor for geoengineering is common among ecomodernists. See Eli Kintisch, *Hack the Planet: Science’s Best Hope—or Worst Nightmare—For Averting Climate Catastrophe* (Hoboken, NJ: Wiley, 2010).

66. Arianne Conty, “Who Is to Interpret the Anthropocene?” *La Deleuziana: Rivista Online di Filosofia* 4 (2016): 27.

67. Stewart Brand, *Whole Earth Discipline: An Ecopragmatist Manifesto* (New York: Viking, 2009), 20.

of moronic kludges and patches that timeless evolution confers.”⁶⁸ Not the intelligent design created by the hand of a deity, but that designed and directed by thinkers at the forefront of science. Church espouses a similarly human-centered characterization of de-extinction: “A final argument against extinction reversal is that to bring species back selectively, according to our own tastes and prejudices, will result in an anthropomorphized, ‘boutique’ environment that reflects human values and judgements and which will result in an artificial construct rather than a natural phenomenon. However, we already live in such a world and have done so ever since the beginning of agriculture, if not long before.”⁶⁹ This conclusion—that the planet is already a product of human control and has been for millennia—supports the techno-optimist project of “a good Anthropocene.”⁷⁰

But the binary of artificial construct versus natural phenomenon that Church presents becomes particularly fraught in the case of animals like the mammoth which went extinct long before the birth of any currently living humans. The consequences of these hypothetical de-extinct animals—from which species are selected to the status of the resulting creatures—deserve scrutiny, not the least because of the ways animals have long contributed to cultural and intellectual understandings of the human. Scholars from many disciplines have explored the histories of what Una Chaudhuri has called zooësis: the discourse of species in culture.⁷¹ Indeed, for Akira Mizuta Lippit, the material disappearance of animals accompanied by their philosophical appearance is a defining condition of modernity.⁷² Perhaps it is more accurate to

68. Brand, *Whole Earth Manifesto*, 178. The language of “management” is common in the ecosystem services model, which quantifies “nature” in terms of its (monetary) value to humans.

69. Church and Regis, *Regensis*, 104.

70. Breakthrough Institute, “An Ecomodernist Manifesto.”

71. Una Chaudhuri, *The Stage Lives of Animals: Zooësis and Performance* (New York: Routledge, 2016), 17.

72. Akira Mizuta Lippit, *Electric Animal: Toward a Rhetoric of Wildlife* (Minneapolis: University of Minnesota Press, 2000), 2–3.

describe animals not as disappeared, but instead consumed and subsumed by capital; as Nicole Shukin argues, “if animal life is violently subject to capital, capital is inescapably contingent on animal life.”⁷³ In light of the imbrication of (animal) life and capital that Shukin illuminates, what are the meanings of de-extinction? How do de-extinct organisms trouble seemingly solid boundaries which define life and nonlife, “nature” and artifice, human and animal?

Determining the naturalness of de-extinct mammoths proves challenging because one valuable critical component of the Anthropocene has been the deconstruction and analysis of the category of capital-N Nature. Philosopher Keekok Lee defines nature as “whatever exists which is not the result of deliberate human intervention, design and creation in terms of its material, efficient, formal and final causes...The ‘natural’ comes into existence, continues to exist, and goes out of existence entirely independent of human volition and manipulation.”⁷⁴ But in the Anthropocene, as defined by the irruption of human influence in all parts of the biosphere, nature as independent of humans is no longer possible. This is what Bill McKibben famously declared in his 1989 book *The End of Nature*:

...in the past, we spoiled and polluted parts of that nature, inflicted environmental “damage.” But it was like stabbing a man with toothpicks: though it hurt, annoyed, degraded, it did not touch vital organs, block the path of the lymph or blood. We never thought that we had wrecked nature. Deep down, we never really thought we could: it was too big and too old; its forces—the wind, the rain, the sun—were too strong, too elemental...But the *meaning* of the wind, the sun, the rain—of nature—has already changed.⁷⁵

Thus humanity becomes *homo faber*, not independent from nature but historically successful in using technology to transform nature to serve their ends. In other words, they create artefacts.

73. Nicole Shukin, *Animal Capital: Rendering Life in Biopolitical Times* (Minneapolis: University of Minnesota, 2009), 24.

74. Keekok Lee, *The Natural and the Artefactual: The Implications of Deep Science and Deep Technology for Environmental Philosophy* (New York: Lexington Books, 1999), 82.

75. McKibben, *The End of Nature*, 41, original emphasis.

For Lee, the transgenic organism is a paradigmatic example of the artefactual: they cannot and do not possess their own striving (*telos*) independent of human ends, particularly as they are unable to reproduce without human intervention.⁷⁶

The animals already living in Pleistocene Park are not de-extinct, but they are similarly artefactual, a difference of degree rather than kind. Their purpose—their *telos*—is to serve human ends (in this case, the mitigation of global warming). Zimov has already collected several species in the Park, sometimes transporting them thousands of miles.⁷⁷ In the summer of 2019, Zimov and his team imported twelve bison from a Danish farm. They were shipped across Europe by truck; Pleistocene Park offered live tracking of the bison on their website.⁷⁸ Once installed in the steppe ecosystem, their purpose becomes the preservation of the permafrost and avoidance of methane release. (Of course, one could argue that as farmed animals these bison were already artefactual to a certain degree.) An organism need not be transgenic or de-extinct to be artefactual. Animals living in zoos and wilderness reserves can already be understood as artefactual, in that they exist due to human intervention.⁷⁹

A de-extinct woolly mammoth, in its origins as product of synthetic biology and its deployment as a tool to mitigate climate change, is perhaps the ultimate artefactual animal: completely constructed through the intervention of humans to ensure their own species survival. The artefactual quality of de-extinct animals has generated debates over whether or not, by “resurrecting” individuals of species like the mammoth, the species would actually be restored.

76. Lee, *The Natural and the Artefactual*, 92.

77. Eli Kintisch, “A Father and Son’s Quixotic Quest to Bring Back a Lost Ecosystem—and Save the World” *Science* 350, no. 6265 (December 4, 2015): 1148–51. For a decidedly dramatic account of Nikita Zimov’s trek across Siberia with a truckload of elk, see Chapter 12 of Mezrich, *Woolly*.

78. “Bison Tracker,” *Pleistocene Park*, <https://pleistocenepark.ru/tracker>. Accessed September 13, 2019.

79. I discuss zoos, and the relationship between humans and nonhumans they create, in a later section of this chapter. Lee also explores the meanings of zoos in *Zoos: A Philosophical Tour* (New York: Palgrave Macmillan, 2005).

Some of this debate emerges from the lack of scientific consensus on a precise definition of the category “species;” there are as many as twenty-six different species concepts.⁸⁰ A species might be defined by its physical characteristics (phenotype), common ancestor (phylogenetic), or biologically. De-extinction enthusiasts define a species as only so much information, where individuals belong to a species based on their genetic code and morphological appearance: “an animal’s lack of ecological interactions with its (native) biophysical environment, social relations and the way it came into existence is seen as insignificant to its species identity.”⁸¹ Defining living creatures through their genetic material, as “biocybernetic nature,” ensures their legibility to and the possibility of control by scientists.⁸² In the absence of other living woolly mammoths, as well as the habitat in which mammoths evolved, how will the first de-extinct mammoth learn to be a mammoth? Like other organisms living in the supposedly wild Pleistocene Park, it will need human intervention in order to survive.

Techniques such as genetic rescue might have a place in the arsenal of conservation science; these discoveries do have the potential to preserve some currently endangered species. However, as a praxis de-extinction depends upon articulating animals as information presented in the guise of a return to wildness. I do not aim to draw any distinctions here or make any strong claims for what is natural and what is not. Instead, I argue that the work of de-extinction proponents such as Brand, Church, and Zimov *does* in fact make certain claims about what is natural (and therefore better) and what is not, in defining both human and animal.

80. M.R. O’Connor, *Resurrection Science: Conservation, De-Extinction, and the Precarious Future of Wild Things* (New York: St. Martin’s Press, 2015), 70–3.

81. Oksanen and Siipi, “Introduction,” 11.

82. Amy Lynn Fletcher, *Mendel’s Ark Biotechnology and the Future of Extinction* (Dordrecht: Springer Netherlands, 2014), 34.

In this view, not only is the human defined by its effects on the environment (up to and including evolving planet-altering capabilities) but because this is the result of human evolution *there is no alternative*. Church argues that “a propensity for redesigning nature seems to be an inherent part of life itself,” which for humans means using all technology at their disposal.⁸³ Due to humanity’s past and present ecological impacts, planetary techno-optimism holds that scientists have a moral and ethical responsibility to actively revive and restore extinct species rather than merely chronicling extinctions as they accumulate.⁸⁴ Donlan and his coauthors offer rewilding as an optimistic solution to counter the typically fatalistic discipline of conservation (or, as Donlan describes it in an earlier article, a “crisis discipline”).⁸⁵ Thus humans have an ethical obligation to de-extinct animals like the woolly mammoth and the passenger pigeon because they were both indirectly and directly responsible for their extinction.

Though characterized as a response to contemporary ecological change, the scientific casting of animals as in need of human rescue was integral to the development of natural history and conservation itself. Many naturalists began to advocate for conservation because extinction threatened their project to catalogue, classify, and taxonomize the beings of the natural world: “If human-caused extinction were an inevitable fact of modern life...then naturalists had a duty to busy themselves with collecting, cataloging, and describing ‘these extinct and expiring organisms’ before it was too late.”⁸⁶ Even naturalists interested in conservation focused their attentions on a small number of charismatic species, either for their cultural significance or

83. Church and Regis, *Regenesis*, 104.

84. C. Josh Donlan et al., “Pleistocene Rewilding: An Optimistic Agenda for Twenty-First Century Conservation,” *The American Naturalist* 168, no. 5 (2017): 666.

85. C. Josh Donlan, “De-Extinction in a Crisis Discipline,” *Frontiers of Biogeography* 6, no. 1 (2014): 25–28.

86. Barrow Jr., *Nature’s Ghosts*, 54.

economic importance.⁸⁷ The campaign to save the American bison, for example, was spurred by the symbolic role the animal played in constructing a US national identity. Despite the rapidly dwindling population of bison in the wild, naturalists advocated killing them for use as specimens. Eventually a captive breeding program succeeded in reviving the species.⁸⁸

The case of the bison offers insight into the animals currently living in Pleistocene Park and the fate of any future mammoths who might eventually reside there (as well as the rewilding movement more generally). US naturalists “were attempting to preserve the ‘wild’ bison, however, by confining it to relatively small, fenced areas, where it was subject to nearly constant supervision and manipulation.”⁸⁹ Pleistocene Park is similarly demarcated by a fence. While there is a clear difference in the ground from one side to the other, the “wildness” of the space cannot be taken at face value. It is carefully curated by humans, from which animals currently live there to how the land is maintained. As the living results of technoscientific achievement, de-extinct mammoths living there would be the paradigmatic example of planetary techno-optimism, rescuing the species from the ravages of evolutionary time. This notion of the Anthropocene animal shows “the centrality of the conception of *homo faber* and its elevation of the life of production/fabrication to be the highest human good in our present industrial culture.”⁹⁰ Unlike many traditional environmentalists who Romantically idealize Nature and wildness, I do not believe natural animals to be either better or worse than genetically modified ones. Preserving some sense of nature as unspoiled is not only impossible but is often accompanied by continued global inequality. Rather, I argue that the rhetorical mask of de-

87. Barrow Jr., *Nature's Ghosts*, 133–34.

88. See Barrow Jr., *Nature's Ghosts*, Chapter 4.

89. Barrow Jr., *Nature's Ghosts*, 122.

90. Lee, *The Natural and the Artefactual*, 4.

extinction as natural has significant implications of this strategy for what it means to be human. For despite arguments for the potential of de-extinction to ameliorate the ecological emergency of the Anthropocene (including biodiversity loss, ecosystem destruction, and global warming), as a performance of techno-optimism, by design this praxis strengthens the very conceptions of the human which contributed to the Anthropocene in the first place.

2.2 The Future of the Past(ure): Pleistocene Park

*This is the motherland of civilization.*⁹¹

In the last twenty years, Sergey Zimov and his collaborators have been working to restore the mammoth tundra-steppe ecosystem in a small area of Yakutia in northern Siberia.⁹² Zimov, a geophysicist by training, began planning what would become Pleistocene Park in 1996. He received a plot of land from the Russian government—approximately 144 square kilometers, or about 56 square miles—to conduct his experiment. Assisted by his son Nikita, Zimov fenced off areas of the land as habitats for large herbivores. He began introducing animals in 1998: Yakutian horses, reindeer, moose. As the project progressed, Zimov and his team began importing animals from other parts of the world. These new species included musk ox, European bison, yaks, Kalmykian cows, and sheep.⁹³ As of summer 2019, Pleistocene Park is home to

91. Sergey A. Zimov, N.S. Zimov, and F.S. Chapin III, “The Past and Future of the Mammoth Steppe Ecosystem,” in *Paleontology in Ecology and Conservation*, ed. Julien Louys (Berlin: Springer, 2012), 221.

92. Sergey A. Zimov, “Pleistocene Park: Return of the Mammoth’s Ecosystem,” *Science* 308, no. 5723 (2005): 796–98.

93. “Territory and History,” Pleistocene Park, accessed August 19, 2019, <https://pleistocenepark.ru/territory/>.

about one hundred animals from among these various species. Future plans for the park include adding American bison, increasing the animals' fenced territory, and introducing predator species, namely the Siberian tiger.⁹⁴ By (re)introducing these creatures, Zimov aims to (re)create the mammoth-steppe ecosystem. He has stated that the primary goal of the Pleistocene Park project is geohistorical: to better understand the role that herbivores like the mammoth played in their ecosystem. However, its secondary objective has an eye toward the future. Zimov and his team hope that the restoration (or (re)creation) of this ecosystem will mitigate the effects of increasing global temperatures.

During the Pleistocene, the mammoth steppe was a vast territory home to millions of large herbivores and the predator species that depended upon them. This pasture ecosystem, one of the planet's youngest, was highly efficient: "Plant, herbivore, and predator productivity in mammoth steppe was close to the theoretical maximum for a northern ecosystem. The ecosystem very efficiently utilized all resources."⁹⁵ The vegetation of this ecosystem played an important role in regulating the temperature of the permafrost, partly because of a phenomenon called albedo. Darker landscapes, like those covered in forests, absorb more heat from the sun, while lighter landscapes reflect that heat. When the surface vegetation, soil, and snow is tamped down—such as by the feet of massive herbivores—the permafrost stays cool regardless of the air temperature.⁹⁶

The temperature of the permafrost matters not just for the reduction of current warming, but also to prevent future warming. Global atmospheric temperatures are the result of numerous

94. S.A. Zimov, "'Wild Field' Manifesto," *Revive & Restore*, November 25, 2014. <https://reviverestore.org/projects/woolly-mammoth/sergey-zimovs-manifesto/>.

95. Zimov, Zimov, and Chapin III, "The Past and Future of the Mammoth Steppe Ecosystem," 213.

96. Zimov, Zimov, and Chapin III, "The Past and Future of the Mammoth Steppe Ecosystem," 198.

factors, but carbon emissions are a driver of much of their increase. There is an immense amount of carbon stored, or sequestered, in the planet's permafrost. Exactly how much remains uncertain, but a 2009 study estimated that approximately 1672 Pg—1,672 billion tons—of organic carbon was sequestered in global permafrost. This amounts to about half of all carbon underground.⁹⁷ The release of any of this carbon into the atmosphere would accelerate already warming temperatures. Along with like the already-emitted fossil fuels that have yet to impact global temperatures, the melting permafrost “represents history and nature falling down on society.”⁹⁸ Altering the vegetation and snow density on the scale necessary to affect global temperatures is impossible to achieve by artificial means. However, Zimov argues that the permafrost could be cooled by increasing the biomass of herbivores living atop it, effectively reviving the conditions of the Pleistocene. By restoring the tundra-steppe to its grassy state, complete with large herbivores, Zimov and his team hope to prevent the thawing of the permafrost.

Regardless of the scientific validity of Zimov's proposed plan, I argue that Pleistocene Park exemplifies a praxis of planetary techno-optimism which relies on science as unassailably objective and aspires to fulfillment of the Enlightenment dream of Man as master of nature, in this case through geoengineering. The project purports to recreate, or de-extinct—a wilderness but, as with potentially revived mammoths, in actuality it produces an artificial version of nature. Artifice is not inherently negative, but this mask of wildness emerges as part of a particular

97. C. Tarnocai et al., “Soil Organic Carbon Pools in the Northern Circumpolar Permafrost Region,” *Global Biogeochemical Cycles* 23, no. 2 (2009).

98. Andreas Malm, *The Progress of This Storm: Nature and Society in a Warming World* (London: Verso Books, 2018), 15.

planetary praxis: the further solidification of human control over the environment masquerading as a relinquishment of such control.

The Siberian tundra offers an appropriate playground for this praxis, as a version of what Elizabeth A. Povinelli articulates as the Desert: “the space where life was, is not now, but could be if knowledges, techniques, and resources were properly managed.”⁹⁹ The Desert does not (necessarily) refer to an actual, material ecosystem but rather:

the affect that motivates the search for other instances of life in the universe and technologies for seeding planets with life; it colors the contemporary imaginary of North African oil fields; and it drives the fear that all places will soon be nothing more than the setting within a Mad Max movie. The Desert is also glimpsed in both the geological category of the fossil insofar as we consider fossils to have once been charged with life, to have lost that life, but as a form of fuel can provide the conditions for a specific form of life—contemporary, hypermodern, informationalized capital—and a new form of mass death and utter extinction; and *in the calls for a capital or technological fix to anthropogenic climate change*.¹⁰⁰

Povinelli offers the Desert as one of the key figures of settler late liberalism that structures how power operates. I undertake this analysis of Pleistocene Park and the praxis it represents in a similar spirit, to “understand them as indicating a possible world beyond or otherwise to their own form of existence...as a way station for the emergence of something else.”¹⁰¹ What are the implications for a planetary praxis created in Pleistocene Park as both an affective and material Desert? What relationalities among the human, nonhuman, and inhuman are articulated in this landscape of the planetary past-present-future? Like the closely related de-extinction movement, I consider the geoengineering of Pleistocene Park as an expression of human speciesism masquerading as an ethical planetary orientation.

99. Elizabeth A. Povinelli, *Geontologies: A Requiem to Late Liberalism* (Durham, NC: Duke University Press, 2016), 16.

100. Povinelli, *Geontologies*, 17, my emphasis.

101. Povinelli, *Geontologies*, 15.

As a large scale alteration of the landscape, Pleistocene Park emerges as an exercise in geoengineering or terraforming, a concept more often seen in speculative fiction than scientific research. Chris Pak identifies three modes of terraforming in science fiction: humans altering alien planets to resemble Earth; aliens altering planets to resemble their home planets; and the alteration of Earth's landscape itself by humans or other intelligent life. Pak rightly identifies a paradox in this final definition, one which serves to illuminate Zimov's work: "what does it mean to alter Earth to make it more closely resemble itself?"¹⁰² And, perhaps even more relevant to Pleistocene Park, Pak argues that terraforming often "encode[s] a conception of humanity as fundamentally alien to Earth."¹⁰³ That is, as practices (which create praxes) terraforming and its close cousin geoengineering articulate a version of humanity that is substantially different from the other life that is endemic to the planet. As terraforming, geoengineering is both human-making and earth (re)making as it produces the human.

Many examples of geoengineering (or terraforming) depend on massive technoscientific projects, thus the techno-optimistic nature of their ecological intervention is evident. Such proposals include "doping the stratosphere" with particles to halt Arctic ice melt;¹⁰⁴ carbon capture and sequestration via mechanical means;¹⁰⁵ and "hacking the Southern Ocean" with iron fertilizer to promote algae growth.¹⁰⁶ If these geoengineering projects sound like the stuff of science fiction, perhaps that is due to speculative nature of the Anthropocene concept itself, which depend on particular ideas of both the human and the planet, "a planet terraformed by

102. Pak, *Terraforming*, 1.

103. Pak, *Terraforming*, 2.

104. Jeff Goodell, "Chapter 6: Doping the Stratosphere," in *How to Cool the Planet: Geoengineering and the Audacious Quest to Fix Earth's Climate* (Boston: Houghton Mifflin Harcourt, 2010), 109–34.

105. Oliver Morton, "Chapter 8: "Carbon Present, Carbon Future," in *The Planet Remade: How Geoengineering Could Change the World* (Princeton, NJ: Princeton University Press, 2016), 209–42.

106. Eli Kintisch, "Chapter 8: Victor's Garden," in *Hack the Planet*, 151–70.

humans in such a way that the traces of the process will be perceptible in the geological strata to a putative far-future observer.”¹⁰⁷ Ursula K. Heise calls this perspective “the presentification of the future,” as the Anthropocene Earth describes a planetary future of technological intervention that has already arrived.¹⁰⁸

In contrast, Zimov and his supporters paint Pleistocene Park as a natural solution to climate warming. It is a terraforming project, a technological alteration of the planet’s surface, in the guise of an ecologically-oriented return to a pristine nature of the planet’s past. This broader conservation strategy, rewilding, has become common practice as a supposed alternative to more direct modes of ecological intervention. Rewilding focuses on the preservation of large tracts of land and the (re)introduction of so-called keystone species, those which fill an important ecological niche with benefits for other species and the ecosystem as a whole.¹⁰⁹ Rewilding has had demonstrated successes, such as the 1995 reintroduction of gray wolves to Yellowstone National Park. The wolves had been hunted to disappearance seventy years earlier. Studies show that the wolves’ revived presence has resulted in cascading beneficial effects for both animal and plant species.¹¹⁰ As it claims to restore the landscape to a state long before modern humans, Pleistocene Park serves as an extreme example of rewilding, as the conservation strategy is coupled with ambitions for geoengineering. Zimov and his collaborators are working not only to preserve existing ecological systems but to “naturally” resurrect the planetary past in order to ensure a planetary future (for humans).

107. Ursula K. Heise, *Imagining Extinction: The Cultural Meanings of Endangered Species* (Chicago: University of Chicago Press, 2016), 218.

108. Heise, *Imagining Extinction*, 219.

109. See Michael Soulé and Reed Noss, “Rewilding and Biodiversity,” *Wild Earth* (Fall 1998): 19–28. Soulé and Noss’s research is credited with introducing rewilding into conservation science.

110. See William J. Ripple and Robert L. Beschta, “Trophic Cascades in Yellowstone: The First 15 Years after Wolf Reintroduction,” *Biological Conservation* 145, no. 1 (2012): 205–13.

Unlike some other examples of rewilding, direct human management is necessary for the ecosystem at Pleistocene Park to survive. The current population of animals cannot significantly tamp down the vegetation. Instead, Zimov and his team use construction vehicles to turn over the earth. Thus despite its veneer of naturalness Pleistocene Park shares much with other more explicitly artificial geoengineering projects. As a manifestation of planetary techno-optimism, Zimov's Pleistocene Park produces the human as not only separate from and external to something called nature but as capable of controlling and manipulating it: a "logic of mastery."¹¹¹ This proposed solution to climate change compounds the universalizing tendency of the Anthropocene concept.¹¹² This is achieved primarily by displacing "blame" for climate change on to the humans of the evolutionary past, a rhetorical move that is closely coupled with one of scientific hypotheses Zimov hopes to prove at Pleistocene Park. Historically, the extinction of the charismatic megafauna has been attributed to the climate shift from cold to warm that marked the transition from the Pleistocene to the Holocene (approximately 12,000 years ago). However, similar climactic changes had been occurring for millions of years and did not necessarily coincide with species extinctions, even for the mammoth and other cold-adapted fauna. A relatively new theory suggests that the end of the Pleistocene witnessed the extinction of megafauna because of the rise and spread of hunting *Homo sapiens* equipped with new spear tips and other tools.¹¹³ The extinction of species like the mammoth led to the disappearance of ecosystems like the tundra steppe. The climate warming which marked the beginning of the Holocene, then, "became fatal for the mammoth ecosystem, because with warming humans

111. Bauman, "Climate Weirding and Queering Nature," 748.

112. I discuss critiques of the Anthropocene as universalizing in the introduction to this dissertation.

113. Shapiro, *How to Clone a Mammoth*, 4.

penetrated the north.”¹¹⁴ As grassland ecosystems were the “first victims” of human expansion, they should be the first to be restored.¹¹⁵

If one of the causes of global warming is the disappearance of megafauna species and the resulting loss of ecosystems, then the fault for the current climate crisis lies not with contemporary humans (and especially not with the capitalist class), but instead with our evolutionary ancestors who hunted these creatures to extinction. As the authors of *The Ecomodernist Manifesto* explain: “early human populations with much less advanced technologies had far larger individual land footprints than societies have today. Consider that a population of no more than one or two million North Americans hunted most of the continent’s large mammals into extinction in the late Pleistocene, while burning and clearing forests across the continent in the process.”¹¹⁶ This displacement of responsibility for extinction onto the evolutionary past helps justify (extreme) technological interventions by pointing to the ecological impacts of preindustrial humans. In somewhat of a paradox, this praxis maintains that humans have *always* intervened in the environment (techno-fixes are an extension of humans’ evolved natural abilities), *and* such solutions will ameliorate the damage caused by our evolutionary predecessors. Additionally, planetary techno-optimism maintains that climate crises might be solved, or at least lessened, without changing anything about ways of being in the world, especially unchecked technological innovation and continued capitalist consumption which produced the Anthropocene.

114. Zimov, Zimov, and Chapin III, “The Past and Future of the Mammoth Steppe Ecosystem,” 220.

115. Zimov, Zimov, and Chapin III, “The Past and Future of the Mammoth Steppe Ecosystem,” 220.

116. Breakthrough Institute, “An Ecomodernist Manifesto,” 16.

The concept of humanity “assuming the role of powerful ecosystem terminator,” serves as a historical expression of man as master of nature.¹¹⁷ If the ancestors of modern humans were able to shape ecosystems with their actions, in this case with potentially disastrous results for both mammoths and the climate, then continuing this praxis of environmental manipulation is in fact the way to be human. Zimov paints this praxis as not only humanity’s evolutionary destiny but also the best solution to both current and future warming temperatures. He cautions that with increasing average temperatures, the permafrost of Siberia will melt, releasing carbon which has been sequestered in the frozen soil for thousands of years into the atmosphere. Zimov hypothesizes that as much as five hundred gigatons of carbon is held captive in the frozen landscape, “2.5 times that of all rainforests combined.”¹¹⁸ In this way, then, Pleistocene Park is presented as the solution to the past ecological destruction of the steppe by early human hunters, the amelioration of current warming, and the prevention of future warming.

If climate change marks a return of history, “the present dissolving into past and future alike,” in which weather is not made in the present but in the past, Pleistocene Park turns to man-made landscapes of the past to reshape the planetary future.¹¹⁹ Under planetary techno-optimism scientists have an ethical responsibility to rewild ecosystems (but only some) in order to preserve biodiversity and mitigate global warming for human flourishing. This position presupposes humanity as technological and the human as consumer. It is a solution only for the effects of the planetary praxis which has resulted in climate change—that of capitalism. Human-as-ecosystem-creator is the ultimate fulfillment of this praxis, the apex of Man controlling, manipulating, and in some cases creating life through technology.

117. Zimov, “Pleistocene Park: Return of the Mammoth’s Ecosystem,” 797.

118. Zimov, “Pleistocene Park: Return of the Mammoth’s Ecosystem,” 798.

119. Malm, *Progress of This Storm*, 11.

As a manifestation of the planetary past in the present, Pleistocene Park performs a sort of temporal strangeness, what Schneider describes as “an ongoing tangle—a meantime—between live and dead.”¹²⁰ At the same time, Zimov’s work falls into the trope of ecological management which continues “a form of business as usual” in which “the solution to the ills brought about by the age of fossil fuels is merely better technology, and *better human ingenuity*.”¹²¹ The wildness of Pleistocene Park, which will ostensibly help solve the crisis of global warming without any change in fossil fuel consumption, is in actuality a carefully monitored and managed human environment in the guise of a return to earlier more “natural” ways of living. This praxis forecloses the possibility of other ways of being that are not dependent upon a relationship of mastery, such as the lifeways of Indigenous peoples based in ecological relationalities not predicated upon mastery or control.¹²² And, as I will illustrate in the following section, by positioning rewilding not only as a manifestation of geoengineering but also as a theatrical spectacle for public consumption, this praxis embraces the planetary relation which characterizes the Anthropocene in the guise of offering an alternative to that very relation.

2.3 Wild Field: An Anthropocene Zoo

Animals are always the observed. The fact that they can observe us has lost all significance.

They are the objects of our ever-extending knowledge. What we know about them is an index of

120. Schneider, *Performing Remains*, 90.

121. Bauman, “Climate Weirding and Queering Nature,” 743.

122. See for example, Daniel R. Wildcat, *Red Alert! Saving the Planet with Indigenous Knowledge* (Golden, CO: Fulcrum Publishing, 2009).

*our power, and thus an index of what separates us from them. The more we know, the further away they are.*¹²³

In 2012, Sergey Zimov and Nikita Zimov opened the Wild Field wilderness reserve on seven hundred and fifty acres, about one hundred and fifty miles south of Moscow. The reserve is separated from Pleistocene Park by eight time zones.¹²⁴ Unlike its counterpart Pleistocene Park, the Zimovs designed Wild Field to be open to the public. Its relatively small fenced-in area offers visitors a glimpse at several herbivore species: antelope, cattle, horses, sheep, deer. The mammoths that once roamed this part of the world are still absent. However, the public orientation of Wild Field provides a speculative glimpse of a future zoo that could provide the opportunity for visitors to experience the planetary past.

Wild Field demonstrates how de-extinction and rewilding, as planetary techno-optimism, promote a particular praxis even for non-scientists. The vast majority of humans are not directly engaged in the scientific and technological undertakings of de-extinction. However, planetary techno-optimism casts the human in a specific role which extends beyond specialists through planned spectacles like Wild Field and Dutch nature reserve Oostvaardersplassen. Drawing from histories of animal display and theories of ecotourism, I demonstrate how Zimov's Wild Field furthers the planetary techno-optimist praxis of human separation from nature. This praxis emerges as the legacy of Enlightenment humanism, in which "human progress is determined over and against the world, which is technologically manipulated to further human ends."¹²⁵ At

123. John Berger, *About Looking* (New York: Pantheon Books, 1980), 14.

124. Eli Kintisch, "A Father and Son's Quixotic Quest to Bring Back a Lost Ecosystem—and Save the World," *Science* 350, no. 6265 (December 4, 2015): 1151.

125. Conty, "Who Is to Interpret the Anthropocene?," 25.

Wild Field, this management is articulated as a revival of humanity's innate wildness through the display of rescued, revived, or resurrected animals rather than a(nother) manifestation of attempted planetary mastery.

The Pleistocene Park and Wild Field projects are still in development, and information about their audience reach is difficult to obtain. As of this writing, Nikita Zimov has taken over much of the work from his aging father, posting videos and writing op-eds exhorting people to donate to their cause. Most of the project's materials focus on Pleistocene Park, as its larger scale has more potential impact on climate change and "restore real wild nature on a continental scale."¹²⁶ However as the smaller Wild Field is intended specifically for public outreach to further the cause of Pleistocene geoengineering, it represents a new kind of zoo for the Anthropocene.

Zimov has dubbed this restored natural area Wild Field, a naming which resonates with the history of the land. A millennium ago, the steppe was home to nomadic peoples who farmed livestock on the grassy plains; the Russian imperial project included subduing this "wild field."¹²⁷ Zimov's plan, which he lays out in his "Wild Field Manifesto," entails a different kind of colonization. The echoes of capitalist (neo)colonialism carry through Zimov's scientific and social justifications for the restoration of the steppe's pasture ecosystem. As to the former, Zimov describes the Pleistocene tundra-steppe as an "assemblage of ecological 'professions,' with all animals giving profit to their ecosystem."¹²⁸ Predators (wolves and big cats) monitored

126. Nikita Zimov, "How You Can Join a Unique Quest to Reverse the Impact of Climate Change," *The Siberian Times*, March 10, 2017, <https://siberiantimes.com/other/others/features/f0293-how-you-can-join-a-unique-quest-to-reverse-the-impact-of-climate-change/>.

127. William Sunderland, *Taming the Wild Field: Colonization and Empire on the Russian Steppe* (Ithaca, NY: Cornell University Press, 2004).

128. Zimov, "Wild Field Manifesto," 2.

their “main capital,” the massive herds of herbivores.¹²⁹ As I have argued throughout this chapter, the praxis of techno-optimism (including de-extinction) demonstrates that this framing is more than just a metaphor. Perspectives such as Zimov’s shape material relations between humans and nonhumans because “saving nature has become synonymous with saving capital.”¹³⁰ Alongside this scientific explanation, Zimov asserts that exposure to wildness holds social value, particularly for young people.

He promises that “in the Wild Field animal density must be higher than in the sun-burned reserves of Africa. Millions of people fly to Africa to see animals that are not in cages, but in the wild. Similarly, Wild Field can be visited by train on the weekend. It is important to show our kids real wild nature—the nature of their ancestors.”¹³¹ Zimov contrasts the territory of contemporary Siberia with that of Africa by comparing their different ecological relationalities. He claims that in Africa “the war with pasture ecosystems” is still ongoing, as farmers use violence against nature to protect their livelihoods. In Europe, Siberia, and America, in contrast, people no longer harbor hatred toward wild animals.¹³² Zimov sees this evolved state of enlightenment as an opportunity to recreate pasture ecosystems and show children the “real” “wild” “nature” of their evolutionary ancestors. Clearly Zimov intends Wild Field to attract tourists, not only those just a train ride away but also those who might come from further afield. Harvard’s George Church also espouses the potential value of an experience of Pleistocene-ness at Wild Field: “If and when woolly mammoths are ever cloned into existence, bringing them to Pleistocene Park would be a case of returning them to their natural habitat. It would be the

129. Zimov, “Wild Field Manifesto,” 3.

130. Shukin, *Animal Capital*, 82.

131. Zimov, “Wild Field Manifesto,” 10.

132. Zimov, “Wild Field Manifesto,” 7.

closest thing to time travel: a return to the flora and fauna of the Pleistocene epoch, *a sort of latter-day Siberian Eden*. It would also turn the area into an adventure tourist destination, for the park would in effect be a mammoth zoo.”¹³³ Church easily slides from the welfare of the animals (“returning them to their natural habitat”) to human technological achievement (“the closest thing to time travel”) to the value of Wild Field as an experience for humans (“an adventure tourist destination... a mammoth zoo”).

Although a Wild Field populated by de-extinct mammoths remains only speculative at this point, thinking through this Anthropocenic zoo under the rubric of existing ecotourism practices (as Zimov and Church do) shows its potential ontological implications. As Helen Gilbert argues, ecotourism is a form of travel performance, one which participates in a project of self-fashioning.¹³⁴ She attends to the ways contemporary ecotourism draws on legacies of colonialism and imperialism, as regardless of specific modalities or locations ecotourism “must seem to offer access to nature as it was prior to the global environmental stress wrought by progressive waves of industrialization and economic development.”¹³⁵ Like Gilbert, I understand ecotourism as encompassing a myriad of nature-based activities, in which “new” forms are “always marked by historical contiguities.”¹³⁶ Even as Wild Field (and by extension Pleistocene Park) supposedly provides an experience of the “future past,” the conventions of ecotourism generally, and historical practices of humans looking at animals specifically, offer a rubric to understand this ostensibly brand new experience.

133. Church and Regis, *Regenesis*, 108, my emphasis.

134. Helen Gilbert, “Belated Journeys: Ecotourism as a Style of Travel Performance,” in *In Transit: Travel, Text, Empire*, ed. Helen Gilbert and Anna Johnston (New York: Peter Land, 2002), 257.

135. Gilbert, “Belated Journeys,” 261.

136. Gilbert, “Belated Journeys,” 256.

Ecotourism renders nature accessible to the tourist. Through these practices “nature” itself becomes a performance/the performer, what Eric Wiley calls wilderness theatre. Through the frames of ecotourism, the environment (including the living beings within it) becomes “the environment theatricalized as wilderness.”¹³⁷ Ecotourist attractions are defined in opposition to civilization, “[relying], and [building], on the public predisposition to value some natural areas more than others.”¹³⁸ As such, ecotourist “nature” hinges on specific articulations of wild(er)ness. Moreover, access to an authentic experience of wild nature has been historically entwined with performances of racial and ethnic otherness.¹³⁹ These experiences offer an escape from the mundanity of modern urban life but are always bolstered by the assurance of returning to that life at the conclusion of the experience. As space theatricalized as wild(er)ness Wild Field depends on particular constructions of authenticity, wildness, and “willed recognition of a temporal caesura, or time-lag.”¹⁴⁰ The “de” of de-extinction, the reversal and undoing, brings about the “re,” the againness and repetition, of rewilding.

The repetition of rewilding resonates with Schneider’s theorization of bodies as sites of transmission, as reenactment becomes “a form of ‘then, there’ translated into ‘here, now.’”¹⁴¹ For Schneider the remains of performance and of the past include not just the documents of the archive but the “the immaterial labor of bodies engaging in and with that incomplete past: bodies striking poses, making gestures, voicing calls, reading words, singing songs, or standing witness.”¹⁴² Or perhaps bodies grazing on the steppe, massive feet and hooves tamping down and

137. Eric Wiley, “Wilderness Theatre: Environmental Tourism and Cajun Swamp Tours,” *TDR/The Drama Review* 46, no. 3 (2002): 129.

138. Wiley, “Wilderness Theatre,” 120.

139. For example, the tourist destination of Colonial Williamsburg. See Scott Magelssen, *Living History Museums: Undoing History through Performance* (New York: Scarecrow, 2007).

140. Gilbert, “Belated Journeys,” 265.

141. Schneider, *Performing Remains*, 51.

142. Schneider, *Performing Remains*, 33.

turning over the surface of the earth. The Pleistocene past is conjured through the bovine and ovine bodies of Heck cattle and sheep—and the spectral/speculative bodies of the woolly mammoth. As a performance of the Pleistocene for human eyes (and human survival), Wild Field hosts future mammoths as composed of literal remains. In the natural history museum, in fossils “absent flesh *does* ghost bones.”¹⁴³ In the Wild Field, the genetic material extracted from those bones gives the ghosts flesh. Rather than the distinction between the live and recorded which has dominated theorizations of performance and influences Schneider’s conceptualization of reenactment, in Wild Field the distinction becomes that between the live and the inanimate. The mammoth is a (re)production, a facsimile generated from an archive of bones from extracted traces of past life.

As such Wild Field promises an even more extreme sense of distance or alienation than existing ecotourist performance, as it performs the “real wild nature” of a geologic planetary past removed from the direct experience of any currently living humans. It ostensibly provides a glimpse not just of the Pleistocene landscape but also of an evolutionary past, in which humanity occupied a different relation to nature. In Zimov’s words, “we don’t have a gene of zealous masters of Earth, this, same with many other things we have to learn.”¹⁴⁴ Zimov traces how as animal density decreased humans became such zealous masters in order to survive.¹⁴⁵ A return to Pleistocene conditions promises a return to an earlier version of humanity that coexists within the ecological system of the tundra-steppe. But such a return seems only temporary, as visitors to Wild Field can experience this relation through a theatricalized, constructed version of the Pleistocene and then return to their (Anthropocene) ways.

143. Schneider, *Performing Remains*, 102.

144. Zimov, “‘Wild Field’ Manifesto,” 10.

145. Zimov, “‘Wild Field’ Manifesto,” 4.

Like the display of animals in zoos, Wild Field focuses on the importance of visibility and seeing. In the heavily designed environment of the habitat, “seeing is the technology used by zoos for promoting nature’s conservation.”¹⁴⁶ What Irus Braverman calls the zooopticon, “a technology of exhibitionary power,” positions the viewer in a place of power.¹⁴⁷ Through the act of witnessing human control of nature, Braverman argues, “the zoo publicly instructs the populace about the proper relationship between culture and nature, both reinforcing the separation between the two and the idea of an authentic nature.”¹⁴⁸ Wild Field similarly operates on the principle of the zooopticon, granting power to the spectator. Unlike the zoo, however, rewilding Wild Field entails a recreation (and reenactment) of nature *in situ*. Because there is little (or no) authentic nature that exists in the Anthropocene, where human action touches all levels of the biosphere, nature must be recreated outside of the artificial confines of the zoo in the “real wild.”

Other examples of public rewilding also provide a way to understand Wild Field, particularly as populated by de-extinct mammoths. The Dutch nature reserve Oostvaardersplassen involves a similar set of ecological goals and challenges; Nikita Zimov points to this park as another project sharing Pleistocene Park’s goals.¹⁴⁹ Like Pleistocene Park, this area of the Netherlands had once been home to large herbivores, until it was remade into a man-made water feature. In 1989, it became protected by the Convention on Wetlands. Several species were reintroduced to a fenced area, including red deer, Konick ponies, roe deer, and

146. Irus Braverman, “Looking at Zoos,” *Cultural Studies* 25, no. 6 (2011): 829.

147. Braverman, “Looking at Zoos,” 828.

148. Braverman, “Looking at Zoos,” 828.

149. Animal People, Inc., “An Interview with Nikita Zimov, Director of Pleistocene Park,” *Animal People Forum* (blog), April 2, 2017, <https://animalpeopleforum.org/2017/04/02/an-interview-with-nikita-zimov-director-of-pleistocene-park/>.

Heck cattle.¹⁵⁰ But Oostvaardersplassen also operates as a tourist site; an official Holland tourism guide describes it as “one of the most unspoiled nature reserves of Europe” where “nature can take its course in an undisturbed manner.”¹⁵¹ Visitors can cycle or walk through portions of the reserve, or embark on guided tours. There have been significant challenges to maintaining Oostvaardersplassen’s unspoiled and undisturbed ecosystem, particularly because it is completely isolated. Several harsh winters led to the starvation of some members of the growing herbivore population. The government shot large numbers of animals rather than allow them to suffer a slow death from starvation. Many activists protested by illegally depositing hay over the reserve’s fence to feed the starving animals.¹⁵²

Oostvaardersplassen points toward what Wild Field could become, particularly with the introduction of de-extinct mammoths. Fenced “natural” reserves like Oostvaardersplassen and Wild Field articulate a particular relation between those observing the display and that which is displayed. The framing of “natural” landscapes as tourist sites refashions them into objects for display: “once it is a sight to be seen, the life world becomes a museum of itself.”¹⁵³ As Barbara Kirshenblatt-Gimblett writes, “displays constitute subjects.”¹⁵⁴ The display of prehistoric flora and fauna at Wild Field constitutes humanity as a subject capable of reversing extinction and mastering the land. Any ecological relation promising new associations with the “wild” is only

150. This particular species has a long history of rewilding and restoration connected to the Nazi ideology of *Lebensraum*. See Clemens Driessen and Jamie Lorimer, “Back Breeding the Aurochs: The Heck Brothers, National Socialism, and Imagined Geographies for Non-Human *Lebensraum*,” in *Hitler’s Geographies: The Spatialities of the Third Reich*, ed. Paolo Giaccaria and Claudio Minoa (Chicago: University of Chicago Press, 2016), 138–57.

151. Netherlands Board of Tourism and Conventions, “Oostvaardersplassen,” accessed July 2, 2019, <https://www.holland.com/global/tourism/destinations/provinces/flevoland/oostvaardersplassen-2.htm>

152. Patrick Barkham, “Dutch Rewilding Experiment Sparks Backlash as Thousands of Animals Starve,” *The Guardian*, April 27, 2018, <https://www.theguardian.com/environment/2018/apr/27/dutch-rewilding-experiment-backfires-as-thousands-of-animals-starve>.

153. Barbara Kirshenblatt-Gimblett, *Destination Culture: Tourism, Museums, and Heritage* (Berkeley: University of California Press, 1998), 132.

154. Kirshenblatt-Gimblett, *Destination Culture*, 78.

temporary, as humans with the economic ability to travel to Wild Field can snap their selfies and then return to their twenty-first-century consumptive ways. The Zimovs' use of crowdfunding sites points to these possibilities already. In 2017 they ran a campaign to raise funds to purchase and transport several herds of bison, yak, and elk to Pleistocene Park. Like many other crowdfunding efforts, a tiered system of rewards enticed donors to contribute. Small donations earned merchandise sporting the Pleistocene Park logo—magnets, coffee mugs, T-shirts, water bottles. Those who gave larger amounts would receive a pen, keychain, or figurine made from real ivory (provenance unspecified). The highest-tier rewards offer a week-long trip to Pleistocene Park (\$10,000) and traveling with the bison expedition (\$20,000).¹⁵⁵

Thus Wild Field offers an escape from modernity, a solution to the first-world problem George Monbiot calls ecological boredom. Monbiot draws on a number of personal environmental experiences to make a case for rewilding, particularly in his home nation of the United Kingdom. Rather than supporting rewilding for its potential conservation benefits or as an act of contrition for the ecological devastation wrought by those in Europe, Monbiot conceptualizes rewilding as a way to recover mankind's lost evolutionary past and therefore fulfill the species' destiny. He argues that, as a twenty-first-century human and member of an "evolved" society, he suffers from ecological boredom. Unlike the Indigenous peoples that he describes meeting, including the Maasai of Kenya and the Yanomami of Brazil, Monbiot is relegated to living in "a shadowland, a dim, flattened relic of what there once was, of what there could be again."¹⁵⁶ He believes that the vast majority of the planet's humans (those living in

155. Nikita Zimov, "How YOU Can Join a Unique Quest to Reverse the Impact of Climate Change," *The Siberian Times*, March 10, 2017, <https://siberiantimes.com/other/others/features/f0293-how-you-can-join-a-unique-quest-to-reverse-the-impact-of-climate-change/>.

156. George Monbiot, *Feral: Rewilding the Land, the Sea, and Human Life* (Chicago: University of Chicago Press, 2014), 89.

cities and largely in the Global North) have lost something essential about their humanity because of their separation from nature. Even as they attempt to make their way in their colorless environment humans hear the echoing call of their genetic memory, from a predator-prey relationship with big cats to a true sense of play and discovery.¹⁵⁷ Thus, by “open[ing] up the ecological imagination,” people can restore this lost essential part of their humanity.¹⁵⁸

Monbiot’s conception of ecological boredom helps illuminate the ontological claim Wild Field, as the nature of our ancestors, makes not only about animals, but about humans. Like Zimov, Monbiot believes that modern humans might fill an existential lack through exposure to wildness. His account too displays a neocolonial paternalism which ignores the social and political context of such exposure. Specifically, Monbiot overlooks the culpability of European nations in global genocide and ecocide while idealizing and exoticizing Indigenous lifeways as belonging to a mythic and mystic past. For example, despite the impending disappearance of their traditional territories at the hands of miners supported by the Brazilian government, Monbiot longs for the life of the Yanomami people, as it is “rawer, wilder, more engaging” than his own.¹⁵⁹ Like the diversity of “authentic” peoples displayed at World’s Fairs, as a spectator Monbiot can separate himself from these exotic peoples. However, the articulation of Anthropocene Man as “geologic world-maker/destroyer of worlds” shifts the relationship achieved by such a display in Wild Field.¹⁶⁰ In addition to cementing superiority as the one who looks (subject) rather than the one who is seen (object), at the same time spectators might

157. Monbiot, *Feral*, 169.

158. Monbiot, *Feral*, 136.

159. Monbiot, *Feral*, 6.

160. Kathryn Yusoff, “Anthropogenesis: Origins and Endings in the Anthropocene,” *Theory, Culture & Society* 33, no. 2 (2016): 5.

recover something about their essential humanity that has been erased in the process of modernity.

Zimov's philosophical argument—that there is value in showing children real nature—relies on the separation of human and something called “real nature.” Humans cannot be a part of nature because real, authentic nature pre-exists humans. The lack of connection to this authentic nature—ecological boredom—might be solved through exposure to wild(er)ness. Moreover, it is humans who have the capacity to restore real nature through technoscientific means, for purposes including their educational and aesthetic enjoyment. By doing so, premodern ecological relationality can be renewed. But in its essence planetary techno-optimism reinforces the species supremacy of humanity. Zimov explicitly articulates the geoengineering goal of the Pleistocene Park rewilding; even if it is the project's secondary goal, he intends for the resurrected landscape to affect change on the planetary scale. The Wild Field, then, encapsulates another for-the-human part of this space, an enactment of rewilding rhetoric that purports to efface or eliminate human *agency* in ecosystems, even as they are intended for human *consumption* to restore some lost, essentially “wild” part of humanity.

2.4 Conclusion: A Great Anthropocene?¹⁶¹

*The solution to the unintended consequences of modernity is, and has always been, more modernity—just as the solution to the unintended consequences of our technologies has always been more technology.*¹⁶²

Wild Field, Pleistocene Park, and de-extinction offer relatively “painless” solutions to Anthropogenic impacts. They do not involve any changes to praxis as an exercise of ecological relationality or working toward worlds beyond that of neoliberal capital. Though presented as trailblazing, against-all-odds scientific quests to save the world, de-extinction and geoengineering in fact represent limits to human thought, as they are incapable of imagining any futures outside of current political and social realities. Perhaps ecomodernists and ecopragmatists—and non-scientists in the Global North—have become so enamored with such planetary techno-optimism because these groups are (arguably) more responsible for climate change. Beth Shapiro identifies the alleviation or avoidance of responsibility as one motivation for the de-extinction project.¹⁶³ And Zimov positions his permafrost experiment as a simpler solution than political change: “It is very hard to agree to reduce industrial CO₂ emissions. Reducing permafrost emissions are much easier. All is needed is to cross mental barriers, accept that pasture ecosystems have a right for living and freedom, and return part of the territory which

161. Breakthrough Institute, “An Ecomodernist Manifesto,” 31.

162. Michael Shellenberger and Ted Nordhaus, “Evolve,” *Breakthrough Journal* 2 (2011), <https://thebreakthrough.org/journal/issue-2/evolve>.

163. Shapiro, *How to Clone a Mammoth*, 7.

our ancestors took from them. Giving back territories we don't use ourselves would be sufficient."¹⁶⁴

Even as they profess rewilding, de-extinction, and geoengineering to be hopeful and active solutions to ecological emergency, scientists like Zimov and Church presume essential characteristics of planetary praxis: extinction and other ecological problems might be solved if only scientists and citizens have an imagination big enough to do so. As an antidote to ecological boredom and a pedagogical tool for modern children supposedly bereft of meaningful contact with “the natural world,” Wild Field constitutes animals as artefactual subjects and humans with the capacity—and obligation—to terraform and revive long extinct forms of life. The experience of “wildness” is only made possible through comparison with modern civilization and technology, the very things that both create and sustain that wildness.

This is the paradox of “business-as-usual” solutions to the Anthropocene.¹⁶⁵ They paint the revival of extinct species and the restoration of devastated ecologies as benevolent gestures meant to rectify the mistakes of past humans and reify techno-optimist praxes. Thus the meaning of being human, particularly in relation to the environment, remains narrowly defined to a praxis of continued degradation of nonhuman life for economic, cultural, and social reasons. In addition to lumping together all humans beneath the sign of ecosystem terminator, dispersing responsibility for the damage across temporal, spatial, cultural, ethnic, racial, and economic difference, this praxis assumes there is no way of being human otherwise. It maintains that the best response to anthropogenic climate change, whose “absolute trauma lies in the fact that it comes at the human from beyond the human, it comes from the earth itself,” is to seek further

164. Zimov, “Wild Field Manifesto.”

165. Bauman, “Climate Weirding and Queering Nature,” 743.

mastery.¹⁶⁶ Thus in its performances of wildness, the techno-optimistic praxis of mastery finds its pinnacle.

166. Jemma Deer, *Radical Animism: Reading for the End of the World* (London: Bloomsbury, 2021), 31.

3.0 Imagining Planetary through Museological Performance

*A natural history museum is a collective perspective on a common world.*¹

Natural history museums have served as mechanisms by which people (particularly city dwellers) are exposed to nature. Through the display of collections, nature could not only be experienced but also defined in very particular ways, “ideally to be consumed in palatable chunks of time.”² In the first decades of the twentieth century, a series of reformers began reconceiving and remaking the museum as an institution focusing on public education (display-based) rather than one privileging specimen preservation and scientific research (collections-based).³ This complex shift became known as the New Museum Idea. As well as sites of knowledge production, the New Museums also “came to function as an integral component in the organisation and make-up of the social as a result of the ways in which they were mobilised across a wide range of programmes of social management.”⁴ That is, through practices of display, encounters with objects, and the social mobilization of museums as institutions, natural history museums also showed visitors how to be human.

The New Museum Idea was facilitated by social anxieties about the disconnection of humans from the natural world. Museum reformers believed that proper education could solve this “perceived national crisis,” that “learning to appreciate nature would lift hearts and

1. Jodi Dean, “A View from the Side: The Natural History Museum,” *Cultural Critique* 94 (2016): 86.

2. Samuel J.M.M. Alberti, *The Afterlives of Animals: A Museum Menagerie* (University of Virginia Press, 2011), 7.

3. Karen A. Rader and Victoria E.M. Cain, *Life on Display: Revolutionizing U.S. Museums of Science and Natural History in the Twentieth Century* (Chicago: University of Chicago Press, 2014), 12–17.

4. Tony Bennett, *Pasts Beyond Memory: Evolution, Museums, Colonialism* (London: Routledge, 2004), 11.

minds...and studying it scientifically would result in more efficient social organization and more rational use of resources.”⁵ The historical echoes of this perspective can be heard in some cultural conversations around the introduction of the Anthropocene idea: something vital has been lost as humans have evolved into the masters of the planet. George Monbiot calls this ecological boredom, arguing that “as our lives have become tamer and more predictable, as the abundance and diversity of nature have declined, as our physical challenges have diminished to the point at which the greatest trial of strength and ingenuity we face is opening a badly designed packet of peanuts.”⁶ The response of natural history museums to the Anthropocene, then, is in many ways a return to questions which museology has wrestled with since its beginning. But the specter of ecological emergency also reveals the ways natural history museums generate particular planetary praxes which obstruct ethical ecological relations rather than create them.

I draw on two different examples of natural history museums interpreting the Anthropocene to show how practices of display script particular forms of planetary praxis. First, I examine the Smithsonian National Museum of Natural History’s David H. Koch Hall of Fossils—Deep Time. This museum mainstay, which features many of its most crowd-pleasing displays, reopened in June 2019 after a multi-year redesign and renovation. The Smithsonian departs from more traditional fossil displays by reframing these exhibits within the story of deep time, including the role of humanity in the planet’s evolution. Second, I analyze an exhibit developed specifically in response to Anthropocene discourse: Carnegie Natural History Museum’s *We Are Nature: Living in the Anthropocene* (2017–8). *We Are Nature* included items from CMNH’s vast collections as well as materials on loan from other institutions. Visitors

5. Rader and Cain, *Life on Display*, 21.

6. George Monbiot, *Feral: Rewilding the Land, the Sea, and Human Life* (Chicago: University of Chicago Press, 2014), 60.

viewed a variety of taxidermied specimens, several interactive digital displays, and graphic interpretations of climate change data. Portions of the exhibition invited visitors to offer their opinions on climate change through polls, artistic expression, and written feedback. The exhibit aimed to draw connections between human activity and the environment, or, in other words, to overcome the ontological distinction between the concepts of human and nature.

Both the Smithsonian and CNMH are bastions of traditional museum practices; the majority of their activities are forms of display such as the habitat diorama and mounted skeleton accompanied by explanatory labels. These techniques emerged in the nineteenth century as natural history museums developed from older forms of collection like the cabinet of curiosity.⁷ But because natural history museums are “slow media,” new methods accumulate over older practices, resulting in a *mélange* of approaches and methodologies.⁸ For example, dioramas—specimens displayed behind glass in a facsimile of their natural habitat usually achieved via perspectival painting and theatrical lighting—coexist alongside practices which developed later. These include live animal displays, interactive exhibits, and “immersive” displays created by professional exhibit designers.⁹ Permanent exhibition halls, museums’ bread-and-butter and slowest to change, are accompanied by temporary exhibits created in response to specific scientific or social issues. The term traditional museum practices, then, denotes this diversity of display methodologies which array the natural world for the (human) spectator’s consumption.

7. For accounts of this development, see, for example, Krzysztof Pomian, *Collectors and Curiosities: Paris and Venice, 1500-1800*, trans. Elizabeth Wiles-Portier (New York: Polity Press, 1990), and Rader and Cain, *Life on Display*.

8. Jennifer Newell, Libby Robin, and Kirsten Wehner, “Introduction: Curating Connections in a Climate-Changed World,” in *Curating the Future: Museums, Communities, and Climate Change*, ed. Jennifer Newell, Libby Robin, and Kirsten Wehner (New York: Routledge, 2017), 15.

9. The use of immersive as an aesthetic description in theatre and performance studies has become so ubiquitous that it is almost useless. Here I use it very consciously to mean displays which break out of the “proscenium” of the diorama and invite visitors to touch objects which are usually restricted. See Rader and Cain, “The Exploratorium Effect: Redefining Relevance and Interactive Display, 1969–1980,” chapter 6 in *Life on Display*.

These normative conditions of display, what Jennifer Tyburczy calls museums' display choreography, discipline bodies into the framework of commodity capitalism.¹⁰ Tyburczy specifically attends to how display, where meaning is created through the “details of the spatial encounter,” produces and reproduces hierarchies of gender, race, and class.¹¹ Thus display creates particular subjectivities which uphold the dominance of capital as the state of “achieved humanity.”¹²

These practices also serve to position specimens within regimes of a scientific epistemology, as “a grand knowledge project of the biotic world, whose limits are configured around the accumulating potential of biological description.”¹³ As such, they also compose what Mel Y. Chen has described as hierarchies of animacy, where “objects, animals, substances, and spaces are assigned constrained zones of possibility and agency.”¹⁴ Commodity capitalism serves as a framework for viewing and consuming these hierarchies within the museum space. But capitalism also *depends upon* this display, particularly as it constructs and reinforces hierarchies of animacy. The scientific and social project of the natural history museum works to justify the violence of capital by depicting “non-human species as provided in excess by providence” and thus available for consumption.¹⁵ The continual and ever-increasing expropriation of nature by capital, then, has caused the ecological crises of the Anthropocene, “the disruption and destruction of conditions of ecological reproduction and human development at the expense of

10. Jennifer Tyburczy, *Sex Museums: The Politics and Performance of Display* (Chicago: University of Chicago Press, 2016), 40.

11. Tyburczy, *Sex Museums*, 42.

12. Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995), 7.

13. Kathryn Yusoff, “Insensible Worlds: Postrelational Ethics, Indeterminacy and the (k)Notes of Relating,” *Environment and Planning D: Society and Space* 31 (2013): 209.

14. Mel Y. Chen, *Animacies: Biopolitics, Racial Mattering, and Queer Affect* (Durham, NC: Duke University Press, 2012), 13. Of course, Chen’s project also shows that hierarchies of animacy are themselves racialized and sexualized.

15. John Bellamy Foster and Brett Clark, “The Expropriation of Nature,” *Monthly Review* 69, no. 10.

future human generations and living species more generally.”¹⁶

Through specific attention to the objects of these new museum exhibits, the ways their display scripts particular behaviors, and the histories of museums articulating the human as the one who looks and the nonhuman as the (dead) one who does not, I trace the planetary praxes prescribed by these venerable institutions at this moment of climate crisis. As “the public witnessing of nature’s order” which makes new relations of time visible, how will natural history museums respond to the introduction of the Anthropocene as a new way of ordering time?¹⁷ If, as Giovanni Aloï writes, “the aesthetic rhetoric of natural history museums stands firmly in the way of new and different conceptions of animality and nature,” what are the implications of such museums addressing the (apparent) blurring of boundaries between humans and nature in the Anthropocene, as encapsulated in the title of CMNH’s exhibit *We Are Nature*?¹⁸ What are the planetary praxes inscribed by these institutions? What implications do such praxes have for a future of ecological justice that does not take a position of stewardship or instrumentality toward nature? How do ideas of the human promote a form of relationality in which “we must do right by other life-forms, but in a precise kind of way, namely by recognizing their claim to a fair share of the environmental resources which all life-forms need to survive and to flourish”?¹⁹

I undertake my examination of natural history museums in a dual fashion. First, I analyze these exhibitions *through* performance. With a focus on questions of materiality, liveness, temporality, haunting, authenticity, and “the real,” performance studies approaches can provide new insights into museums and the politico-cultural work they perform. In fact, museum studies

16. John Bellamy Foster, “Marx, Value, and Nature,” *Monthly Review*, July 2, 2018.

17. Bennett, *Pasts Beyond Memory*, 22.

18. Giovanni Aloï, *Speculative Taxidermy: Natural History, Animal Surfaces, and Art in the Anthropocene* (New York: Columbia University Press, 2018), 109.

19. Brian Baxter, *A Theory of Ecological Justice* (New York: Routledge, 2004), 4.

scholars recognize the value in these methodologies, often drawing upon the language of performance to describe the work achieved by exhibition. For example, Karen Wonders describes the diorama as “a form of ecological theatre in which the animal actors star in an evolutionary play.”²⁰ Tony Bennett theorizes the political and social work of museums through performance theory, articulating the exhibitionary environment as performative.²¹ On the other hand, some performance studies scholars have drawn on the museum to theorize the work of performance; Tyburczy identifies the museum and other sites of display as “sites for expanding the scope of the theoretical genealogy of performativity theory.”²² In using performance as a metric to understand museums, I also take up Rebecca Schneider’s exceedingly influential *Performing Remains*. Her eloquent analysis of the performance of history in Civil War reenactments, the role of authenticity, the (in)animacy of material remains, and “the theatricality of time,” can be brought to bear on the museum.²³ Thinking alongside Schneider, I approach the museum space as “an ongoing tangle—a meantime—between live and dead.”²⁴ Rather than excavating the ways reenactment (re)animates human history, I extend Schneider’s theorization to include the “ongoing tangle” among species in which the remains on exhibition themselves perform. This approach resonates with Margaret Werry’s concept of museological performance, in which the material remains on display generate ontological slippages between liveness and deadness, or “the very stuff of theatre.”²⁵ Like Werry, I see the museum as a site for “the

20. Karen Wonders, “Habitat Dioramas as Ecological Theatre,” *European Review* 1, no. 3 (1993): 285.

21. Bennett, *The Birth of the Museum*.

22. Tyburczy, *Sex Museums*, 175.

23. Rebecca Schneider, *Performing Remains: Art and War in Times of Theatrical Reenactment* (New York: Routledge, 2011), 6.

24. Schneider, *Performing Remains*, 90.

25. Margaret Werry, “House Arrest: Museological Performance, Animacy, and the Remains of Rural America,” in *Performing Objects and Theatrical Things*, ed. Marlis Schweitzer and Joanne Zerdy (New York: Palgrave Macmillan, 2014), 76.

interwoven trajectories and temporalities of things and people, the vital rhythms of nonhumans and humans, moving in relation to one another if not always (importantly) in harmony. In this motion, the dead and the living exert a force on one another. And sometimes...this force becomes a political problem or a political strategy.”²⁶ I use Schneider and Werry’s theorizations of remains—and their excesses—to address the political potentialities of traditional natural history practices of display.

Second, I theorize these particular exhibits *as* performances of a specific version of the Anthropocene.²⁷ Drawing on museum publications and exhibition materials, I show how these exhibits hope to produce an Anthropocene subjectivity that is more closely attuned to humanity’s geological (Hall of Fossils) or ecological (*We Are Nature*) connections. However, I argue that this undertaking is stymied by traditional practices of display that have historically constituted boundaries between the human and nonhuman. I demonstrate how the institution of the museum—the context within which these display practices continue to develop—embodies a performance of superiority over and control of nonhuman nature. The planetarity performed by such institutions, like the concept of the Anthropocene itself, represents “a further attempt at certainty and tidiness in the face of uncertainty and messiness” of the natural world.²⁸ This is particularly accomplished through the act of collection. Krzysztof Pomian argues that collections serve as mediators between the visible and an invisible in which:

The invisible is spatially distant, not only beyond the horizon but also very high or very low. It is also temporally distant, either in the past or the future. In addition, it is beyond all physical space and every expanse or else in a space structured totally differently. It is situated in a time of its own, or outside any passing of time, in eternity itself. It can

26. Werry, “House Arrest,” 78.

27. Of course, these dual approaches echo Richard Schechner’s distinction of the *is/as* performance spectrum. See *Richard Schechner, Performance Studies: An Introduction*, 3rd ed. (London: Routledge, 2013).

28. Whitney A. Bauman, “Climate Weirding and Queering Nature: Getting Beyond the Anthropocene,” *Religions* 6, no. 2 (2015): 752.

sometimes have a corporeity or materiality other than that of the elements of the visible world, and sometimes be a sort of pure antimateriality. At times it will be an autonomy *vis-à-vis* certain or even all the restrictions placed on the visible world, at others it will be an obeying of laws different to our own.²⁹

These specific exhibitions, within their institutional contexts, work to manifest the “invisible” of the Anthropocene.

I maintain that through practices of collection, which result in display, *We Are Nature* and the Hall of Fossils (re)conceptualize distinctions between human, animal, and thing. But these institutions reinscribe anthropocentric ideas about the relationship between humans and nature even as they strive to represent it otherwise. Ultimately they promote not only the instrumentalization of nature but also a universalizing narrative of the Anthropocene which discounts the slow violence of ecological devastation.³⁰

3.1 Becoming Geological: The Smithsonian’s Hall of Fossils

*The museum became an apparatus for enrolling the people into particular histories of nature with a motive to improve progress.*³¹

In 1998 cultural critic W.J.T. Mitchell observed that “no one has ever seen a dinosaur but everyone knows what they look like.”³² Representations of the extinct creatures abound in

29. Pomian, *Collectors and Curiosities*, 24.

30. Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011).

31. Brian Noble, *Articulating Dinosaurs: A Political Anthropology* (Toronto: University of Toronto Press, 2016), 14.

32. W.J.T. Mitchell, *The Last Dinosaur Book: The Life and Times of a Cultural Icon* (Chicago: University of Chicago Press, 1998), 48.

popular media, scientific study, and natural history museums. At the end of the nineteenth century, when museums were beginning to shift to the institutions of public education that we recognize today, paleontology was a scientifically vibrant discipline. Fossil hunters were celebrated; wealthy businessmen funded their expeditions and collected specimens for their own entertainment or as philanthropic contributions to museums. The fossil craze grew increasingly intense, marked by fierce competition to discover new specimens, a period historians have called the Bone Wars. A contest for the prize fossils of the unexplored western territories of the US between paleontologists Othniel Charles Marsh (1831–1899) and Edward Drinker Cope (1840–1897) became so cutthroat that the two sabotaged each other’s camps to gain a competitive edge. This “great dinosaur rush” was a boon for growing natural history museums like the Smithsonian. At the opening of its Natural History Building in 1910, one-third of the objects on display were fossils.³³ Even as display practices have evolved throughout the intervening century, including the introduction of video and interactive displays, as particularly spectacular objects dinosaur fossils have retained their popularity. They remain “the natural history museum’s rock stars.”³⁴ Since Smithsonian Natural History’s founding a century ago, the institution’s fossil collections have consistently been a prominent attraction drawing millions of visitors.

The Smithsonian closed the US’s flagship fossil hall in 2014 for extensive renovation as part of a larger research project, *Deep Time*, which the institution had initiated in 2009.³⁵ The multimillion-dollar project included routine maintenance on specimens and facilities, as well as

33. Diana E. Marsh, *Extinct Monsters to Deep Time: Conflict, Compromise, and the Making of Smithsonian’s Fossil Halls* (New York: Berghahn Books, 2019), 31.

34. Marsh, *Extinct Monsters to Deep Time*, 5.

35. For a timeline of the fossil hall’s development, see Marsh, “Chronology C: Fossil Exhibits Timeline,” in *Extinct Monsters to Deep Time*, xxxii-xxxiii.

updates to displays with the most recent scientific information. As part of the *Deep Time* initiative, the team designing the new fossil hall also aimed to reframe the museum's most popular attractions within the scientific concept of deep time in an effort to communicate the history of life on the planet, including that of humanity. The new exhibition, which opened in June 2019 as the David H. Koch Hall of Fossils—Deep Time (hereafter Hall of Fossils), represents a new direction for fossil display.³⁶ By positioning both dinosaurs and humans within the historical narrative of deep time, the exhibit “aimed to both harness this popular energy [of dinosaurs] and combat diluted renderings of past worlds, focusing on an ecosystem- and climate-driven perspective.”³⁷ But, by displaying and thus creating specific versions of nature and humanity, through this display in the Hall of Fossils “other ways of encountering nature are rendered unthinkable, other stories unsayable.”³⁸ As Smithsonian deploys traditional display practices in novel contexts, the Hall of Fossils demonstrates the tensions inherent in natural history museums' approaches to the Anthropocene as they attempt to model new planetary praxes.

On the museum's first floor, just off the Rotunda showcasing the Smithsonian's famous African Bush Elephant, the entrance to the Hall of Fossils invites visitors to travel back in time from the “Age of Humans” to the “Long Beginning” of life on Earth. Mounted skeletons of

36. Koch, who died in August 2019, donated more than thirty-five million dollars to support the hall's renovation. This was not his first financial donation to the museum; the Smithsonian's permanent Hall of Human Origins also bears his name. Koch also served on the boards of the Smithsonian Natural History Museum and New York's American Natural History Museum (whose dinosaur hall sports Koch's moniker as well). Koch's connection to the fossil fuel industry and its suppression of climate science led to significant backlash of his positions at these major scientific institutions. In 2015 activist group The Natural History Museum (which I discuss in the following chapter) led a protest and petition calling for the removal of Koch from the boards of both museums. See Ryan Little, “Protesters Demand Smithsonian Kick David Koch Off National Museum of Natural History Board,” *Hyperallergic*, June 15, 2015, <https://hyperallergic.com/214900/protesters-demand-smithsonian-kick-david-koch-off-national-museum-of-natural-history-board/>.

37. Marsh, *Extinct Monsters to Deep Time*, 5.

38. Stephanie Rutherford, *Governing the Wild: Ecotours of Power* (Minneapolis: University of Minnesota Press, 2011), xi.

immense creatures long extinct—both mammals and dinosaurs—are distributed throughout the airy, well-lit hall. This is not the proscenium of the diorama—a natural history staple—but instead a more organic, fluid display. The arrangement allows visitors to flow around specimens in multiple directions. Less charismatic fossils (plants, trilobites, microfossils) fill display cases lining the walls of the hall. Miniature dioramas are scattered throughout the exhibit, depicting dinosaurs and their contemporaries “in the flesh” to complement the display of their fossilized remains. Punctuating the narrative of life’s evolution as told by the massive fossil mounts, tall thin black pillars mark the mass extinction events of the planet’s past and—arguably—its present (figure 2). In the rear of the hall, near a display narrating the beginnings of life and its oceanic evolution, Fossil Basecamp give a behind-the-scenes look at the practice of paleontology: how fossils are formed, found, and dated. The nearby FossiLab provides a glimpse of paleontologists at work, as museum staff restore and catalog specimens in a brightly lit lab behind glass.



Figure 2. An overhead view of the Hall of Fossils.

Opposite some of the most spectacular fossil mounts, one side of the hall features a Changing Climates section and the Age of Humans gallery. Instead of displaying specimens or reconstructions, these areas offer digital and interactive displays demonstrating the impact of humans on the biosphere. Changing Climates draws a parallel between the Paleocene-Eocene Thermal Maximum—a period of rapid climate warming approximately fifty-five million years ago—and the increasing temperatures of the present. This area emphasizes that, although the planet’s climate has warmed in the past, the changes of the present are happening so rapidly that the future of life has been jeopardized. The centerpiece of this part of the hall is the Age of Humans gallery, a semi-enclosed seating area in front of several screens. A series of short videos chronicling five different ways humans are responding to climate change plays on loop. Flanking the gallery, a number of infographics depict humans as a “global force of change,” such as their contributions to species extinction (figure 3). Several painted visuals and an interactive display encourage visitors that, despite humanity’s negative impacts, “there is hope—we can adapt, innovate, and collaborate to leave a positive legacy” (figure 4).³⁹

The Hall of Fossils lacks an explicit acknowledgement of the Anthropocene; the term itself is nowhere to be found in the various displays. But the concept of a new geological epoch where “through its activities, through its numbers, the human species has emerged as a geological force now altering the planet’s biosphere” clearly resonates throughout the exhibit.⁴⁰ Several displays, especially in the Changing Climate section, aim to show “how human actions are driving Earth’s rapidly changing climate today much like long-ago geological events did in

39. The resonance of this language with rhetorics of planetary techno-optimism, which I discuss in the preceding chapter, is clear. I expand on this point in a later section of this chapter.

40. Ben Dibley, “‘Nature Is Us’: The Anthropocene and Species-Being,” *Transformations*, no. 21 (2012).

the past.”⁴¹ The “Age of Humans” nomenclature is a clear call-out to an Anthropocenic understanding of humanity as a geological force.⁴² Thus the Hall of Fossils, through both this gallery and the variety of objects on display, works to leverage planetary history to “help people predict their shared future and empower the public to embrace their role as ‘planet managers.’”⁴³ In other words, the exhibit utilizes diverse techniques to promote a planetary praxis of management which, as I will argue, reifies human exceptionalism and forecloses the possibility of other relationalities.

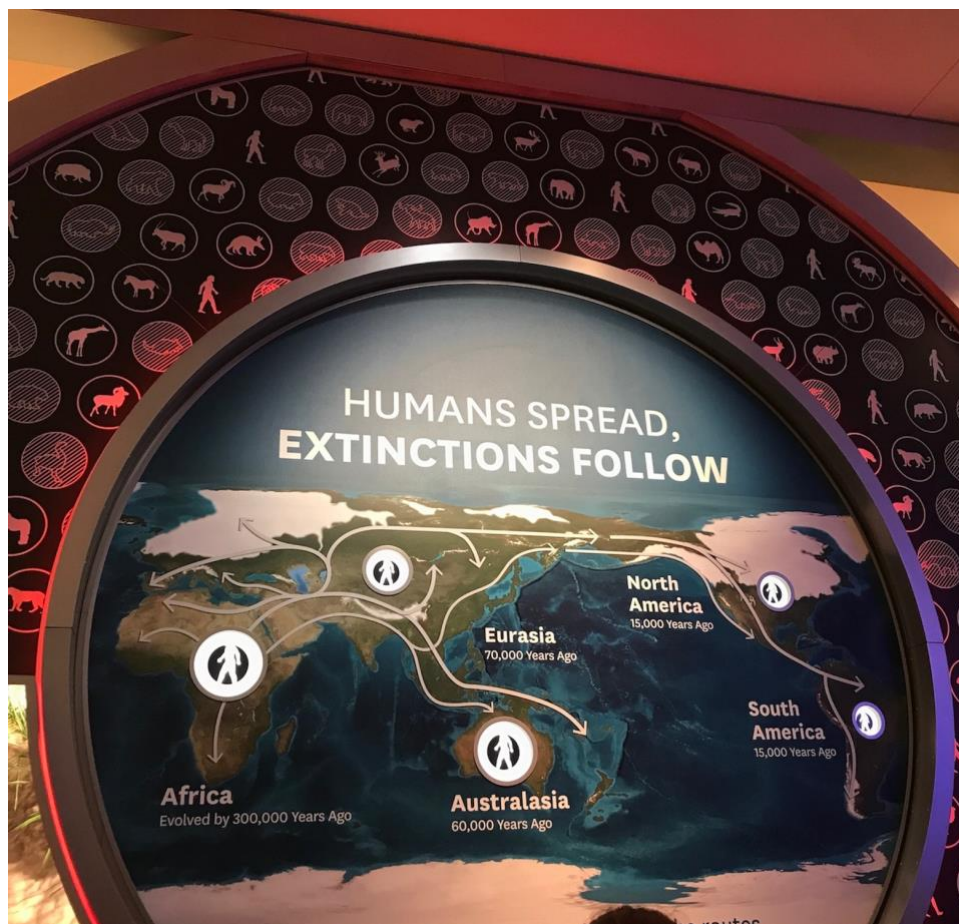


Figure 3. Humans Spread, Extinctions Follow informational display.

41. “David H. Koch Hall of Fossils—Deep Time,” National Museum of Natural History, accessed November 2, 2020, <https://naturalhistory.si.edu/exhibits/david-h-koch-hall-fossils-deep-time>.

42. Paul J. Crutzen, “Geology of Mankind,” *Nature* 415, no. 6867 (2002): 23.

43. Marsh, *Extinct Monsters to Deep Time*, 136.

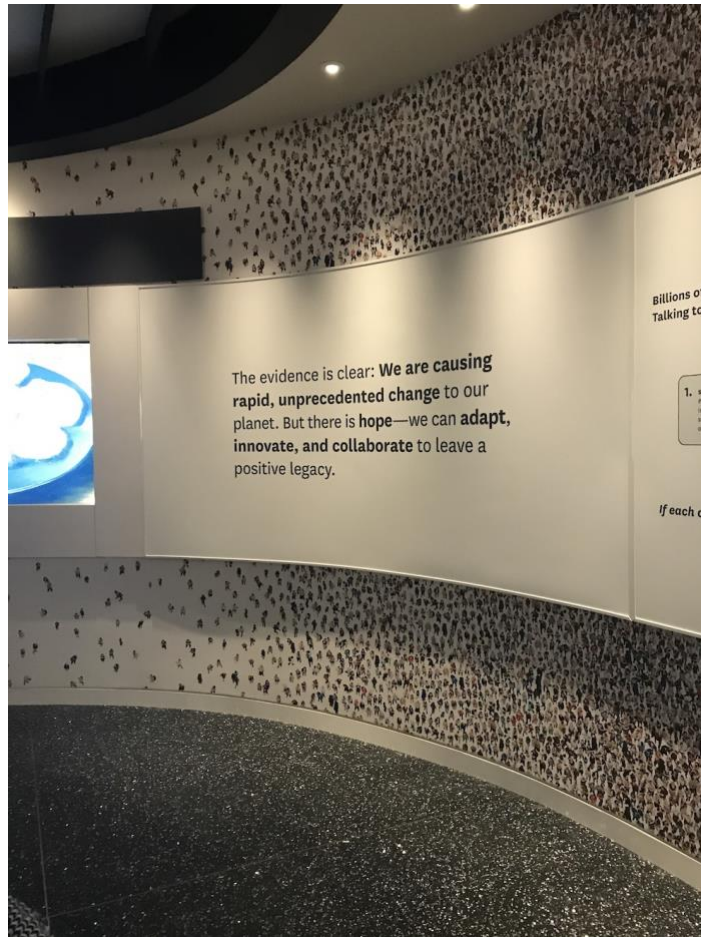


Figure 4. The wall in the Age of Humans features infographics and an illustration of global population.

First, I attend to the particularities of fossil display found in the Smithsonian and how they represent what Brian Noble calls Mesozoic performativity, “a series of human/non-human engagements that gather together to produce the reality-effect we call ‘dinosaurs,’ inhabiting equally effective time-space ‘worlds’ such as the Mesozoic.”⁴⁴ I argue that the Hall of Fossils aims to leverage the well-established Mesozoic performativity of fossils to bring about an alternative, planetary, performativity. This analysis serves as a counterpoint to the majority of theorizations of natural history museums, which focus overwhelmingly on taxidermied specimens. I see two reasons for this focus. As Jane Desmond and others have argued, “the

44. Noble, *Articulating Dinosaurs*, 39.

history of taxidermy is generally recorded as a narrative of technological, scientific, and aesthetic progress, with changing techniques of mounting dead animals for display resulting in ever-more “realistic” and “lifelike” renditions.”⁴⁵ Thus the increasing verisimilitude of taxidermy fits easily into a teleological narrative of human knowledge as always progressing toward mastery.

Taxidermy is also “distinctly enigmatic” because it troubles seemingly concrete boundaries between categories: life/death, representation/presentation, thing/being.⁴⁶ Typical museum taxidermy is designed to be as “realistic” as possible, “at once lifelike yet dead, both a human-made representation of a species and a presentation of a particular animal’s skin. In spite of the death, the skinning, dismemberment, and refashioning, the animal form holds. The eyes may be glass, but the animal stares back.”⁴⁷ Unlike the majority of taxidermy, “when we look [at] skeletons, they do not look back.”⁴⁸ But, as instances of “a kind of touch or whisper or ‘shiver’ of time seemingly gone ajar,” fossils also serve as (very different) mediations between liveness and deadness, the present and the past.⁴⁹

Second, I examine the Hall of Fossil’s interpretation of deep time, another geological concept that has recently emerged as (potentially) useful in understanding the current ecological emergency. Drawing on Tyburczy’s theories of display choreography, I argue that the spatial dramaturgy of the Hall of Fossils not only reveals the temporal construction of deep time, but also solidifies the teleological temporality of techno-optimistic versions of the Anthropocene. I turn specific attention to the Hall of Fossils Age of Humans Gallery, particularly the ways it

45. Jane C. Desmond, “Postmortem Exhibitions: Taxidermied Animals and Plastinated Corpses in the Theaters of the Dead,” *Configurations* 16, no. 3 (2008): 350. See also Rachel Poliquin, “The Matter and Meaning of Museum Taxidermy,” *Museum & Society* 6, no. 2 (2008): 123–34.

46. Poliquin, “The Matter and Meaning of Museum Taxidermy,” 127.

47. Poliquin, “The Matter and Meaning of Museum Taxidermy,” 127.

48. Alberti, *The Afterlives of Animals*, 53.

49. Schneider, *Performing Remains*, 51.

champions certain human-nature relations—or planetary praxes—which undercut the exhibit’s intended goals. The challenges presented by the Hall of Fossils, and especially the Age of Humans Gallery, demonstrate the difficulties natural history museums face in depicting ecological emergency, as their traditional display practices have historically contributed to those very conditions, and continue to do so.

3.1.1 “Ghostly Sculptures”: Fossils as Performative Remains⁵⁰

*How we participate politically with the earth-borne matter of paleontology allows natures to be recomposed.*⁵¹

There has been little theoretical attention paid to the act of looking at fossils, despite their ubiquity in museum display. This is in contrast to an abundance of scholarship investigating the act of looking at taxidermied animals in the context of the museum.⁵² Though fossil display remains undertheorized, several scholars have explored the cultural role of dinosaurs as sign or icon, enfolding the fossil specimen within an assemblage of dinosaur images including cartoons, children’s toys, and visual media.⁵³ On the other hand, a number of studies explore the role of scientists, curators, and other exhibition staff in creating the fossil exhibitions that dominate

50. Mitchell, *The Last Dinosaur Book*, 63.

51. Noble, *Articulating Dinosaurs*, 203.

52. See, for example, Jane C. Desmond, *Displaying Death and Animating Life: Human-Animal Relations in Art, Science, and Everyday Life* (Chicago: University of Chicago Press, 2016); P.A. Morris, *A History of Taxidermy: Art, Science and Bad Taste* (Ascot: MPM Books, 2010); Rachel Poliquin, *The Breathless Zoo: Taxidermy and the Cultures of Longing* (University Park: The Pennsylvania State University Press, 2012).

53. See Allen A. Debus, *Dinosaurs Ever Evolving: The Changing Face of Prehistoric Animals in Popular Culture* (Jefferson, NC: McFarland & Company, Inc., 2016); Mitchell, *The Last Dinosaur Book*.

natural history museums.⁵⁴ In contrast to these studies, my focus in this section is the representation of fossils themselves as performative remains which create a specific planetary history in order to script a specific planetary future. The vast majority of displays in the Smithsonian’s new hall are fossils: a mastodon, prehistoric elk, saber-toothed cats, dinosaurs. Though “dinosaur” is a scientifically meaningless descriptor, as it is not a scientific category, the term has persisted as the public’s understanding of these extinct life forms. The preponderance of dinosaur depictions in the natural history museum, film and literature, and corporate images has led to an assumed familiarity with them. Fossil halls, from their origins as venues of popular entertainment in the Great Exhibition to more “scientifically credible” natural history museums, facilitate this familiarity. Because of their cultural capital and ubiquitous pop culture presence, I will focus my discussion here on the dinosaur fossils displayed to illustrate deep time.

Fossil displays are, to riff on Rebecca Schneider’s theorization, literal performing remains, as “death appears to result in the paradoxical production of both disappearance *and* remains. Disappearance, that citational practice, that after-the-factness, clings to remains—absent flesh *does* ghost bones.”⁵⁵ Fossils are not only material traces of a planetary past but also artifacts of human intention. This is especially true because discovering a complete skeleton is exceedingly rare; displayed skeletons might include remains from two or more distinct organisms. Most displays also include entire or partial bones constructed from artificial materials: plaster, paint, metal. Beyond their material status as composites, or what Lukas Rieppel describes as mixed-media installations, the displayed dinosaur is also composed of its

54. See Marsh, *Extinct Monsters to Deep Time* and Noble, *Articulating Dinosaurs*, especially “Part Two: Articulating the Good Mother Lizard.”

55. Schneider, *Performing Remains*, 102.

cultural meanings.⁵⁶ As both natural and constructed objects, “dinosaurs show us a way to take seriously the notion that natural history displays were a kind of performance without discounting the fact that they contain material fragments of the natural world.”⁵⁷ Moreover, fossils embody a unique connection to the deep time of the Anthropocene, which the Smithsonian works to exploit in their new Hall of Fossils.

In *Articulating Dinosaurs: A Political Anthropology*, Brian Noble uses historical and ethnographic research to describe what he calls Mesozoic performativity: the ways that scientists and cultural workers alike utter the time-space of the dinosaurs into being through “world-making practices” including museum display.⁵⁸ Although it is an ethnographic work of anthropology, resonances of performance scholarship run strongly throughout Noble’s work. He draws heavily on the theories of J.L. Austin, Judith Butler, and Jacques Rancière. Noble argues that the Mesozoic Era (approximately 248 million to 65 million years ago) “[has] become a unified and highly influential location around and through which the actions of science practitioners and public authorities have *cultivated* senses of nature, of certain forms of humanness, and of particular histories of life on earth.”⁵⁹ The Smithsonian’s Hall of Fossils both depends upon and departs from Mesozoic performativity. The exhibit clearly capitalizes on visitors’ familiarity with dinosaur fossils, and by extension the dinosaur imaginary of “big, fierce, extinct” creatures.⁶⁰ This exhibit emerges in the legacy of natural history dioramas broadly, and fossil mounts specifically, which “construct the normative formulation of a nature

56. Lukas Rieppel, “Bringing Dinosaurs Back to Life: Exhibiting Prehistory at the American Museum of Natural History,” *Isis* 103, no. 3 (September 2012): 460–90.

57. Rieppel, “Bringing Dinosaurs Back to Life,” 466.

58. Noble, *Articulating Dinosaurs*, 46.

59. Noble, *Articulating Dinosaurs*, 33, original emphasis.

60. Mitchell, *The Last Dinosaur Book*, 9.

constituted as a battle of the strong against the weak—a nature where the best of hunters reigns supreme.”⁶¹ For mammals, this often entails the display of apex predators, such as the Chicago Field Museum’s notorious Lions of Tsavo who killed and ate over thirty humans in Kenya at the end of the nineteenth century.⁶² The display of taxidermied trophies of charismatic mammals hunted by sportsmen props up this particular version of nature—human as apex predator—through what Donna Haraway famously described as “teddy bear patriarchy.”⁶³

In a similar way the *Tyrannosaurus rex* has become a center of the “performative nexus” of Mesozoic time-space.⁶⁴ As the ultimate carnivore, aesthetically terrifying but safely unthreatening because it is long extinct, the *T. rex* serves as a paradigmatic dinosaur specimen that attracts visitors with its charisma.⁶⁵ One of the selling points of the Hall of Fossils is a cutting-edge display of “the nation’s *T. rex*.” As part of the massive revitalization project, the Smithsonian borrowed an unusually pristine *T. rex* mount from its home at Montana’s Museum of the Rockies, near the site of its 1988 discovery. For display in the Hall of Fossils, the skeleton was reconfigured from its original “death pose” to a more dynamic arrangement. To show the *T. rex* “in all its former glory,” the Smithsonian staff decided on a more theatrical—and violent—pose showing the carnivore mid-kill, its massive jaws around the crown of another familiar dinosaur, the *Triceratops*. During the fossil hall’s renovation in 2014, the Smithsonian set up a “Rex Room” where visitors could observe technicians scanning the bones to create a three-

61. Noble, *Articulating Dinosaurs*, 93.

62. Julian C. Kerbis Peterhans and Chapurukha M. Kusimba, “Man-Eaters of Tsavo,” *Natural History* 107, no. 9 (November 1998): 12.

63. Donna Haraway, “Teddy Bear Patriarchy: Taxidermy in the Garden of Eden, New York City, 1908-1936,” *Social Text* 11 (1984): 20–64.

64. Noble, *Articulating Dinosaurs*, 67.

65. I discuss charismatic species at length in “‘Solidarity with the Dead’: Ecological Grief, Political Mourning, and Ethical Planetarities” in this dissertation.

dimensional rendering for scientific study before the specimen went on public display.⁶⁶ The marketing around the homecoming of the nation's *T. rex* and its central place within the Hall of Fossils as “gut-wrenching theater of macabre,” exemplify the Mesozoic time-space.⁶⁷ Though unsurprisingly advertised for its novelty and rarity, in many ways the Smithsonian's *T. rex* fossil mount harkens back to the Mesozoic performativity of the nineteenth century.⁶⁸

As an exhibition largely composed of fossil mounts, then, the Hall of Fossils engages in Mesozoic performativity for the familiarity of visitors and to cement paleontological authority.⁶⁹ However, at the same time the exhibit departs from the Mesozoic imaginary as it attempts to mobilize fossils to reimagine ecological relations within the history of life on the planet and reframe the place of humans within that history. To Mesozoic performativity, then, I add planetary performativity. Through exhibition design and multiple visual elements, the Hall of Fossils works to draw visitors in with the expectation of Mesozoic performativity, then rearticulate these displays to enact planetary performativity, which is also a “political matrix of natural/human relations.”⁷⁰ The dramaturgy of the exhibit hall connects the history and actions of humans with those of the dinosaurs, as I will discuss later in this chapter. Planetary performativity can be distinguished from the Mesozoic especially by its distance. As Noble explains, especially in relation to carnivores like the *T. rex*, the Mesozoic is articulated as a time-

66. Katherine J. Wu, “Homecoming King: The Nation's *T. Rex* Returns to the Smithsonian,” *Smithsonian Magazine*, July 17, 2018, <https://www.smithsonianmag.com/smithsonian-institution/homecoming-king-nations-t-rex-returns-smithsonian-180969673/>.

67. Wu, “Homecoming King.”

68. Noble, *Articulating Dinosaurs*, 62–3.

69. “Nature is modelled, performed, animated—and, in short, enacted—into being, and that action brings people and things incessantly into exchange. This enacting also helps to regulate and produce palaeontology's authority along with many other entities distributed across the spectrum of public-scientific activity.” Noble, *Articulating Dinosaurs*, 39.

70. Noble, *Articulating Dinosaurs*, 67.

space outside of which humans live.⁷¹ In contrast, the Hall of Fossils attempts to unite dinosaurs (and other fossilized forms of life) within the planetary time-space of deep time, of which humans are a significant part.

3.1.2 Traveling through Deep Time

*The concept of deep time presupposes the insignificance of human tenure on the planet.*⁷²

In a departure from other fossil exhibits, which call forth the Mesozoic time of the dinosaurs, the dinosaur mounts in the Hall of Fossils also embody planetary performativity, specifically by serving as a mediation to deep time. Though the temporal framework of fossil halls is undeniably geological, the deep time framing of the Smithsonian is specifically Anthropocenic. As the concept has gained cross-disciplinary traction, deep time has been taken up outside strictly geological circles for its potential to shift understandings of planetarity, nonhuman life, and the temporal cycles of the earth.⁷³ Nonfiction writer John McPhee coined the term deep time in his 1980 book *Basin and Range*, which made geology accessible to non-scientist readers and emphasized interdisciplinarity in a way similar to that of today's Anthropocene scholars. McPhee focused on the conceptual incommensurability of deep time, where “numbers do not seem to work well...Any number above a couple of thousand years—

71. Noble, *Articulating Dinosaurs*, 31.

72. Noah Heringman, “Deep Time at the Dawn of the Anthropocene,” *Representations* 129, no. 1 (2015): 57.

73. See, for example, David Farrier, *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction* (Minneapolis: University of Minnesota Press, 2019); Etienne Turpin, ed., *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy* (Ann Arbor, MI: Open Humanities Press, 2013); Jeremy Davies, “Living in Deep Time,” in *The Birth of the Anthropocene* (University of California Press, 2016), 15–40.

fifty thousand, fifty million—will with nearly equal affect awe the imagination to the point of paralysis.”⁷⁴ The concept of deep time is not analogous to the Anthropocene concept, but the two are deeply interrelated. In perhaps its most simple definition, as “an act of writing ourselves into the rock record,” the Anthropocene brings together human history and geohistory, which had previously been separate.⁷⁵ For environmental activists, deep time has become an aspirational frame of reference. If humans can reconceptualize their actions within the bigger scale of deep time, “the current suite of ecological changes [become] the latest in an array of upheavals—some of them desperately harmful to the whole bio-sphere—that have emerged and reverberated within earth’s systems...And this in turn makes possible a kind of understanding that might, one way or another, contribute toward well-judged actions in the face of the crisis.”⁷⁶ But, as the epigraph of this section encapsulates, invocations of deep time in the Anthropocene represent a sort of paradox insofar as deep time underscores the smallness of human history in contrast to planetary history.

Much ink has been spilled attempting to describe these scalar challenges of the Anthropocene, challenges the Smithsonian’s Hall of Fossils attempts to overcome. In my analysis of planetary performativity through the marking of deep time I aim to make a diagonal theoretical move, one that Elizabeth Freeman might describe as aslant.⁷⁷ Deep time is not an objective reality existing outside human observation; it is created through and performed in a variety of ways, including the stratigraphic science of the Anthropocene Working Group (the part of the Subcommittee on Quaternary Stratigraphy of the International Commission of

74. John McPhee, *Basin and Range* (New York: Farrar, Straus and Giroux, 1980), 20.

75. Noah Heringman, “Deep Time at the Dawn of the Anthropocene,” 58.

76. Davies, *Birth of the Anthropocene*, 30.

77. Elizabeth Freeman, *Time Binds: Queer Temporalities, Queer Histories* (Durham, NC: Duke University Press, 2010).

Stratigraphy charged with defining and proposing the official Anthropocene epoch⁷⁸) and the conventions of natural history displays. In the case of the Hall of Fossils, the collection, display, and consumption of fossilized remains (and their accompanying interactives) is the practice of marking deep time. Whereas the previous section focused on the persistent materiality of fossil remains, in excavating how the Hall of Fossils performs deep time I attend to what Tyburczy calls display choreography: “how to do things with things.”⁷⁹ In this section, I examine how the Hall of Fossil’s space of encounter performs deep time, and the tensions which result from this move toward planetary performativity. In any museum the scenography of display produces the “affective and choreographic conditions of encounter” through which meaning is created.⁸⁰

Through the particular scenography of the Hall of Fossils, the Smithsonian hopes to create a deep time encounter that reshapes how visitors understand their place in the world. However, because normative forms of display uphold numerous hierarchies placing the human outside of (and usually above) nature, in its performance of deep time the Hall of Fossils reveals the incompatibility of such forms with new ethical planetary relations.

Although populated with specimens like most other natural history exhibit halls, the Smithsonian distinguished its new Hall of Fossils from more conventional displays via its organizing principles, as “theme- and message-based.”⁸¹ In fact, Diana E. Marsh reveals in her ethnographic study of the *Deep Time* project that scientific staff expressed some difficulty in finding and selecting specimens to tell their desired story.⁸² Marsh describes how curator of

78. See “Working Group on the ‘Anthropocene,’” Subcommission on Quaternary Stratigraphy, accessed January 20, 2021, <http://quaternary.stratigraphy.org/working-groups/anthropocene/>.

79. Tyburczy, *Sex Museums*, 13.

80. Tyburczy, *Sex Museums*, 50.

81. Marsh, *Extinct Monsters to Deep Time*, 152.

82. Marsh, *Extinct Monsters to Deep Time*, 145.

paleobotany Scott Wing said that “it was hard to use the ‘specimens we have’ to tell the ‘story we have.’ The ongoing processual nature of evolution was ‘resistant’ to display with objects; it was exactly the kind of thing you ‘can’t show with fossils.’”⁸³ As I hope to show throughout this chapter, the tension Wing identifies here is not only present in innovative exhibits like the Hall of Fossils, but is an inherent part of the conventions of the natural history museum, and one that must be addressed before such museums can embody more ethical praxes.

The display choreography of the Hall of Fossils was designed to intervene in pedestrian understandings of time—the everyday rhythms of clock and calendar. The practice of time-keeping, in any form, does not involve making objective statements of fact, but rather is “an act that orders the world in particular ways.”⁸⁴ Time-keeping is performative: the ways that humans tell, mark, practice, and inscribe time are what create it. The clock serves as the primary material method by which we experience and mark time. But clock time and its rhythms have proven inadequate to address ecological emergency, as “rather than representing the urgency and danger of these changes, clock time emphasizes continuity and similarity across all moments and projects an empty and unending future.”⁸⁵ The hopelessly human scale of clock time, which pales alongside the scope of planetary history, cannot and does not capture the seemingly unreal temporal reach of climate change. And the linearity of clock time, its relentless march forward, also clashes with more organic, fluid, circular earthly rhythms.⁸⁶ Beyond its performative nature, (clock) time is generated materially: “a great variety of material objects are tracked or monitored

83. Marsh, *Extinct Monsters to Deep Time*, 153.

84. Michelle Bastian, “Fatally Confused: Telling the Time in the Midst of Ecological Crises,” *Environmental Philosophy* 9, no. 1 (2012): 32.

85. Bastian, “Fatally Confused,” 33.

86. I discuss the connections among clock time, capital, and climate emergency in “‘5.0: Solidarity with the Dead’: Ecological Grief, Political Mourning, and Ethical Planetarities” especially in “5.2: Rituals for Ecological Loss in Remembrance Day for Lost Species.”

in our efforts to coordinate ourselves with what is important to us.”⁸⁷ In every natural history museum, material objects are displayed to create a particular temporal relationship. In the case of the Hall of Fossils, remains, both authentic and reconstructed, are deployed to constitute a deep time joining humans with the rest of planetary life. This is a direct contrast to conventional fossil halls, which work to achieve the “lost world” of Mesozoic performativity, emphasizing a disjunctive relationship between the past and present, rather than the continuous flow of deep time.⁸⁸

At the main entrance to the Hall of Fossils, just off the building’s famous Rotunda, visitors encounter the Deep Time Map (figure 5). Such exhibit maps can be found in museums of all kinds, but the Deep Time Map explicitly invites visitors to travel through time, doubling-down on the ability for visitors to move backward—from the present to the past.⁸⁹ Such time-traveling is a hallmark of the lost world imaginary, a constitutive element of Mesozoic performativity.⁹⁰ Through fossils especially, museums portray the (planetary) past as a “lost world” which can be recovered through the authoritative interpretation of scientific institutions. By traveling (backward) through the narrative of Earth’s history, the display choreography of the Hall of Fossils offers an opportunity to transport visitors to another (imagined) time-space. The whole of the history of the planet is laid out for spectators to consume, a sort of planetary (en)visioning rooted in both early earth sciences and theatrical techniques such as the panorama.⁹¹

87. Bastian, “Fatally Confused,” 28.

88. Noble, “Materializing Mesozoic Time-Space,” chapter 2 in *Articulating Dinosaurs*.

89. A visitor could choose to begin at the back of the hall, where life begins, and move forward to end with the Age of Humans. However, as the main entrance to the hall positions visitors in The Recent Ice Ages, it seems far more likely that viewers will begin there and travel backward.

90. Noble, *Articulating Dinosaurs*, 48.

91. Ralph O’Connor, *The Earth on Show: Fossils and the Poetics of Popular Science, 1802-1856* (Chicago: University of Chicago Press, 2007), 27.



Figure 5. The Deep Time Map at the entrance to the Hall of Fossils.

Just as the clock materially marks the progress of time, and thereby creates it, fossils and other natural history specimens on display mark time’s passage. They are, to use Schneider’s words, technologies of the still, “thanatical ‘evidence’ of a time considered, in linear temporal logic, irretrievable.”⁹² The Smithsonian is not unique in positioning its most spectacular (fossil) specimens within the narrative of life on the planet.⁹³ Fossils—and dinosaur fossils especially—embody a particular connection to deep time. Prior to the popularization of the Anthropocene idea, Mitchell argued that the dinosaur “epitomizes a modern time sense—both the geological ‘deep time’ of paleontology and the temporal cycles of innovation and obsolescence endemic to modern capitalism.”⁹⁴ Mitchell is referring the history of paleontology in the US, which is

92. Schneider, *Performing Remains*, 139–40.

93. For example, the Field Museum (Chicago) permanent exhibition *The Griffin Halls of Evolving Planet* takes a similar approach.

94. Mitchell, *The Last Dinosaur Book*, 77.

intricately connected to the growth of wealth. Capitalist philanthropists supported paleontological expeditions, receiving naming honors in return. There is significant crossover, too, with those who supported natural history museums as institutions. The mascot of Pittsburgh's Carnegie Museum of Natural History, founded by Andrew Carnegie, is the large quadruped *Diplodocus carnegii*, known affectionately to locals as "Dippy." Materially, too, the history of fossils is the history of capitalism, as the remains of dinosaurs and their contemporaries provided the carbon for oil.

Through the use of fossils and other material remains the Smithsonian works to bring together the disjunctive timescales of human time and geological time, which have been historically separated by academic disciplines.⁹⁵ In the natural history museum generally, and in the Hall of Fossils specifically, fossils and other specimens function as what Bronislaw Szerszynski describes as monuments: material objects that mediate between the differing temporal registers of deep and human time. He argues that the classically-influenced architecture of museums serves as a transition to monumental time, an observation that I extend to the contents displayed within such structures.⁹⁶ Through the display of the material traces—performing remains—of the planet's history, visitors are brought into the inhuman domain of deep time. This temporal shift is accomplished by viewers moving through the exhibit, "traveling through time," via fossils-as-monuments that "tend to be more massive than the human body and to dominate the felt space around them, and the dynamics of bodies and affects within that space. Monuments also typically seem to require a certain solemnity or seriousness appropriate to the

95. Bronislaw Szerszynski, "The Anthropocene Monument: On Relating Geological and Human Time," *European Journal of Social Theory* 20, no. 1 (February 2017): 117.

96. Szerszynski, "The Anthropocene Monument," 120.

encounter with other registers of time.”⁹⁷

Beyond the inscription of behavior in particular spaces, be they museums, ruins, or public monuments, (monumental) time also creates ethical orientations.⁹⁸ Time structures human experience, and so we “use time to synchronise ourselves and our actions with others, to mark and perform our relationship to larger collectivities, and to make connections between the time of our concrete actions and the more abstract times of distant and global events.”⁹⁹ Alongside the invitation to travel through the planet’s history, the Hall of Fossils uses particular labels in a rhetorical attempt to reconcile the disjunctive rhythms of human and deep time (figure 6). These labels serve to footnote the fossils and attempt to extend and expand the temporality of human history into deep time.

Accompanying the Hall’s massive mastodon skeleton, which occupies a prime position near its main entrance, one label describes the role of humans in the extinction of large North American mammals (figure 7). Similar labels, titled “Human Connections,” can be found throughout the exhibit. The short explanatory paragraph belies the scientific debates surrounding the role of early humans in Pleistocene extinctions.¹⁰⁰ More significant than this debate for planetary performativity is the way this label, as well as the other similar ones found throughout the exhibit, subtly equates human agency with climate change. Mastodons faced the threats of

97. Szerszynski, “The Anthropocene Monument,” 119.

98. I discuss the relationship between temporality and (environmental) ethics more thoroughly in “‘Solidarity with the Dead’: Ecological Grief, Political Mourning, and Ethical Planetarities.”

99. Bronislaw Szerszynski, “Wild Times and Domesticated Times: The Temporalities of Environmental Lifestyles and Politics,” *Landscape and Urban Planning*, 61 (2002): 183.

100. See, for example, A. D. Barnosky, “Assessing the Causes of Late Pleistocene Extinctions on the Continents,” *Science* 306, no. 5693 (October 1, 2004): 70–5, and S.A. Zimov et al., “Steppe-Tundra Transition: A Herbivore-Driven Biome Shift at the End of the Pleistocene” *The American Naturalist* 146, no. 5 (1995): 765–94. The role of humans in the Pleistocene extinctions also influences the debates on the starting date of the Anthropocene. See, for example, Will Steffen, Paul J. Crutzen, and John R. McNeill, “The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?,” *Ambio* 36, no. 8 (2007): 614–21.

both a changing climate and human hunters; contemporary scientists examine evidence of *both* forces (sediment cores and remains of kill sites, respectively) to better understand their extinction. The Human Connections labels trace one of the Hall of Fossil's thematic throughlines: humans have become a geological force, not just recently but for thousands of years. Planetary history thus becomes human history.

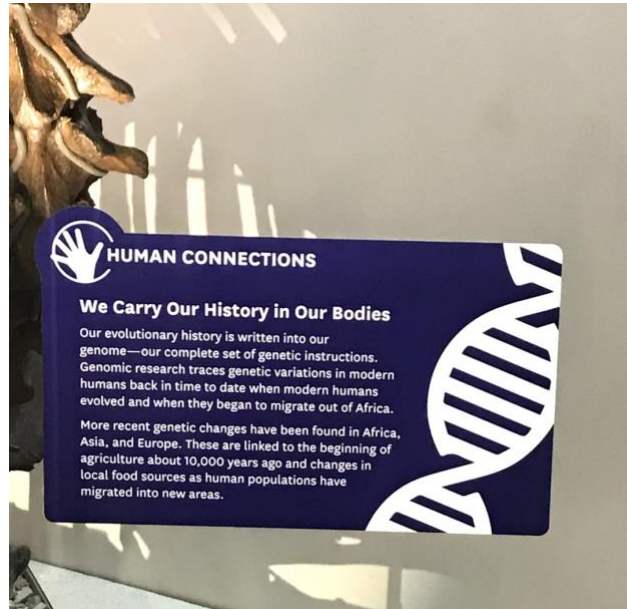


Figure 6. Human Connections Label: We Carry Our History in Our Bodies.



Figure 7. Human Connections Label: Why Did Mastodons Go Extinct?

This (attempted) temporal unification underscores the tension inherent in natural history museums' attempts to (re)articulate human relations within deep time without considering the role of their own conventions in creating the current state of affairs. Perhaps identifying the remnants of human presence in planetary history does work toward a new understanding of the temporality of species actions. However, as this shift is ostensibly brought about through the display of nature's remains—Schneider's thanatological evidence—for human consumption, the Smithsonian's version of deep time also falls into the trap of human exceptionalism and exceptionalism, where “only what matters to humans matters at all.”¹⁰¹ The Hall of Fossils attempts to perform deep time, what others have termed becoming-geological, as a remedy to other temporalities that are less attuned to nonhuman others. But the scenography of the Hall ultimately reinscribes a narrative of progress, as visitors travel from the past to the present and future. As I will discuss in the next section, the ways that the Hall of Fossils characterizes the Age of Humans as one of growing technological control undercuts any new temporal relations that the rest of the Hall might create.

3.1.3 “A Positive Legacy” for the Age of Humans

*The already iconic images of the Anthropocene ask nothing from the human spectator; they make no claim; they neither involve nor implore...The perspective is predictable and reassuring, despite its claim to novelty and cataclysm.*¹⁰²

101. Mick Smith, “Ecological Community, the Sense of the World, and Senseless Extinction,” *Environmental Humanities* 2, no. 1 (2016): 24.

102. Stacy Alaimo, “Your Shell on Acid: Material Immersion, Anthropocene Dissolves,” in *Anthropocene Feminism*, ed. Richard Grusin (Minneapolis: University of Minnesota, 2017), 92.

The Warner Age of Humans Bridge and Gallery, the Hall of Fossils' most obvious departure from traditional exhibition practices, occupies one side of the exhibition hall. A raised platform adorned with visuals and explanatory text takes visitors through a snapshot of the planet's history, with an emphasis on how humans have become a global force. But the main parts of this area are digital: a theatre space featuring four large screens and an interactive touch-screen display. Tucked behind a half-wall separating it from the rest of the exhibition, the Age of Humans Gallery is composed of a gently curved wall depicting a visual representation of the global population curve. Four large screens hover over this data, facing a scattered arrangement of seats. A banner arching over the screens asks viewers "How Are We Changing the Planet?" Other labels adopt an encouraging rhetoric of possibility: "The evidence is clear. We are causing rapid, unprecedented change to our planet. But there is hope—we can adapt, innovate, and collaborate to leave a positive legacy" (figure 4). The screens repeat a series of short videos on to demonstrate some of the ways "we" are responding to this new planetary role.

The Age of Humans Gallery works to continue the deep time narrative found in the rest of the exhibition: humans have a place in Earth's history, and currently not a very positive one. Unlike the majority of the exhibit, however, the Age of Humans Gallery features no objects. Rather than presenting material evidence of the ways humans are changing the planet, the Smithsonian instead presents video narratives—short stories—illustrating our planetary role. The Changing Climates section nearby takes a similar approach, displaying information in multiple ways rather than objects.

These departures from conventional display practices represent the latest version of an ongoing shift in museum culture, one that has affected institutions of both natural history and

science. Museum scholars Karen A. Rader and Victoria E.M. Cain identify the move toward more visitor-oriented practices as part of the “age of narcissism” where “instead of casting their displays as the kind of science visitors *should* know and striving to make those subjects relevant to their audiences, museums...increasingly considered what visitors *wanted* to know.”¹⁰³ For many museums this shift was marked by the introduction of new display technologies to attract visitors through their novelty.

Creating visitor-oriented displays to address climate change is complicated by the complexity of the science and a desire to avoid “doom and gloom” narratives. Particularly in exhibitions portraying the natural world—with themes of conservation, ecological loss, climate change—museums must work to “master the balance between advocacy, guilt, and education.”¹⁰⁴ This delicate balance becomes apparent in the Hall of Fossils. In the words of National Museum of Natural History director Kirk Johnson: “Using extraordinary fossils, compelling interactive and multimedia experiences, and the latest science, visitors will be inspired by the fascinating story of our evolving planet and the life that has inhabited it and understand the critical role they each play in determining its future.”¹⁰⁵ The Age of Humans gallery is the most explicit engagement with the ideas of humans’ role in the planet’s future; the multimedia displays promote a planetary praxis of techno-management and neoliberal innovation. The change in display—from material object to mediatized narrative—bifurcates the Hall of Fossils into two parts. That is, rather than representing planetary history as a continuum of which humans are but one part, this shift in display tactic further underscores the separability (and superiority) of

103. Rader and Cain, *Life on Display*, 254, original emphasis.

104. Rader and Cain, *Life on Display*, 240.

105. National Museum of Natural History, “Smithsonian’s New Fossil Hall to Open June 8, 2019,” July 17, 2018, <https://www.si.edu/newsdesk/releases/smithsonian-s-new-fossil-hall-open-june-8-2019>.

humans.

In addressing the future of the planet, the Hall of Fossils enters into the broad discourse of climate change communication. Scholars, pundits, scientists, and writers across fields have cautioned against approaching climate change with too much doom and gloom, which “backfires, inspiring resistance, despair, withdrawal, and fatalism rather than personal/political action for change.”¹⁰⁶ The Age of Humans gallery errs on the side of emphasizing adaptation, innovation, and collaboration by displaying five inspirational examples of responses to our changing planet. These include: New Orleans officials working with Dutch designers to fortify cities against rising floodwaters;¹⁰⁷ a Chicago non-profit working to build and maintain urban greenspaces;¹⁰⁸ Texas farmers developing more sustainable farming practices;¹⁰⁹ the Billion Oyster Project, in which high school students work to revive New York Harbor’s oyster population;¹¹⁰ and the quest to save coral reefs at Papahānaumokuākea Marine National Monument off the coast of Hawaii.¹¹¹ Each story is brief, about five or six minutes long. They play on loop in the gallery; plentiful seating makes it easy for visitors to watch the entire series.

Though their specifics vary, together the videos offer a generally positive, even hopeful attitude toward climate change. Little attention is paid to the causes of environmental devastation or obstacles the protagonists face; instead, each clip emphasizes the ingenuity, pluck, and

106. Cheryl Hall, “Beyond ‘Gloom and Doom’ and ‘Hope and Possibility’: Making Room for Both Sacrifice and Reward in Our Visions of a Low-Carbon Future,” in *Culture, Politics and Climate Change: How Information Shapes Our Common Future*, ed. Deserai A. Crow and Maxwell T. Boykoff, (Abingdon: Routledge, 2014), 29.

107. “Engineering Resilience,” Smithsonian’s National Museum of Natural History, July 28, 2019, video, 5:46, <https://www.youtube.com/watch?v=kVTsNalhoPQ>.

108. “Greening the City,” Smithsonian’s National Museum of Natural History, July 28, 2019, video, 5:16, https://www.youtube.com/watch?v=UDhhPKJZ-_A.

109. “Capturing Carbon,” Smithsonian’s National Museum of Natural History, July 28, 2019, video, 5:03, <https://www.youtube.com/watch?v=7zd7MwSF74o>.

110. “Bringing Back Oysters,” Smithsonian’s National Museum of Natural History, July 28, 2019, video, 5:02, https://www.youtube.com/watch?v=hp5cKN_xc60.

111. “Creating Sea Change,” Smithsonian’s National Museum of Natural History, July 28, 2019, video, 5:46, <https://www.youtube.com/watch?v=-BSyIj7TYgg>.

generosity of its subjects. For example, the story of Indigenous Hawaiians and their allies fighting to save dying coral reefs includes no mention of the legacy of colonial occupation in the islands, nor how the tourism industry damages ecological systems while disenfranchising Native peoples. Such choices were likely made to please audiences and offer a sense of hope for visitors.

This ahistoricism fits within the tone of the exhibit as a whole. Despite its detailed presentation of information on global warming and a small display on the role of coal in fossilization and planetary history, the Hall of Fossils does not offer any solutions: “At best it only implies the solution: Stop burning fossil fuels. An odd reticence about remedies for humanity’s reliance on fossil fuels pervades the exhibit. Nowhere is the portion of global greenhouse gas emissions attributable to fossil fuels (versus beef production or deforestation, for example) spelled out...Nowhere within [the Hall of Fossils] are alternative sources of energy highlighted.”¹¹² Michael Svoboda offers three possible reasons for this. First, the inclusion of such information could immediately date the exhibit, which needs to maintain relevance for many years to come. Second, deep time demonstrates that there have been times in the planet’s past where conditions were similar. Svoboda quotes paleontologist Scott Wing, one of the exhibit’s main designers: ““There’s also no reason from the fossil record to feel that we’ve endangered life on Earth as a whole, or even really ourselves. We seem to be pretty resilient and the technology we have is pretty good at buffering us from bad environments.””¹¹³ Third, as a nonpartisan government institution the Smithsonian cannot engage in policy debates, which in

112. Michael Svoboda, “New Koch-Funded Fossil Exhibit at the Smithsonian Is Curiously Quiet on Fossil Fuels,” *Yale Climate Connections*, July 24, 2019, <https://yaleclimateconnections.org/2019/07/new-koch-funded-fossil-exhibit-at-the-smithsonian-is-curiously-quiet-on-fossil-fuels/>.

113. Svoboda, “New Koch-Funded Fossil Exhibit at the Smithsonian Is Curiously Quiet on Fossil Fuels.”

the US includes climate change. (Svoboda brings up the Kochs' influence here, though Smithsonian staff deny that they directly influenced the exhibit's design.)

It is true that the Smithsonian occupies a peculiar position as a government institution with an audience with a high percentage of international visitors. Regardless of the political or social reasons for exhibit choices, however, such display works to further a techno-optimistic praxis akin to that which I discussed in the previous chapter. To repeat Wing's explanation to *The Christian Science Monitor*, "We seem to be pretty resilient and the technology we have is pretty good at buffering us from bad environments."¹¹⁴ Wing's invocation of the human "we" falls into the generalizing trap of the Anthropocene, ignoring that not only will only some face "bad environments," but many already do.¹¹⁵ The Age of Humans gallery's emphasis on technological fixes, almost completely excised from their social, political, and cultural contexts, echoes the techno-optimistic attitude of the Breakthrough Institute. These ecomodernists "write with the conviction that knowledge and technology, applied with wisdom, might allow for a good, or even great, Anthropocene. A good Anthropocene demands that humans use their growing social, economic, and technological powers to make life better for people, stabilize the climate, and protect the natural world."¹¹⁶ Thus the Hall of Fossils' Age of Humans advocates for a planetary praxis that holds on to modern subjectivity tightly, "valu[ing] autonomy and individual freedom, and connect[ing] the future with the possibility of improvement."¹¹⁷

At the same time the Age of Humans gallery promotes a vision of technological progress,

114. Stephen Humphries, "How T. Rex Can Make You Think About the Future," *The Christian Science Monitor*, June 7, 2019, <https://www.csmonitor.com/Environment/2019/0607/How-T.-rex-can-make-you-think-about-the-future>.

115. Issa Ibrahim Berchin et al., "Climate Change and Forced Migrations: An Effort towards Recognizing Climate Refugees," *Geoforum* 84 (August 2017): 147–50.

116. Breakthrough Institute, "An Ecomodernist Manifesto," April 2015, <https://www.ecomodernism.org>, 6.

117. Lesley Head, *Hope and Grief in the Anthropocene: Re-Conceptualising Human-Nature Relations* (London: Routledge, 2016), 18.

the area's emphasis on creating "a positive legacy" scripts the end of the human. For whom will this legacy be positive? For future geologists excavating the physical evidence of the Anthropocene?¹¹⁸ For the small percentage of the human population who, through their political and financial capital, will be able to escape the worst consequences of ecological change?¹¹⁹ For whatever other life forms might evolve in the distant planetary future? The exhibit leaves these questions unanswered.

3.2 "What the Heck is the Anthropocene?": Carnegie Natural History Museum's *We Are Nature*

*...Americans of all backgrounds could learn about nature and science by contemplating well-arranged natural objects.*¹²⁰

Carnegie Museum of Natural History is one of the largest natural history museums in the United States and a flagship cultural institution of Pittsburgh, Pennsylvania. CMNH was founded in 1896 by American steel tycoon Andrew Carnegie (1835–1919) to illustrate Earth's history, which "was close to the heart of Pittsburgh industrialists who had made their fortunes through extractive industries in coal, gas, and oil."¹²¹ In addition to its permanent exhibition halls, such as the Walton Hall of Ancient Egypt, Hall of Botany, and Benedum Hall of Geology, CMNH hosts

118. Jan Zalasiewicz, *The Earth After Us: What Legacy Will Humans Leave in the Rocks?* (Oxford: Oxford University Press, 2009).

119. Joseph Masco, "Bad Weather: On Planetary Crisis," *Social Studies of Science* 40, no. 1 (February 2010): 7–40.

120. Rader and Cain, *Life on Display*, 25.

121. Robert J. Gangewere, *Palace of Culture: Andrew Carnegie's Museums and Library in Pittsburgh* (Pittsburgh: University of Pittsburgh Press, 2011), 174.

an active research hub, including the Powdermill Nature Reserve about fifty miles outside the city. The museum holds over twenty-two million specimens across its thirteen scientific sections. These include everything from fragments of fossils to taxidermied displays to cultural artifacts to study skins—specimens which are preserved and kept in drawers for use in research. Only a small fraction of this collection is on display at any given time.

A substantial number of the museum’s specimens can be found in the Alcohol House, a three-story storage facility housing more than 250,000 specimens suspended in jars of alcohol. Enclosed within CMNH’s stately building, the Alcohol House was constructed in 1907 during the collections’ rapid expansion. In 2016 CMNH received a grant from the National Science Foundation to renovate the Alcohol House and open it to public view. CMNH proposed digitization of collections, specimen preservation, and structural renovations for accessibility.¹²² As of early 2021, the Alcohol House remains accessible only to a few museum patrons; as members may request a guided tour. The museum planned to begin broadening access to the Alcohol House in March 2020, though those plans were seemingly put on hold once the museum closed during the COVID-19 pandemic.

As they are themselves historical objects—relics of previous forms of museology—the Alcohol House specimens embody some of the main challenges facing natural history museums in the Anthropocene. What is the most ethical use of such specimens? Can their collection or display contribute to the new ecological relationships which many institutions have acknowledged are necessary in the era of climate change? Particularly as classification and taxonomy function as prerequisites for conservation efforts, the meaning of such specimens is

122. Amanda Waltz, “A Look Inside the Alcohol House, Carnegie Museum of Natural History’s Best Kept Secret,” NEXT Pittsburgh, October 4, 2016, <https://www.nextpittsburgh.com/environment/a-look-inside-the-alcohol-house-carnegie-museum-of-natural-historys-best-kept-secret/>

constantly in flux.¹²³ And, as Rebecca Ellis points out, under technoscientific regimes specimens have become newly valorized for their potential as fodder for new technologies.¹²⁴ For example, the few mammoth remains housed in scientific institutions are praised for their planet-saving possibilities in techno-optimistic projects like Pleistocene Park, which I discussed in the previous chapter.

Collections like the Alcohol House also embody the classificatory imaginary at the root of museums, in which the performative environment on display “institute[s] an order of things that [is] meant to last.”¹²⁵ Of course, as many scholars from a variety of fields have demonstrated, this particular “order of things” not only constituted scientific knowledge but also upheld racist and colonialist ideologies.¹²⁶ Natural history institutions attempting to address the issues of the Anthropocene must reckon with the historical role of collection, classification, and display that “allow[ed] [scientific knowledge] to be put to useful effect in the productive exploitation of nature.”¹²⁷

123. Rebecca Ellis, “Rethinking the Value of Biological Specimens: Laboratories, Museums and the Barcoding of Life Initiative,” *Museum & Society* 6, no. 2 (2008): 173. For the ethical implications of taxonomic necessity, see Yusoff, “Insensible Worlds.”

124. Ellis, “Rethinking the Value of Biological Specimens,” 176.

125. Bennett, *The Birth of the Museum*, 80.

126. See, for example, Bennett, *Pasts Beyond Memory*; Rutherford, *Governing the Wild*.

127. Bennett, *Birth of the Museum*, 41.



Figure 8. A digital and analog facsimile of the Alcohol House.

While the majority of Alcohol House collections remain sequestered in the recesses of CMNH, in 2016 the museum constructed an interactive facsimile of the repository for display in the temporary exhibit *We Are Nature: Living in the Anthropocene* (figure 8). This exhibit was developed as an integral part of CMNH’s 2017–19 strategic plan, spearheaded by then-museum director Eric Dorfman, who arrived at CMNH in 2015.¹²⁸ As part of the institution’s vision of being “the world’s most relevant natural history museum,” the strategic plan adopted the Anthropocene as a major theme.¹²⁹ CMNH was not the first museum to engage directly with the concept; in 2014 the Rachel Carson Center collaborated with the Deutsches Museum to open the first museum exhibit to explicitly address the Anthropocene, *Welcome to the Anthropocene: The Earth in Our Hands* (2014–16). But CMNH seems to be the first natural history institution to

128. Dorfman left CMNH in 2020 to become the director of the North Carolina Museum of Natural Sciences.

129. Carnegie Museum of Natural History, *Strategic Plan, 2017–2019*.

take up the concept as a guiding principle. According to the strategic plan, museum leadership envisioned the Anthropocene as both an opportunity for new exhibitions and a reorientation of existing practices. CMNH instituted an Anthropocene Studies research section, led by the museum's (and possibly the world's) first Curator of the Anthropocene, biologist Nicole Heller.¹³⁰ In addition to these institutional changes, as part of its move toward the Anthropocene CMNH developed and opened the first temporary exhibit of its one-hundred-and-twenty-year history.

We Are Nature: Living in the Anthropocene was on display from October 2017 to September 2018 in one of the museum's upper galleries. I visited the exhibit near the end of its run, in August 2018. *We Are Nature* explicitly embraced the Anthropocene as both a scientific and cultural concept, using it as a framework to interpret the museum's collections in an effort to explore this moment of great planetary change. In addition to an overview of the Anthropocene idea, the exhibit detailed five specific topics exemplifying human impact on the environment: Pollution, Extinction, Climate Change, Habitat Alteration, and PostNatural.¹³¹ These themes were presented through taxidermied specimen displays, data visualizations, digital interactives, and an immersive "human diorama." Particularly as it contains many taxidermy specimens, *We Are Nature* encapsulates the tensions I see in using conventional natural history display to attempt to model alternative planetary praxes. In the natural history museum, the gaze is key; display practices reinforce the sovereignty of the viewer.¹³² In exhibitions like *We Are Nature*, the "visualizing impulse" can serve to reinforce human exceptionalism, even as the content of

130. I worked closely with Nicole Heller in the summer of 2019 on a research project, "Benchmarking the Anthropocene," under the auspices of a University of Pittsburgh Public Humanities Fellowship.

131. This section of the exhibition was on loan from Pittsburgh's Center for PostNatural History, a project by Carnegie Mellon art professor Richard Pell.

132. Aloi, *Speculative Taxidermy*, 93.

the displays works to align humans with nature.¹³³

To articulate the contradictions of this exhibit, I focus on three specific aspects. First, I explore *We Are Nature*'s use of taxidermy, the museum's "uncomfortable reminders of past scientific and colonial practices that sought to capture, order and control animated life."¹³⁴ As objects loaded with a multiplicity of scientific, cultural, and political meanings, taxidermied specimens embody the difficulties of using conventional display to promote new relationships to nature. Second, I continue my analysis of practices of vision through a close reading of the exhibition's digital interactive EarthTime. Through the display of planetary images and scientific data, EarthTime similarly reinforces human supremacy while attempting to demonstrate alternatives. Finally, I examine the exhibition's "human diorama," which, I argue, uses a kind of estrangement to depict human life in the Anthropocene. Ultimately, I maintain that, while *We Are Nature* attempts to trouble the work of natural history display, this work is rendered inadequate by the dominance of conventional display practices.

3.2.1 Between Life and Death: On Taxidermy

*If we were unaffected by nature, we would have no need to make it immortal.*¹³⁵

Few objects in the museum generate as much reflection as taxidermied animals. Whether displayed in habitat groups to demonstrate ecological systems or dioramas to present "reality in

133. Megan H. Glick, *Infrahumanisms: Science, Culture, and the Making of Modern Non/Personhood* (Durham, NC: Duke University Press, 2018), 24.

134. Merle Patchett and Kate Foster, "Repair Work: Surfacing the Geographies of Dead Animals," *Museum & Society* 6, no. 2 (2008): 98.

135. Poliquin, *The Breathless Zoo*, 8.

its most glorious state,” the stuffed, preserved, and posed bodies of deceased animals are a common sight in natural history museum displays.¹³⁶ As ostensibly instantiations of the “real nature” found outside museum walls, taxidermy played an important role in the development of the modern museum on multiple levels. First, skillfully prepared specimens, with their lifelike poses and illusionistic diorama surroundings, performed nature. In fact, as Jane Desmond writes, “the animals are presumed to “perform” themselves—that is, to render an accurate and authentic vision of their animality.”¹³⁷ Importantly, this animality is not of the individual but of an ideal type, as specimens are “tasked with representing an entire species.”¹³⁸ Second, the realism of taxidermied animals upheld the objectivity of science and particular sociopolitical hierarchies.¹³⁹

Despite its topical novelty, *We Are Nature* followed traditional practices of taxidermy display; a number of specimens were on view throughout the exhibit, including as representatives of some of its key themes. These include Cecil, a massive black-and-white Great Dane who had belonged to Andy Warhol, on loan from the nearby Warhol Museum. *We Are Nature* did not feature any illusionistic dioramas, though these can be found in the museum’s other galleries.¹⁴⁰ Instead, stuffed specimens were placed in clear cases or mounted on walls; the dark floor and walls made the lit cases appear to be floating in space.

In some ways, the removal of taxidermy from the (pseudo)realism of a painted diorama or the ecological context of habitat groups underscored the unique “thingness” of taxidermy itself, what Rachel Poliquin describes as its “provocative loquaciousness.”¹⁴¹ Unlike other

136. Rader and Cain, *Life on Display*, 56.

137. Desmond, “Postmortem Exhibitions,” 351.

138. Alberti, *The Afterlives of Animals*, 87.

139. See Aloi, *Speculative Taxidermy*, especially Chapter 3, “Dioramas, Power, and Decorum”; and Haraway, “Teddy Bear Patriarchy,”

140. CMNH also features an area called “Art of the Diorama,” which explores nineteenth-century dioramas in a period-specific seating area.

141. Poliquin, “The Matter and Meaning of Museum Taxidermy,” 125.

clearly constructed artifacts found in the museum—pottery, crafts, clothing, weapons—taxidermy appears as “shape-shifter, easily sliding between categories of objects and between objects and experiences.”¹⁴² And, as remnants of the animal, taxidermy falls into a continuum of what Marla Carlson calls “inter-species affect.”¹⁴³ Carlson delineates four distinct categories of animal performance: theatrical animality (depictions of animals onstage or used as metaphors in acting exercises); anthropomorphic art (such as the furry fandom which Carlson analyzes); performances which de-naturalize both the human and animal (performers such as Lizard Man); and companion species performance (as most thoroughly theorized by Donna Haraway). To Carlson’s categories I would add the “object performance” of the taxidermied animal in the natural history museum. Just as the “live” forms of performance Carlson discusses explore “what it means to perform as Human,” so too do natural history museums, through the display of taxidermied animals, instruct visitors in a specific praxis.¹⁴⁴

Museum scholars have acknowledged the unique ethical conundrum which taxidermy collections present to contemporary museums. Many specimens are the result of decades of donation, collection, and research. As the missions of natural history museums have evolved, approaches to the “unwanted inheritances” of taxidermy have been diverse.¹⁴⁵ Older specimens especially serve as “uncomfortable reminders of past scientific and colonial practices that sought to capture, order and control animated life, they have become increasingly problematic for their owners. As a result many taxidermy displays have been dismantled and mounts relegated to ‘backstores’ to gather dust, while those left on display often linger as fetid relics.”¹⁴⁶ As

142. Poliquin, “The Matter and Meaning of Museum Taxidermy,” 124.

143. Marla Carlson, “Furry Cartography: Performing Species,” *Theatre Journal* 63, no. 2 (2011): 194.

144. Carlson, “Furry Cartography,” 204.

145. McHugh, “Mourning Humans and Other Animals through Fictional Taxidermy Collections,” 242.

146. Patchett and Foster, “Repair Work,” 98.

foundational artifacts of such institutions, and especially as “postmortem exhibits,” taxidermied specimens crystallize the tensions I have been exploring throughout this discussion.¹⁴⁷ I investigate the possibilities for and troubles with employing such specimens in new contexts, toward ethical ends that are largely antithetical to the epistemological foundations of the natural history museum itself.

Two particular instances of taxidermy in *We Are Nature* demonstrate the tensions inherent in adopting this inherited museum practice in order to imagine new futures. The entrance to *We Are Nature* featured the title of the exhibit in sculpted letters composed of both natural and human-made materials: rocks, plastic trash, flowers, sticks, cloth (figure 9). A nearby label introduced visitors to the Anthropocene concept:

What the heck is the Anthropocene? The Anthropocene is a newly proposed epoch, or geological time period, defined by humans’ effect on the environment. This is the first time in recorded history that humans are impacting the earth as strongly as natural forces like asteroids, volcanic eruptions, or ice age global cooling. What makes the Anthropocene especially powerful is not only the amount of change, but the condensed period of time in which these changes are taking place. Changes that normally take thousands or even millions of years to manifest are now happening in centuries. We are not separate from nature, *we are nature*, and our decisions affect all life on earth. Welcome to the Anthropocene.

Nearby, a wall chart compared global temperatures with global population in a dramatic upward curve. Adjacent to this graph, a diverse display of taxidermied animals surveyed the gallery (figure 10).

147. Desmond, “Postmortem Exhibitions,” 349.



Figure 9. The entrance to *We Are Nature: Living in the Anthropocene*.



Figure 10. A wall of taxidermy.

Unlike other displays in the museum, they were not part of a diorama nor behind glass. Instead they were artfully arranged on a series of floating shelves with dark gray paint matching the wall behind. The centerpiece is a small coyote mounted on a piece of rock, one forepaw lifted as if the animal is just pausing for a moment. A diverse group of mammals, birds, and insects surround the coyote. A raccoon looks out from its perch on a tree branch. An owl gazes watchfully over the exhibit hall. A fawn rests with its delicate legs folded beneath it. A label prompts the viewer with a question—Where is Nature?—and an exhortation to touch a screen below the display to find out the answer. The digital interactive shows a map of the Pittsburgh area, including the Pittsburgh Zoo and CMNH’s own Powdermill Nature Reserve. After the visitor has touched through the series of images, a final screen gently corrects any assumptions about just exactly where nature is: “Actually, Nature is EVERYWHERE. We are not separate from nature; We Are Nature. We assume nature is where humans are not; wild places like forests, parks, and rivers. But nature is everywhere, even where you live.” As a representative group of common Pennsylvania wildlife, the display (paradoxically) shows that nature is to be found in visitors’ homes while simultaneously defined by and confined within the museum’s walls. This particular display encapsulates the exhibit’s goal: to redefine both nature and the “we,” the human.

The taxidermied creatures in *We Are Nature* promote a particular way of being human. Like their counterparts in more traditional exhibits, their display scripts a particular gaze which reinforces the sovereignty of the viewer.¹⁴⁸ The aesthetics of this particular arrangement, in which the specimens are presented in front of a bare wall painted a minimalist gray, hearkens back to the cabinets of curiosities of the Renaissance that “positioned the observer at the center

148. Aloi, *Speculative Taxidermy*, 93.

of the field of visibility, in a privileged, all-seeing position of sovereignty. As each object appeared dislocated from its interlinks with the world, the ‘universe’ could thus be arranged by the centrality of the sovereign—from this vantage point, power over creation could be exerted.”¹⁴⁹ The digital interactive below the display intends to demonstrate the ecological place of these species, but there is no guarantee that each visitor will use the interactive, compounding the sense of separation already inherent in any taxidermy. As always, “taxidermy facilitates, heightens, and frames our acts of looking, but it does not generate a ‘right to look.’ *The right to look is a given*, because the intimacy of looking at animals is not regarded as intrusive to the animal, dead or alive.”¹⁵⁰ Despite its novel context—an exhibit explicitly acknowledging the intertwining of natures and cultures—this taxidermy display compounds preexisting concepts of (museum) natures predicated on the death of the animal and the human’s sovereign right to look.

Though there are several other taxidermied specimens in the exhibit, one near the end of the exhibit’s lightly guided path is also relevant to this discussion. The body of a dodo, that charismatic flightless bird, stands alone in a plexiglass case. Upon closer inspection visitors will see that this is not, in fact, taxidermy but rather a reconstruction of the dodo. However, this model is displayed in an identical manner to the “actual” taxidermy found in the exhibit, aligning their interpretations (figure 11).

149. Aloi, *Speculative Taxidermy*, 94.

150. Desmond, “Postmortem Exhibitions,” 365.

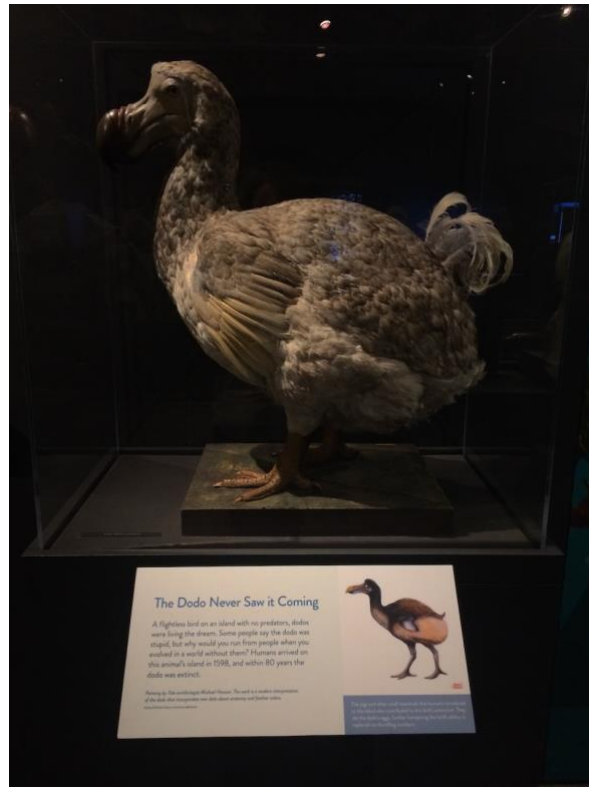


Figure 11. A reproduction of the dodo.

The dodo, a large bird once endemic to the island of Mauritius, has become one of the most common representatives of extinctions past. As Ursula K. Heise writes, the dodo “looms large in many books on extinction because it was the first species whose end came to be clearly attributed to human intervention: it signals a historical turning point where the deadly ecological consequences of exploration and colonization became visible.”¹⁵¹ Its plumage, in shades of white and gray, looks soft to the touch, with a vertical plume of white feathers at the tail. Its bulbous beak, dark and shining, draws the viewer to the bird’s black eye, which appears almost scornful. Despite a gaze that seems ironically aware, the label proclaims “The Dodo Never Saw it Coming,” and tells the story of the species’ demise. The bird evolved on Mauritius, removed

151. Ursula K. Heise, *Imagining Extinction: The Cultural Meanings of Endangered Species* (Chicago: University of Chicago Press, 2016), 36.

from human contact. When Dutch sailors landed there in 1598, they introduced invasive species, hunted the birds for food, and destroyed their habitat. The dodo became extinct within eighty years.¹⁵²

The exhibit's framing of the dodo replica cements the understanding of the dodo as the canary in the coal mine for the Anthropocene. The dodo evolved in a world before colonization, before industrialization, before modernization; thus, the species never saw human-caused extinction barreling toward it. Along with this naiveté, the dodo is a prime example of what Heise calls the logic of species preferences, in which some species fit into the tragic mode more easily, often because of their aesthetic characteristics.¹⁵³ *We Are Nature* is not unique in deploying the story of the dodo as a potent "symbol of crisis."¹⁵⁴ The Oxford University Museum of Natural History holds the only surviving soft tissue remains of the dodo, as well as a skull and some other bone fragments. The museum reserves these specimens for DNA research, only displaying a cast of a composite skeleton and a model similar to the one at CMNH. The Oxford Museum also capitalizes on the dodo's fame by including its image in their logo. The dodo serves as a powerful example of the ways natural history collections, and the praxes they promote through their display, are built upon foundations of death and violence toward both humans and nonhumans.

152. The label also replicates a linguistic problem of discussing extinction, which can only be done in the passive voice: "the absence of a verb for extinction that expresses both process and action... Thus, populations commonly 'evolve' (intimating the processes of adaptation and speciation), but populations can only 'go' or 'become' extinct. Consequently, extinction becomes a mere result without reference to process, specifics, or mechanism. In such a conceptual framework, the agents of causality are omitted. The result is a lack of accountability within the population that has gone extinct and de-emphasis of the processes that led to population demise. Finally, in the passive voice, extinction can only refer to something that has occurred in the past, thus intimating (unwittingly) that extinction is not an ongoing process." Delbert Wiens and Michèle R. Slaton, "The Mechanism of Background Extinction," *Biological Journal of the Linnean Society* 105, no. 2 (February 2012): 256.

153. Heise, *Imagining Extinction*, 36.

154. Heise, *Imagining Extinction*, 39.

This section of *We Are Nature* doubles down on the familiar tragic mode of the dodo. Adjacent to the model of the awkwardly rotund bird, an arrangement of plaques featured several photographs of species currently facing extinction. A central label encourages viewers to vote for the next generation's "most distinguished" extinct animal by depositing a monetary donation in a plexiglass container beneath the animal's photo (figure 12). Each animal falls into the category of charismatic in some way: large predators, the Sumatran tiger and the California condor; majestic mammals, the mountain gorilla; exotic, the black rhinoceros, pangolin, and Hawksbill turtle. The dodo has "an almost celebrity status" as a symbol of extinctions past, thus another species must emerge as the face of this generation's extinction. By financially supporting the conservation of whichever animal the visitor deems most distinguished, this display (along with the accompanying dodo model) encourages species exceptionalism and anthropocentrism. The most distinguished species, a decidedly human aesthetic determination, becomes the one most worthy of rescue.¹⁵⁵ And, as the donation containers are clear, visitors can see which species is the frontrunner.

155. Ernest Small, "The New Noah's Ark: Beautiful and Useful Species Only. Part 2: The Chosen Species," *Biodiversity* 13, no. 1 (2012): 37–53.



Figure 12. “Vote for the next generation’s most distinguished extinct animal.”

The distinguished animal poll, in making visible the logic of species preferences, encapsulates one of the central challenges of museum practices in imagining new ecological relations. For the problematic of a just ecological future, and what it means to be human in that future, involves not only *how* we respond to nonhuman others but also *what* this response is. I am not discouraging any conservation action taken by the museum as an institution or by individual visitors who wish to contribute to such efforts. But the aesthetic values which govern such efforts, and the context of the natural history museum’s regimes of display, do not automatically bring about ecologically just relations.¹⁵⁶ As a space of display, the natural history

156. Baxter, *A Theory of Ecological Justice*.

museum—especially through taxidermy—deploys “realism as the epistemic tool of representation.”¹⁵⁷ This particular display, in its use of photographs, takes the museum’s commitment to realism one step further.

The use of financial donations as a way of marking particular animals as worthy or valuable cements the reach of capital in defining and describing ecological relations. The species with the highest aesthetic value—the “most distinguished”—becomes the species with the highest monetary value, and thus the most worthy of preservation. The lack of contextualization of this part of the exhibit, with little commentary on the various meanings of “species” as a category and the ways humans relate to them, underscores “deeper assimilation into a neoliberal marketplace as the universally mediating principle of human-animal coexistence.”¹⁵⁸ In this version of planetary praxis, kinship is based on financial largesse, not on shared vulnerability or other forms of relation. Coupled with the other forms of display and their attendant praxes that I’ve outlined here, the distinguished dodo forecloses the possibilities of alternative, more ethical, ways of being which might provide more sustainable futures.

To truly imagine alternative forms of relation, “we need to understand something of how sense is enrolled into our habits of thought and theories of materiality.”¹⁵⁹ As an institution whose history rests on the making sense of nonhuman others, there is perhaps no other praxis which demands as much reexamination as that promoted by the natural history museum, where “the metaphysics of presence” dependent upon empirical evidence—and thus the death of the object of study—drives representation.¹⁶⁰ There is no room for the insensible in the natural history

157. Aloi, *Speculative Taxidermy*, 76.

158. Nicole Shukin, *Animal Capital: Rendering Life in Biopolitical Times* (Minneapolis: University of Minnesota, 2009), 187.

159. Yusoff, “Insensible Worlds,” 213.

160. Aloi, *Speculative Taxidermy*, 91.

panopticon, as the surplus of representation, the ongoing uncanny of nonhuman life on this planet which continues to exceed human sense. If “sense only brings to the surface part of the relation,” how is this excess to be recognized?¹⁶¹

3.2.2 “Welcome to EarthTime”: Planetary Visualization and the Supremacy of Seeing

*For moderns to marshal the intellectual resources required to think about planets implicitly means to relate to them in ways enabled by their intensive and extensive mapping... What appears as the Whole Earth is in fact just another instance of the technological globe—and still worse, a technological globe that masks its fact.*¹⁶²

A pair of screens, one large and one small, illuminated a dark corner near the center of the exhibition space. They both displayed an image of Earth as seen from space overlaid with the text “Welcome to EarthTime.” An empty chair in front of the smaller screen invited visitors to take a seat and touch the kiosk to begin (figure 13). A choose-your-own-adventure-style menu offered several different stories of the climate crisis displayed through data: global sea level rise, the growth of urban areas, the spread of renewable energy in the United States. Rapidly moving images extrapolated from reams of data visually represented years of environmental, social, and global change. The accompanying label emphasized the importance of vision for understanding the planetary effects of climate change, as “it’s one thing to read about these things happening, it is a whole other to see the physical evidence of the vast changes we are experiencing.”

161. Yusoff, “Insensible Worlds,” 214.

162. Benjamin Lazier, “Earthrise; or, The Globalization of the World Picture,” *The American Historical Review* 116, no. 3 (June 2011): 614.

EarthTime was designed by the Community Robotics, Education and Technology Empowerment Lab (CREATE Lab), housed at Carnegie Mellon University, in partnership with the World Economic Forum. CREATE Lab members aggregate data from a variety of sources—government agencies, universities, and research centers—and couple it with satellite imagery from NASA.¹⁶³ Many of the EarthTime stories can be viewed online through a web browser. EarthTime was also installed as a permanent piece of public art in Concourse D of Pittsburgh International Airport in 2017 (figure 14). The airport kiosk offers an interactive, touchscreen version the program *We Are Nature* interactive, along with several explanatory labels describing how the project and its data have been used in public policy and education.¹⁶⁴



Figure 13. EarthTime display at Pittsburgh International Airport.

163. CREATE Lab, “About EarthTime,” accessed November 26, 2019, <https://earthtime.org/#about>.

164. Of course, there’s a kind of cognitive dissonance in prominently displaying the visual effects of global warming in a site of one of the biggest contributors of greenhouse gases: air travel.

Museums have always emphasized seeing, as “institutions of the visible in which objects of various kinds have been exhibited to be looked at.”¹⁶⁵ Through specific arrangements of objects and the guidance of the curator(s), natural history museums promote specific cultural and social values. Spectators are taught both who they are and how to behave through what Tony Bennett calls “civic seeing.”¹⁶⁶ Of course, the civic lessons learned through natural history display have been differentiated along lines of race, class, gender, disability, and sexuality. In the case of evolutionary displays, spectators looked not at things but at the relations between them to understand the progression of time. As Bennett points out, “the meaning of evolutionary displays could only be taken in by the eye which, in sweeping along the relations between objects in evolutionary series, could also fathom their direction. This was possible only from the vantage point of *the most highly developed stages of evolution.*”¹⁶⁷ That is, the practices of seeing which form the foundation of natural history museum display are at their core both anthropocentric and human supremacist.¹⁶⁸ When such visions have contributed to the conditions of global capital and human development that have ostensibly created the Anthropocene, how can these same practices of seeing bring about other ways of being? While all forms of display and their attendant modes of seeing merit interrogation, as an obvious instance of (planetary) visualization EarthTime provides an opportunity to call these practices into question and demonstrate the need for new ways of seeing that can contribute to less violent ways of being.

This hope for and emphasis on the power and potential of seeing not only draws from the natural history museum’s traditional practices—what Tony Bennett called the exhibitionary

165. Tony Bennett, “Civic Seeing: Museums and the Organization of Vision,” in *A Companion to Museum Studies*, ed. Sharon Macdonald, (Oxford: Blackwell Publishing Ltd., 2006), 285.

166. Tony Bennett, “Civic Seeing.”

167. Tony Bennett, “Civic Seeing,” 270, my emphasis.

168. Derrick Jensen, *The Myth of Human Supremacy*, (New York: Seven Stories Press, 2016).

complex—but also the importance of vision in geography, the mapping and rendering of the planet’s features.¹⁶⁹ As Denis Cosgrove writes, graphic images of the world communicate not only information about the material realities of the earth, but also “the hopes and fears that constitute imagined geographies.”¹⁷⁰ Picturing and depicting the land was integral to imperial expansion, colonization, and the growth of capital. Cosgrove describes the way of seeing common to globalization emerging from this Western intellectual history as the Apollonian eye. This type of gaze reached its apex with the publication of the “whole earth” images from the Apollo space missions.

Interactive exhibits like EarthTime often appear in natural history museum exhibits; participatory elements can be seen in even the most traditional displays, as invitations to touch facsimiles of bones, for example. They were an exhibition standard as early as the 1930s.¹⁷¹ Digital and touchscreen interactives are some of the newest additions in the museum trend toward “edutainment”; throughout the 1980s and 90s, museums began working with exhibition design firms to introduce “lively commercial aesthetics, using set design, video displays, special effects, animatronics, and plenty of black lighting to create thrilling simulations.”¹⁷² In the context of *We Are Nature*, EarthTime employs these trends to present viewers with a planetary perspective that will (hopefully) address the scalar challenge of the Anthropocene.¹⁷³ And as a visual representation of the planet, EarthTime is an example of planetary mediation, “the

169. Bennett, *The Birth of the Museum*.

170. Denis Cosgrove, *Geography and Vision: Seeing, Imagining and Representing the World* (New York: Bloomsbury, 2008), 3.

171. Rader and Cain, *Life on Display*, 130.

172. Rader and Cain, *Life on Display*, 269.

173. The Anthropocenic disruption of human concepts of scale has been addressed by several scholars. See, for example, Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013); Zach Horton, “The Trans-Scalar Challenge of Ecology,” *ISLE: Interdisciplinary Studies in Literature and Environment* 26, no. 1 (2019): 5–26.

hermeneutic and semiotic operations that we as human beings use to turn our very planet into a signifier for our collective existence as a species.”¹⁷⁴ The displays draw on a history of visualizing the whole earth which began with the space exploration of the 1960s and 70s. Two images in particular that emerged out of NASA’s Apollo space program became the iconic visual representations of the planet. The first, *Earthrise* (NASA image AS08-14-2383), was captured in 1968 on Apollo 8, the first manned lunar mission (figure 15). The second, *The Blue Marble* (NASA image AS17-148-22727), was created in 1972 on Apollo 17. This was one of the first photographs to capture the whole planet, and remains one of the most reproduced images in history (figure 16).¹⁷⁵



Figure 14. *Earthrise* (NASA image AS08-14-2383).

Image credit: Image Science and Analysis Laboratory, NASA-Johnson Space Center

174. Tobais Boes, “Beyond Whole Earth: Planetary Mediation and the Anthropocene,” *Environmental Humanities* 5 (2014): 155.

175. Stewart Brand, the leading de-extinctionist discussed Chapter One, first became famous in the 1970s when he led a campaign calling on NASA to release these images of the whole earth. His now-famous DIY magazine bears the name of this campaign: *The Whole Earth Catalog*. For more, see Andrew G. Kirk, *Counterculture Green: The Whole Earth Catalog and American Environmentalism* (Lawrence: University of Kansas Press, 2007).



Figure 15. *Blue Marble* ((NASA image AS17-148-22727).

Image credit: NASA Space Science Data Coordinated Archive

Various arguments concerning these images' cultural and scientific work demonstrate their capacity as "icon, index, and symbol of unity and planetary vitality and fragility."¹⁷⁶ Environmental groups in particular adopted these images as tools to facilitate eco-conscious actions, primarily through an emotional and cognitive shift called the overview effect. Frank White theorized the overview effect in 1987 as a way to explain the experience of astronauts who see the planet from orbit. They described "truly transformative experiences including senses of wonder and awe, unity with nature, transcendence, and universal brotherhood."¹⁷⁷ The creation and distribution of images like *Earthrise* and *The Blue Marble* would hopefully spread this affect from the select few humans who make the journey into space to a wider planetary audience.

EarthTime clearly echoes this photographic legacy, not only aesthetically but also in the

176. Stefan Helmreich, "From Spaceship Earth to Google Ocean: Planetary Icons, Indexes, and Infrastructures," *Social Research* 78, no. 4 (2011): 1216.

177. Albert A. Harrison and Edna R. Fielder, "Behavioral Health," in *Psychology of Space Exploration: Contemporary Research in Historical Perspective*, ed. Douglas A. Vakoch (Washington, DC: NASA Office of Communications, 2011), 29.

affective work it (supposedly) performs. The curve of shadow sloping down the earth's surface recalls *Earthrise*. The dark vacuum of space enveloping the planet evokes *The Blue Marble*. In the context of CMNH's *We Are Nature* exhibit, which explicitly aims to rearticulate the human as part of nature (in the Anthropocene), EarthTime is designed to produce an experience akin to the overview effect in museum visitors. Through such planetary mediation, the earth's complexities are simplified into a single unified whole, "an experiential fusion of all members of the human race, regardless of ethnicity, creed, nationality, or socio-economic status."¹⁷⁸ CMNH explicitly promotes the benefit of this perspective in the emergency of the Anthropocene: "the earth becomes borderless, and conflicts that divide us seems inconsequential. We are all connected, and the importance of uniting and protecting our home becomes urgent and necessary. We are one species with one shared future."¹⁷⁹ In offering an extraterrestrial point of view, one that can be easily manipulated by the viewer through the display's interactive software, EarthTime tries to surmount the inherent and inescapable terrestriality of human experience, in which "human perception and thinking are bound to the 'normal' scale of embodied experience on the Earth's surface...we live with no intuitive or significantly internalized sense of the Earth as a planet."¹⁸⁰ In other words, through exposure to this planetary mediation, CMNH hopes that a shift in *perspective* will lead to a shift in *praxis*. However, as it emerges from problematic legacies of planetary visualization, I maintain that EarthTime only compounds human mastery rather than complicates it.

EarthTime and other images of the planet could be described as not only the *overview*

178. Boes, "Beyond Whole Earth," 157.

179. Carnegie Museum of Natural History, *We Are Nature: Living in the Anthropocene* (Pittsburgh: Carnegie Museum of Natural History, 2017).

180. Timothy Clark, *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept* (New York: Bloomsbury, 2013) 36.

effect but also what I call the *outer-view* effect, what Donna Haraway famously termed the god trick, “seeing everything from no where.”¹⁸¹ The perspective of such images is external to the planet, “in the tradition of disembodied visualization,” and, as many have written, positioned within military infrastructure.¹⁸² An outside or external perspective is needed to truly capture a sense of the planetary whole: “visualizing the planetary environment is tied closely to, and perhaps made possible by, tropes of the extraterrestrial. Mapping these ‘outer spaces’—terrae incognitae—within and outside the earth has been key to our modern understanding of the planet and to visualizing the global environment.”¹⁸³ Not only do such visualizations trace their historical origins from imperial colonization, but also directly from more recent histories of militarism and globalization.¹⁸⁴ The implication of militarization in practices of planetary mediation includes both the material—military satellites and infrastructure make images of the globe possible—and the sociopolitical. During the nuclear arms race of the Cold War “the world itself became a laboratory.”¹⁸⁵ The US commitment to nuclear superiority contributed to analyses of earth systems that would lead directly to the study of climate change, including an emphasis on cartography.¹⁸⁶ Mapping the planetary threat of climate change, then, has become similar to mapping other threats to national security.¹⁸⁷

181. Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 581.

182. Jason Farman, “Mapping the Digital Empire: Google Earth and the Process of Postmodern Cartography,” *New Media & Society* 12, no. 6 (September 2010): 876. For an explicit engagement of the extraterrestrial within performance studies, see Felipe Cervera, “Planetary Performance Studies,” *Global Performance Studies* 1, no. 1 (2017).

183. Elizabeth DeLoughrey, “Satellite Planetaryity and the Ends of the Earth,” *Public Culture* 26, no. 2 (2014): 260.

184. DeLoughrey, “Satellite Planetaryity.”

185. Masco, “Bad Weather,” 14.

186. Masco, “Bad Weather,” 16.

187. This perspective, unsurprisingly, ignores the evidence that the US military is one of the biggest contributors to global warming. See Oliver Belcher et al., “Hidden Carbon Costs of the ‘Everywhere War’: Logistics, Geopolitical Ecology, and the Carbon Foot-Print of the US Military,” *Transactions of the Institute of British Geographers* 45, no. 1 (March 2020): 65–80.

Writing in the first decades of the twenty-first century, I extend these insights on the imbrication of militarization and planetary mediation to include the influence of private capital, which is of course often built upon governmental and military infrastructures. The reach of capital into some versions of planetary mediation is subtle, like the World Economic Forum's sponsorship of CREATE Lab. More overt commodifications of extraterrestrial space emerge in the actions of private capital's approach to space as the next opportunity to tourism and commodification. British multibillionaire Richard Branson, for example, leads multiple companies working to monopolize the space tourism industry. As part of this effort Branson established the world's first commercial spaceport, Spaceport America, in New Mexico on the lands of the Tampachoa and Mescalero Apache peoples. Tesla Motors CEO Elon Musk speaks loudly and often about colonizing Mars.¹⁸⁸ His company SpaceX also plans to launch hundreds of satellites around Earth in a program called Starlink. The satellites, which could number as many as twelve thousand, will ostensibly provide reliable internet to the entire global population. Only a few have been launched, but those that are in orbit are already interfering with the work of astronomers who observe distant stars and galaxies.¹⁸⁹ Musk and Branson's space work shows, too, how an extraterrestrial perspective can reveal and exacerbate difference rather than erase it. In the face of the planetary threat of climate change, some will be able to deploy their resources to escape into what Joseph Masco calls a bunker society.¹⁹⁰ These same people might

188. On June 23, 2019, Musk tweeted an image proclaiming "Occupy Mars." Unfortunately the image accompanying his exhortation was not Mars, but in fact the moon. See Gael Fashingbauer Cooper, "SpaceX head Elon Musk mixes up the moon and Mars, and Twitter blasts off," CNET, June 24, 2019, <https://www.cnet.com/news/elon-musk-mixes-up-the-moon-and-mars-and-twitter-blasts-off/>.

189. "Astronomers Worry That Elon Musk's New Satellites Will Ruin The View," *NPR*, accessed November 27, 2019, <https://www.npr.org/2019/06/03/729275206/astronomers-worry-that-elon-musks-new-satellites-will-ruin-the-view>.

190. Masco, "Bad Weather," 25.

also seek to “escape from [the planet] in actual rockets.”¹⁹¹ Of course, these same people bear disproportionate responsibility for climate crises.

But EarthTime, in its representation of the planet as a canvas for the projection of data, emerges as the next step in the Apollonian eye, which simultaneously claims disinterest and objectivity while projecting the authority of the human.¹⁹² Insofar as the quest to see the whole earth relates to a desire for control and (more relevant to the context of the natural history museum) order, EarthTime captures the totality of the planet in a single image *to be consumed*. The Whole Earth images have circulated widely for almost fifty years; it is often claimed that *The Blue Marble* is the most reproduced image in human history. Environmentalists in previous movements hoped that the experience of seeing the “whole” planet from space—the overview effect—would produce a seismic shift in ecological consciousness. The image became part of the visual language of green politics, “the most potent icon of the nascent environmental movement.”¹⁹³ The addition of data to shift the image, rather than offering an alternate way of seeing to counter the control of the Apollonian eye, only compounds the illusion that EarthTime reflects the reality of the planet. The images displayed in EarthTime are not photographs but instead “a construct, an only seemingly seamless whole that has in reality been stitched together out of thousands of individual components, each of which have been subjected to complex mathematical manipulations.”¹⁹⁴ Moreover, EarthTime is not a static photographic depiction but a moving representation of temporal change. Thus this form of planetary mediation serves to embody both a particular space—the “whole” planet—*and* a particular sense of time.

191. Boes, “Beyond Whole Earth,” 158.

192. Denis Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the Earth in Western Imagination* (Baltimore: The Johns Hopkins University Press, 2001), x-xi.

193. Boes, “Beyond Whole Earth,” 157.

194. Boes, “Beyond Whole Earth,” 160.

In the previous section I discussed the Smithsonian's efforts to actualize a sense of deep time for its visitors and place humans within the geological temporality of the earth. Similarly, by visualizing (some of) the changes on the planet over time EarthTime performs a particular temporality, not the deep time of geology, but instead planetary time. This temporality, however, is of a very particular type, which Barbara Adam describes as "time in Newtonian science... tied to the measure of motion: when something moves it covers distance which takes time. It is time taken, the measured duration between frozen events, the mathematical statement of acceleration and slowing down, of rates of change, of the difference between before-and-after measurements of fixed states. It is an atemporal time, a time unaffected by the transformations it describes."¹⁹⁵ Rather than reimagine and re-envision the earth for alternative ecological relations, instead EarthTime solidifies practices of visualization embedded in Western science, where "disembodied, detemporalised and stripped of feelings and emotions, the living, interactive self is transformed into an eye of distance whose fixed, singular, atemporal viewpoint and neutral, impartial gaze leave its subject matter untouched. The embodied person gets displaced by the head and the mind's eye. The body is left behind, rendered irrelevant to understanding. Matter and vision are conjoined to conquer the sphere of knowledge."¹⁹⁶ Like *The Blue Marble*, EarthTime displaces the viewer to a disembodied, "god's eye" perspective which not only can capture all of earthly space but also mark planetary time.

The history of planetary visualization has been characterized by ecological hope that such images would lead to a shift in consciousness, fostering feelings—and actions—of connectedness and care. This interpretation led to the circulation of such photographs for the last

195. Barbara Adam, *Timescapes of Modernity: The Environment and Invisible Hazards* (London: Routledge, 1998), 40.

196. Adam, *Timescapes of Modernity*, 37.

fifty years, but arguably no such shift occurred (or at least, not on the necessary scale to generate political and social change). Particularly as I have demonstrated that *EarthTime* shares many characteristics with original planetary images, with an added layer of data-fiction, such visualizations promote a planetary praxis of external neutrality and human superiority: if we can visually capture it, we can control it. This context implies that planetary visualization cannot bring about new ecological futures on its own. As DeLoughrey writes, “to begin to understand a planet that is not overwritten by the militarism of the satellite gaze or the techno-fixes of climate change, embracing the contradictions of alterity and the limits of human knowledge is necessary.”¹⁹⁷ Particularly as *EarthTime* presents planetary visualization in the context of a natural history museum, an institution dedicated to the cataloguing of the natural world, an acknowledgement of the limits of knowledge is urgently needed. The authority of natural history museums to determine and display the planet’s “nature” has significant consequences for understanding and performing ecological relations.

3.2.3 “Living in the Anthropocene”: Dioramas of Estrangement

*There is not geology on one hand and stories about geology on the other; rather, there is an axis of power and performance that meets within these geologic objects and the narratives they tell about the human story.*¹⁹⁸

Diorama are the natural history museum’s primary storytelling mechanism. They depict

197. DeLoughrey, “Satellite Planetarity,” 265.

198. Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018), 24.

“natural history scenarios which typically contain mounted zoological specimens arranged in a foreground that replicates their native surroundings in the wild. Ideally, the three-dimensional foreground merges imperceptibly into a painted background landscape, creating an illusion—if only for a moment—of atmospheric space and distance. More interpretively, the habitat diorama expresses man’s effort to classify, define and generally comprehend the natural world by means of an ecological model.”¹⁹⁹ Dioramas also embodied the major scientific shift in exhibition philosophy, from an emphasis on taxonomic order to an ecological approach.²⁰⁰ By employing artistic techniques of realism, dioramas could represent complete ecological systems, communicating the interconnectedness of nature to the museum visitor. As part of the museum’s regimes of seeing, dioramas draw from more explicitly theatrical forms like the panorama and the proscenium theatre. Designers drew on visual techniques to control the perspective of the viewer and create dramatic tableaux that could be easily anthropomorphized.²⁰¹ Such anthropomorphization occurred alongside anthropological dioramas depicting diverse groups of Indigenous peoples. This tradition of ethnographic display can be traced back to the cruel exhibition of so-called primitive peoples at World’s Fairs, especially the Columbian Exhibition.²⁰² Whether illustrating an animal group or human family, through their realist aesthetics dioramas have become “the most successful epistemological tool of natural history during the modern age: Through the implementations of taxidermy, dioramas could credibly

199. Karen Wonders, *Habitat Dioramas: Illusions of Wilderness in Museums of Natural History* (Uppsala, Sweden: Almqvist & Wiksell, 1993), 9.

200. Wonders, “Habitat Dioramas as Ecological Theatre,” 286.

201. Rader and Cain, *Life on Display*, 67–8.

202. See Aaron Santesso, “Living Authenticity: The World’s Fair and the Zoo,” in *Meet Me at the Fair: A World’s Fair Reader*, ed. Lauren Hollengreen et al. (Pittsburgh, PA: ETC Press, 2014), 41–51; Burton Benedict, “International Exhibitions and National Identity,” *Anthropology Today* 7, no. 3 (June 1991): 5–9; Coco Fusco, “The Other History of Intercultural Performance,” *TDR/The Drama Review* 38, no. 1 (1994): 143–67; Rosemarie K. Bank, “Representing History: Performing the Columbian Exposition,” *Theatre Journal* 54, no. 4 (2002): 589–606.

vocalize ideological truths.”²⁰³ The impact of dioramas on natural history practices, particularly in the United States and Sweden, cannot be understated.²⁰⁴

This impact resonates in contemporary museum spaces, not only in the traditions of practice but also in the literal displays. Museums are “slow media,” reluctant to change and unable to adapt to quickly shifting culture.²⁰⁵ Thus many dioramas created a hundred years ago remain in exhibit halls of major institutions. Permanence is an intrinsic part of their design and creation: “brick-and-mortar manifestations of museum personnel’s unwavering belief that [they] represented the pinnacle of zoological and ecological exhibition.”²⁰⁶ The Akeley Hall of African Mammals at the American Museum of Natural History in New York, for example, still contains the twenty-eight dioramas featured at the hall’s opening in 1936. As Haraway observes, “each diorama presents itself as a side altar, a stage, an unspoiled garden in nature, a hearth for home and family.”²⁰⁷ Little has changed. Sometimes the vestiges of dioramas past result in clashes between the concepts of “natural” and “history,” as stagnation makes responding to changing political, social, cultural, and ecological climates an arduous process. A diorama at Chicago’s Field Museum demonstrates this disjunction; in the summer of 2019, it featured a map of a species’ habitat range, which covered a portion of the USSR.

We Are Nature, as both a temporary exhibit and an exploration of the Anthropocene, departs from the diorama tradition of the natural history museum. While there are numerous taxidermied specimens displayed throughout the gallery, there are no true dioramas. That is,

203. Aloi, *Speculative Taxidermy*, 104.

204. Wonders illustrates the parallel developments of natural history dioramas in the United States and Sweden in *Habitat Dioramas*. She argues that the practice only reached other European museums in the 1980s.

205. Newell, Robin, and Wehner, “Introduction,” 15.

206. Rader and Cain, *Life on Display*, 72.

207. Haraway, “Teddy Bear Patriarchy,” 24.

none of the models occupy a constructed facsimile of their “natural” environment. The exhibition does include one diorama, although it is not easily recognized.

After identifying the location of nature under the wall of taxidermy, visitors must choose to either process around or go through a “human diorama” to reach the remainder of the exhibition. This diorama entails a (theatrical) set of an apartment constructed from white beams. The walls of the structure were left open, showing facsimiles of a living room, kitchen, and dining area inside. Visitors in other parts of the gallery can see “inside” to view those moving through the diorama. Several small exhibit cases were distributed throughout the diorama, some representing *We Are Nature*’s main themes. A white couch prompted visitors to sit and view the television opposite.

In addition to a clear embodiment of the exhibit’s subtitle—“Living in the Anthropocene”—the human diorama represents an effort to overcome the tensions I have discussed throughout this chapter. As institutions whose display practices and aesthetics remain solidly planted in the removal and compartmentalization of nature, how can natural history museums demonstrate alternative ecological relations? One of the questions which animates my analysis of both CMNH’s work and the Smithsonian’s recent shift is whether or not such relations can possibly be practiced through these aesthetic traditions. The human diorama brings these issues into the foreground. I identify its inclusion in *We Are Nature* as the museum’s attempt to reconcile this paradox by instructing visitors to take the Anthropocene’s effects on their daily lives seriously. By displaying more “familiar” objects as illustrations of some of the exhibit’s main themes, the human diorama aims to demonstrate not only that the Anthropocene is a cultural concept (one not restricted to geology or even to science writ large) but also that *they are living in it*. The diorama’s selected evidence of the Anthropocene might be found in visitors’

own lived experiences (figure 17), thus extrapolating the Anthropocene from its explicitly geological origins.

A bunch of plastic bananas represents the impact of industrial agriculture on ecosystems. A can of hairspray embodies the threat of CFCs and other pollutants to the health of the biosphere. A can of corn demonstrates the infiltration of genetic modification into the global food industry. By deploying these more familiar objects as representative of the ways the Anthropocene reaches the everyday museum visitor, the human diorama attempts to work against the specialization of the topic, which is prone to inscrutable jargon.²⁰⁸ For example, the PostNatural, one of the exhibit's main themes, sounds like something out of science fiction (a label elsewhere in the exhibit explains the concept as “organisms that have been intentionally altered through the processes of selective breeding, domestication, or genetic engineering”).²⁰⁹ But the can of corn selected to express this particular aspect of the Anthropocene within the human diorama grounds this abstract concept in everyday life. Through the display of familiar objects, then, visitors might recognize the presence of the PostNatural and other aspects of the Anthropocene outside of the scientific arena of the museum.

208. See Anders E. Johansson, “The Concept of the Anthropocene and the Jargon of Authenticity,” *Adorno Studies* 3, no. 1 (2019): 33–46; Eileen Crist, “On the Poverty of Our Nomenclature,” *Environmental Humanities* 3, no. 1 (2013): 129–47.

209. This section of *We Are Nature* was borrowed from Pittsburgh's Center for PostNatural History, a museum space and art project by Carnegie Mellon professor and artist Richard Pell. See Richard W. Pell and Laura B. Allen, “Preface to a Genealogy of the Postnatural,” in *Intercalations 2: Land & Animal & Nonanimal*, ed. Anna-Sophie Springer and Etienne Turpin (Berlin: K. Verlag and the Haus der Kulturen der Welt, 2015), 75–101.



Figure 16. The Human Diorama.

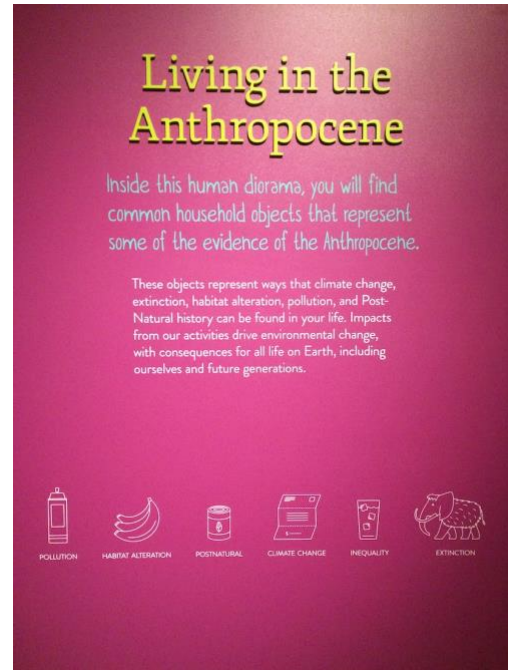


Figure 17. Living in the Anthropocene.

The contextualization of everyday objects that might be found in visitors' homes within this museum exhibit becomes, I argue, a form of estrangement. Here I draw from Bertolt Brecht's theories of (theatrical) estrangement and their subsequent adoption by theorists of speculative fiction. Brecht's theories are inseparable from praxis, in both the sense of their development from theatrical practice and as a Marxian philosophy of praxis where "some form of action [is] necessary for the fulfillment of the theory."²¹⁰ Much ink has been spilled attempting to understand Brecht's ideas, as evidenced by the multiplicity of names for the singular concept I describe here as estrangement. Rather than understanding estrangement as only a theatrical technique—acting or otherwise—I follow Douglas Robinson in using the term to describe "a phenomenological effect" in an audience.²¹¹ Or, perhaps more appropriately, I see estrangement

210. Anthony Squiers, *An Introduction to the Social and Political Philosophy of Bertolt Brecht: Revolution and Aesthetics* (Amsterdam: Rodopi, 2014), 40.

211. Douglas Robinson, "The Spatiotemporal Dialectic of Estrangement," *TDR/The Drama Review* 51, no. 4 (December 2007): 122.

as a particular *affect* that CMNH works to achieve through the human diorama. The encounter of pedestrian objects in museum cases, then, works as “an experiential pressure that estranges the spectator from hegemonic constructions of reality and instigates a radical or revolutionary ideological rethinking.”²¹² In this case, CMNH hopes that visitors will realize and feel the immediacy of the Anthropocene; the human diorama works to enable a cognitive shift from Anthropocene as esoteric scientific concept to an organizing principle of mundane experience.

In addition to the explicit estrangement of everyday objects, the human diorama also implicitly estranges the body of the visitor itself. Those in the diorama are visible to other visitors in the gallery through the construction’s open walls, exposing them to the exhibitionary gaze. Just as taxidermied specimens and preserved objects are also displayed within the gallery, by entering the human diorama visitors are captured within what Tony Bennett calls the exhibitionary complex of the natural history museum. He explains that, as it developed in the nineteenth century, “the exhibitionary complex...perfected a self-monitoring system of looks in which subject and object positions can be exchanged, in which the crowd comes to commune with and regulate itself through interiorizing the ideal and ordered view of itself as seen from the controlling vision of power.”²¹³ Here Bennett refers to how museums organized and disciplined (in the Foucauldian sense) the bodies and behaviors of visitors. I see the human diorama as an extension of this function of the museum as it *literally* places the bodies of visitors within a display case. Within this context, the roles of subject and object can potentially become blurred. If “nature” is composed of the contents of museum dioramas, then through emplacement within the knowledge system of the museum, humans are also nature: *We Are Nature*.

212. Robinson, “The Spatiotemporal Dialectic of Estrangement,” 122.

213. Bennett, *The Birth of the Museum*, 69.

But this display of humans also emerges from museums' legacy of anthropological dioramas, displays of "primitive" peoples, and the historical displays of "exotic" living peoples for entertainment at World's Fairs.²¹⁴ Such practices were famously parodied and critiqued in Coco Fusco and Guillermo Gómez-Peña's performance *The Couple in the Cage: Two Undiscovered Amerindians Visit the West* (1992).²¹⁵ The CMNH human diorama is not a cage; visitors could choose to walk through it or go around it to reach the remainder of the gallery. But the display of humans—living or modeled—remains an integral part of the way natural history display developed and continues to be practiced. CMNH's permanent exhibition Polar World: Wykoff Hall of Arctic Life, for example, displays both models of animal specimens (walrus, polar bear) and mannequins of Inuit people engaging in traditional hunting and fishing practices. Such displays serve as "the still-living examples of *the* earliest stage in human development, the point of transition between nature and culture, between ape and man, the missing link necessary to account for the transition between animal and human history."²¹⁶ The process of reforming such practices is long and fraught.²¹⁷ So in the natural history museum space the display of the trappings of human life becomes always exoticized and romanticized, cast as relics of the past.

In contrast, the human diorama in *We Are Nature* presents the trappings of bourgeois domestic life. The diorama's components clearly replicate a theatrical set of domestic realism. As Eleanor Skimin illustrates, the "ghosts of white bourgeois realist theatre" haunt such spaces,

214. See Bank, "Representing History"; Sadiya Qureshi, *Peoples on Parade: Exhibitions, Empire, and Anthropology in Nineteenth-Century Britain* (Chicago: University of Chicago Press, 2011).

215. See Fusco, "The Other History of Intercultural Performance"; Diana Taylor, "A Savage Performance: Guillermo Gómez-Peña and Coco Fusco's 'Couple in the Cage,'" *TDR/The Drama Review* 42, no. 2 (June 1998): 160–80.

216. Bennett, *The Birth of the Museum*, 78.

217. Rodney Harrison, "Reassembling Ethnographic Museum Collections," in *Reassembling the Collection: Ethnographic Museums and Indigenous Agency*, ed. Rodney Harrison, Sarah Byrne, and Anne Clarke (Santa Fe, NM: SAR Press, 2013), 3–35.

acting as “the inheritor(s) and reproducer(s) of its powerfully persuasive legacies.”²¹⁸ Just as Skimin asks “who, in fact, gets to sit in the sitting rooms of these dramas,” who gets to sit in the living room of the Anthropocene?²¹⁹ The human diorama makes particular assumptions about whose lived experience is represented in this living room. Missing from this space, however, are the experiences of those who have arguably been “living in the Anthropocene” for years, those whose lives already bear the marks of climate change without the necessity of estrangement to make them visible. Thus *We Are Nature* assumes those moving through the human diorama embody particular social and cultural identities, those which have not directly felt the slow violence of environmental devastation. Particularly under neoliberalism, such violence is “typically managed through powerful strategies of distanciation.”²²⁰ *We Are Nature* thus participates in paradoxically simultaneous distancing and familiarizing of climate change. In the context of the human diorama, climate change is felt in the increasing prices of utility bills displayed under plexiglass. The exhibition as a whole, however, continues to distance the violent aspects of the Anthropocene. The voices, perspectives, and feelings of those whose lives have been upended by climate change are relegated to one small case in the exhibition hall (which visitors may find after they go through the human diorama). A suitcase with bright pink polka dots stands in for climate refugees who have been forced to flee their homes due to environmental events (figure 19).

218. Eleanor Skimin, “Reproducing the White Bourgeois: The Sitting-Room Drama of Marina Abramović,” *TDR/The Drama Review* 62, no. 1 (March 2018): 80.

219. Skimin, “Reproducing the White Bourgeois,” 83.

220. Nixon, *Slow Violence*, 51.



Figure 18. “The Suitcase is a Community.”

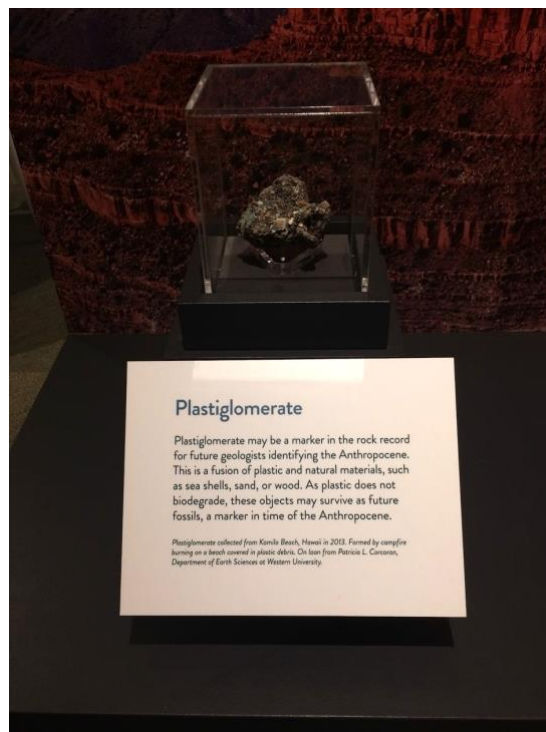


Figure 19. Plastiglomerate on display in *We Are Nature*.

Rather than displaying “primitive” peoples to solidify the evolutionary progress of the present, the human diorama in *We Are Nature* estranges the (bourgeois) present for a conjured future observer. This speculative perspective runs through many strands of Anthropocene thinking, in which “the present appears as the past of imagined futures.”²²¹ The geological origins of the epoch, of course, prompt this perspective. The official declaration of the Anthropocene as a new epoch depends upon evidence that may or may not be present to a contemporary geologist but would to a future one. This view is also found early in *We Are Nature* in a display of a chunk of Plastiglomerate (figure 20), an amalgam of plastic and naturally occurring materials which could serve as the marker for the geologists of the future studying the Anthropocene.²²² This speculative perspective has also appeared in several works attempting to communicate the severity of humanity’s environmental impacts, including Alan Weisman’s *The World Without Us* (2007) and paleobiologist Jan Zalasiewicz’s *The Earth After Us: What Legacy Will Humans Leave in the Rocks?* (2009).²²³ In light of this frame the human diorama also temporally estranges the viewer, as it encases evidence of the present (including the viewer’s body) within a museum display frame for an outside/future observer.

But the interrogation of the conventions of museum display found in the human diorama does not extend to the rest of the exhibition. Thus *We Are Nature*’s potential to envision and demonstrate alternative praxes is limited by an overall uncritical adherence to traditions of museum display. Nature, both the human and nonhuman, remains that which is legible through

221. Heise, *Imagining Extinction*, 219.

222. See Patricia L. Corcoran, Charles J. Moore, and Kelly Jazvac, “An Anthropogenic Marker Horizon in the Future Rock Record,” *GSA Today* 24, no. 6 (June 1, 2014): 4–8.

223. Zalasiewicz was one of the scientists who wrote the proposal for the Anthropocene epoch as part of the International Union of Geologic Sciences in 2008. *The Earth After Us* takes the speculative one step further by casting the observations of the future Earth onto alien explorers.

the sense-making apparatus of the museum. The taxidermied specimens, human diorama, EarthTime, Alcohol House, and other exhibition components ultimately communicate not that we are nature, but nature is what we make of it.

3.3 Conclusion: Which Nature, Which Future?

“The shape of the thinkable future depends on how the past is portrayed and on how its relations to the present are depicted.”²²⁴

The lasting impact of the Anthropocene on natural history museums remains to be seen. CMNH’s *We Are Nature* was a temporary exhibit, but the museum retained its Anthropocene Studies section and installed the “Anthropocene Living Room” in a secluded part of the museum overlooking one of the fossil exhibitions. This area features seating and shelves of printed materials about the Anthropocene: “a space meant for reflection and discussion of the Anthropocene and how it is related to all of the exhibits within the museum.”²²⁵ The Smithsonian’s reconceived Hall of Fossils is sure to remain on display essentially unchanged for years to come. The exhibit’s themes and dramaturgy (arrangement of objects) might represent museological innovations, but as I have demonstrated throughout this chapter, the forms of humanity which they present and hinge on perpetuate practices which enabled the current environmental devastation.

224. Bennett, *The Birth of the Museum*, 162.

225. “Anthropocene Studies,” Carnegie Museum of Natural History, accessed February 28, 2021, <https://carnegiemnh.org/research/anthropocene/>.

Eric Dorfman, then-director of CMNH, describes natural history museums as “enterprises of the future.”²²⁶ Dorfman offers a number of proposals for the future direction of natural history museums and other cultural institutions in the face of chronic underfunding, the rise of fake news, and sociopolitical change. But natural history museums are also enterprises of the future in that they manifest possible futures for both human and nonhuman life under ecological emergency. Will such futures recognize the limits of human sense in apprehending our planetary cohabitants, or will they continue to render nonhumans within a rubric of (capitalist) instrumentalization?²²⁷ In order to achieve the former—a task which I believe is imperative when facing current and approaching planetary changes—the praxes depicted in the natural history museum must shift away from privileging the visual and reinforcing human exceptionalism and exemptionalism.²²⁸

Despite these difficulties, natural history museums are likely to remain one of the most significant instruments for defining planetary praxes. Their institutional authority and cultural function have the potential to be co-opted to embody more radical praxes. It is these possibilities which I turn to in the following chapter.

226. Eric Dorfman, “Natural History Museums as Enterprises of the Future,” in *The Future of Natural History Museums*, ed. Eric Dorfman (New York: Routledge, 2017), 189.

227. See Yusoff, “Insensible Worlds.”

228. Smith, “Ecological Community.”

4.0 Radical Planetary Curation, or, What Is a Museum, Anyway?

*The invisible that museums display is the future.*¹

In this chapter I explore three examples of museums that pursue a range of strategies to intervene in dominant display practices which continue to anesthetize nature, uphold human supremacy, and reinforce neoliberal ideology. By revisiting, reconceptualizing, and disrupting practices of display, it is possible for museums to imagine different planetary futures. Collectively, these practices perform a radical planetarity that recognizes the damages of global capitalism and envisions other possibilities that do not perpetuate the dangerous humanisms which emerge in some conceptions of the Anthropocene.

As I discussed in the previous chapter, conventional techniques of natural history display that have remained essentially unchanged for a century have succeeded in creating and upholding hierarchies of animacy which undergird planetary praxes of environmental domination and capitalist accumulation. If, as Krzysztof Pomian argues, collections mediate between the visible and (an) invisible, then the invisibles which natural history museums work to communicate through display are specific ways of being human, defined by their separation from and mastery over from the natural world.² The projects I discuss in this chapter appropriate the power of museum display to define the human in order to offer other versions of being in the world. Through a variety of techniques which reframe conventional practices of display, these

1. Krzysztof Pomian, *Collectors and Curiosities: Paris and Venice, 1500-1800*, trans. Elizabeth Wiles-Portier (New York: Polity Press, 1990), 44.

2. Pomian, *Collectors and Curiosities*.

projects unsettle the intellectual and institutional authority of natural history, demonstrating ways categories like “nature,” “knowledge,” and “the human” are always historically constructed.

In addition to their critique of museum display, the projects which I have assembled here show that a purely idealist (non-materialist) examination of the connection between humans and nature is insufficient for imagining alternative planetary futures. Any understanding of climate change and/or the Anthropocene that remains based in broad questions of what the human is and means without a critique of global capitalism cannot truly manifest new, more ethical relations. The conceptual and material emergence of the Anthropocene, “or at least all of the anxiety produced around these realities for those in Euro-Western contexts—is really the arrival of the reverberations of that seismic shockwave into the nations who introduced colonial, capitalist processes across the globe in the last half-millennium in the first place.”³ As (natural history) museums remain one of the most influential mechanisms by which the human is defined and performed, uncovering the impact of capitalism and colonialism on their practice remains imperative to the ethical project of “living well in a warmer world.”⁴

Under the political ideology of neoliberalism natural history museums have become enfolded into the project of absolute capital, where the state “becomes the embodiment of a rule-governed, market-dictated economic order and is concerned with perpetuating and extending that order to the whole of society.”⁵ Particularly as national financial support for cultural institutions of all kinds has declined, corporate sponsorship and private donations have become an important part of ensuring museums’ continued existence. For example, curator and scholar Emma Mahony

3. Heather Davis and Zoe Todd, “On the Importance of a Date, or Decolonizing the Anthropocene,” *Acme* 16, no. 4 (2017): 774.

4. Allen Thompson, “Radical Hope for Living Well in a Warmer World,” *Journal of Agricultural and Environmental Ethics* 23, no. 1–2 (March 2010): 43–59.

5. John Bellamy Foster, “Absolute Capitalism,” *Monthly Review* 71, no. 1 (May 2019).

explains how, in the UK, “the cumulative effect of diminishing state subsidies, coupled with governmental pressure to increase revenue from the private sector, resulted in senior management pursuing an unashamedly commercial agenda that eclipsed the critical cultural platform upon which the institution once operated.”⁶ The US has seen a similar reduction in federal support for arts and culture since the establishment of the National Endowment for the Arts in 1965, punctuated by the controversy of the NEA Four. As Patricia Ybarra and Jon Rossini point out, the period beginning with the creation of the NEA also witnessed the spread of neoliberal precepts: “the primacy of free-market capitalism, minimal government legislation that serves to protect the sanctity of this market and private property, a movement from public to private good (and art and arts funding) as a means of extracting additional profit, and a conception of freedom predicated on individual and corporate individual rights.”⁷ Even for institutions with a less explicitly critical bent, like the Smithsonian, neoliberal funding structures prompt questions of censorship and perceived objectivity.⁸

The enrollment of cultural institutions into the neoliberal project provoked various forms of resistance, such as the movements of institutional critique and critical curation, which share some similarities with the projects of curation examined here. Institutional critique evolved in the 1960s and 70s, an artistic movement in which “the critical method was an artistic practice, and the institution in question was the art institution, mainly the art museum, but also galleries and collections. Institutional critique thus took on many forms, such as artistic works and

6. Emma Mahony, “Opening Spaces of Resistance in the Corporatized Cultural Institution: Liberate Tate and the Art Not Oil Coalition,” *Museum & Society* 15, no. 2 (July 12, 2017): 127.

7. Jon D. Rossini and Patricia Ybarra, “Neoliberalism, Historiography, Identity Politics: Toward a New Historiography of Latino Theater,” *Radical History Review*, no. 112 (2012): 162.

8. See my discussion of David H. Koch’s sponsorship of the Smithsonian’s new Hall of Fossils in the previous chapter.

interventions, critical writings or (art) political activism.”⁹ Work within this movement was largely (but not always) concerned with artist representation within the gallery space; the playful interventions of the Guerilla Girls are a prime example of this kind of critique. However, as many of its practitioners have pointed out, works of institutional critique have become themselves absorbed into the very institutions they intended to address, “accorded the unquestioning respect often granted artistic phenomena that have achieved a certain historical status.”¹⁰ Andrea Fraser, one of the leading artists of institutional critique, wrote in 2005 that “now, when we need it most, institutional critique is dead, a victim of its success or failure, swallowed up by the institution it stood against.”¹¹ She goes on to describe the ways the movement has been misidentified and misunderstood, charges which I will address in the conclusion to this chapter.

Critical curation, which developed after and out of institutional critique, takes up similar questions but with a focus on the apparent contradiction of presenting critical art within the very institutions it critiques: “‘Critical’ curating engages with very similar issues by striving to overcome ingrained structures and renew the institutions...This is connected with the desire to have ‘radically democratic’...and emancipatory effects, which can be created through a link to political-activist groups, through radical curatorial decisions, and through curatorial ‘complicity’ with subversive artistic practices.”¹² Critical curation has been especially concerned with the

9. Simon Sheikh, “Notes on Institutional Critique,” *Prelom* 8 (2006): 217.

10. Andrea Fraser, “From the Critique of Institutions to an Institution of Critique,” *Artforum* 44, no. 1 (September 2005): 278.

11. Andrea Fraser, “From the Critique of Institutions to an Institution of Critique,” 279.

12. Dorothee Richter and Rein Wolfs, “Institution as Medium. Curating as Institutional Critique?” *On Curating* 8, no. 11 (2011): 2.

representational politics and funding structures of art institutions—the (lack of) diversity among artists and workers in the art museum world.

Unlike spaces of artistic display, the natural history museum has not been a site for these types of critical practice. Perhaps this is because, unlike the art gallery, the natural history museum ostensibly embodies scientific objectivity as an authoritative interpretation of the natural world. However, as the case studies I analyze in this chapter demonstrate, a practice of critical curation has the potential to intervene in the regimes of knowledge at the natural history museum and create new forms of relationality, new planetary praxes. By interrogating one of the most influential avenues for constructing ideas of nature, these projects offer a radical planetarity in response to the material ecological changes of the Anthropocene.

In one sense, by naming these praxes radical I draw on the deployment of the term by leftist political movements. But there is also an intellectual tradition of radicality within environmentalism. Carolyn Merchant proposed a practice of radical ecology that “confronts the illusion that people are free to exploit nature and to move in society at the expense of others with a new consciousness of our responsibilities to the rest of nature and to other humans.”¹³

Similarly, Jemma Deer returns to the etymological origins of the word: “the notion of changing things from the very root.”¹⁴ Deer’s concept of radical animism offers “a thinking of the connection to that which nourishes living beings, a ‘literal’ and ‘metaphoric’—or material and conceptual—coming ‘down to earth’ (and an understanding that the two cannot be rigorously distinguished), as well as an appreciation of *growth* in ecological instead of economic terms.”¹⁵

In radical planetarity, I invoke these expressions of the radical as a complete rethinking and

13. Carolyn Merchant, *Radical Ecology: The Search for a Livable World*, 2nd ed. (New York: Routledge, 2005), 1.

14. Jemma Deer, *Radical Animism: Reading for the End of the World* (London: Bloomsbury, 2021), 37.

15. Deer, *Radical Animism*, 38, original emphasis.

redoing of what it means to be a human. And, as this chapter focuses specifically on the museum space, I also draw on Claire Bishop's application of radicality in museology. Radical museums "do not speak in the name of the one percent, but attempt to represent the interests and histories of those constituencies that are (or have been) marginalized, sidelined and oppressed."¹⁶ Bishop attends to art museums but her analysis of the museum as institution, and the political potential for more radical forms, can be applied to the natural history museum as well.

The three case studies I treat in this chapter take up critical curation as a tactic for creating new ecopolitical relations, in some cases in direct opposition to institutions themselves. First, I examine a museum-esque organization, the Center for Land Use Interpretation (CLUI), which takes up an alternative approach to planetary curation. CLUI, founded in 1994 by artist-scholar Matthew Coolidge, is "dedicated to the increase and diffusion of knowledge about how the nation's lands are apportioned, utilized, and perceived."¹⁷ I focus particularly on two parts of CLUI, The American Land Museum and its main exhibition spaces. The American Land Museum consists of locations-as-artifacts, demonstrating the importance of place and reimagining what artifacts can be. These exhibits cannot be removed from their ecological context for display in dioramas. Instead, the American Land Museum expands the typical techniques found in the natural history museum to interrogate the ways land is used in the United States. CLUI's exhibition space in Los Angeles and its Desert Research Station in nearby Hinkley, CA, embody a similar relationship to the landscape. Second, I examine a pop-up museum that interrogates the positionality of the natural history museum viewer and relentlessly reveals the role of capital in creating such institutions: The Natural History Museum. This

16. Claire Bishop, *Radical Museology, or, What's "Contemporary" in Museums of Contemporary Art?* (London: Koenig Books, 2013), 6.

17. "About the Center," <http://clui.org/section/about-center>, accessed May 26, 2020.

project was created by NYC-based collective Not An Alternative. The Natural History Museum, which is accredited by the American Alliance of Museums, travels to other institutions with temporary exhibits and programming. Their philosophy of institutional liberation and emphasis on collectivity show how to perform the museum otherwise, particularly by recentering Indigenous epistemologies. Finally, I return to the possibilities of a speculative perspective on museum display at the Museum of Capitalism, an ongoing project by artistic collective FICTILIS (Andrea Stevens and Timothy Furstnau). The Museum of Capitalism is a travelling installation which collects, archives, historicizes, and displays material manifestations of capitalist ideology and practice. By capturing capitalism as a historical object, it paves the way for other ways of being in the world, both critiquing the violence perpetuated by global capitalism and allowing for the possibility of a non-capitalist relationship between humans and nonhuman nature.

While these three projects differ in their content and focus, they share a set of techniques which appropriate and deploy aspects of traditional curatorial practice to critique its flaws while simultaneously creating new methods of collection and display. As such, they have much in common with micromuseums, manifestations of critical curating that “[position] the institution as something to be actively reimagined, rather than subverted.”¹⁸ As Fiona Candlin explains, “the problem with modernist museums is not necessarily that they delivered single narratives, rather than their accounts were and are presented in terms of impartial and detached truth.”¹⁹ This point has particular relevance for natural history museums, which have sought to maintain a sense of scientific objectivity throughout their histories as “a universal discipline, prior to political, social

18. Helen Gregory and Kirsty Robertson, “No Small Matter: Micromuseums as Critical Institutions,” *RACAR: Revue d’art Canadienne* 43, no. 2 (2018): 92.

19. Fiona Candlin, *Micromuseology: An Analysis of Small Independent Museums* (London: Bloomsbury Academic, 2016), 88.

and moral order; as the partner with civil and sacred history in the revelation of the workings of divine providence; as the universal and stable foundation for the transitory and speculative systems of natural philosophy; as the basis for the agricultural, commercial and colonial improvement of the human estate.”²⁰ Micromuseums, on the other hand, are often partisan, prompting visitors to “grasp why particular forms of information are being disseminated and to what ends.”²¹

At the same time these projects are (micro)museums, they are also artworks. Their creators approach the museum as what Véronique Hudon theorizes as “un dispositif performatif”—a performative apparatus.²² Hudon draws from choreographic work which recasts the museum space as a place for movement. In contrast, I lean more heavily on the “performative” of “performative apparatus.” Beyond the exhibition as a space of performance, I understand the exhibition itself as a performative, “not a metaphor...a doing.”²³ As my analysis of CLUI, the Natural History Museum, and the Museum of Capitalism demonstrates, envisioning alternative praxes necessitates a critical perspective on museums’ techniques of display.

As partisan institutions, CLUI, The Natural History Museum, and the Museum of Capitalism acknowledge that the imbrication of humans and nature is also the imbrication of capital and nature, what Jason W. Moore calls capitalism as a world-ecology.²⁴ As I hope I have demonstrated throughout this dissertation, a critique of capital is vital to the imagination and

20. Nicholas Jardine and Emma Spary, “The Natures of Cultural History,” in *Cultures of Natural History*, Nicholas Jardine, James A. Secord, and Emma Spary, eds., (Cambridge: Cambridge University Press, 1996), 3.

21. Candlin, *Micromuseology*, 88.

22. Véronique Hudon, “Le détournement du commissariat: l’exposition chorégraphique chez Boris Charmatz et Xavier Le Roy,” *RACAR: Revue d’art canadienne* 43, no. 2 (2018): 58.

23. Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 170.

24. Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso Books, 2015).

creation of new planetary praxes, and these project offer some possible techniques for doing so in the space of the museum. Such perspectives, I argue, are especially imperative given the historical legacy of natural history institutions in constructing, modeling, and perpetuating particular versions of (planetary) praxis. By interrogating the inheritance of such institutions, projects like the ones I discuss here open the way for new ways of understanding what it means to be human.

4.1 “The Ground You Are Standing On”: The Center for Land Use Interpretation

*By starting from a local political point of view, and no longer a viewpoint from the stratosphere, a resilience and a stewardship that should leave a place for the alterity of nonhuman worlds can be fully realized.*²⁵

The sun beat down, almost too warm for my T-shirt and jeans, even though it was the middle of November. Wind whipped up the reddish sandy dirt which covered the land for miles. Small mesas and hills rose in the distance. I wandered the Walking Trail behind the Center for Land Use Interpretation’s Desert Research Station, a small, squat building outside the sparsely populated town of Hinkley, California. The Walking Trail featured an outdoor gallery of sorts, a guided tour of art and artifacts relating to the local landscape. I had not seen another person since my arrival an hour earlier, when a pickup truck sped by.

25. Frédéric Neyrat, *The Unconstructable Earth: An Ecology of Separation*, trans. Drew S. Burk (New York: Fordham University Press, 2019), 59.

The only sounds were the wind and the crunch of my footsteps on gravel. As I walked the trail, reading the exhibit labels spaced throughout, I was startled by the sudden sound of a man's voice: "I can see you. Can you see me?" I held my breath, looking around for the speaker who must have arrived while I was engrossed in reading the labels. But I didn't see anyone. I heard the voice again: "I can see you. Can you see me?" I followed the sound to one of the Walking Trail's labels. The voice was a recording emitted from a small speaker disguised as a rock. The accompanying label explained that nearby Red Hill featured an overlook with a view of the Desert Research Station: "If someone is looking down from there at the same moment you are looking up at them (as you may be doing momentarily) then the two acts of overlooking collide and create an interpretive event known as a compound incident. This phenomenon is one of the subjects of study at the Desert Research Station." I peered up at Red Hill but did not see anyone looking down toward me. There was no compound event at that moment. I was (apparently) alone in the desert.

The Center for Land Use Interpretation was founded in 1994 by Matthew Coolidge, who still serves as its director. The organization is "dedicated to the increase and diffusion of knowledge about how the nation's lands are apportioned, utilized, and perceived."²⁶ CLUI focuses explicitly on US land use, an apt choice given the legacy of national parks—and their particular construction of land(scape)—in the United States.²⁷ CLUI operates several facilities, including an exhibition space in Los Angeles, open to the public for events and special exhibits;

26. "About the Center," The Center for Land Use Interpretation, , accessed Nov 19, 2019, <http://clui.org/section/about-center>. The language of "increase and diffusion" echoes the mission of the Smithsonian Institution, "an Establishment for the increase and diffusion of knowledge among men;" see Diana E. Marsh, *Extinct Monsters to Deep Time: Conflict, Compromise, and the Making of Smithsonian's Fossil Halls* (New York: Berghahn Books, 2019), especially the introduction.

27. See Richard West Sellars, *Preserving Nature in the National Parks: A History* (New Haven, CT: Yale University Press, 2009).

the Land Use Database, a digital and paper archive of significant places in the US; an outpost for exhibitions and artist residencies in Wendover, Utah; an observatory at Owens Lake near Swansea, California; and the Desert Research Station in Hinkley. I visited CLUI's main exhibition space in Los Angeles in November 2019, where I met with Matthew Coolidge. I also traveled to the Desert Research Station, where I viewed the materials on display there, including the Walking Trail.

I explore two particular parts of the CLUI, and the versions of landscape that they display: the Land Use Database and the Desert Research Station. In each of these specific expressions CLUI approaches the landscape as an artifact, relying on the experience of that landscape *in situ* instead of excising exemplary artifacts from their milieux and encasing them for display. CLUI aims to redefine nature and landscape for its audiences, emphasizing the history of human interactions with it. Though this resonates with the work of exhibits like CMNH's *We Are Nature*, unlike more traditional museums CLUI works to democratize knowledge rather than compartmentalize or specialize it. Despite CLUI's specific focus on the United States, I argue that CLUI's work provides an example of planetary praxis which might be undertaken in other geographies. That is, I am more interested in CLUI's methodologies rather than the particular content of its work, as the critical perspective of these methods offers an alternative to the anesthetization of nature found in museums which, as I have demonstrated throughout this dissertation, have contributed to its violent and destructive expropriation.²⁸

Kenneth R. Olwig's definitions of landscape provide a way in to thinking about CLUI, and how its techniques of knowledge production interface with traditional modes of natural

28. John Bellamy Foster and Brett Clark, "The Expropriation of Nature," *Monthly Review* 69, no. 10 (March 1, 2018).

history collecting. Olwig articulates what he calls the “disjunctive double meaning” of landscape: landscape as a place in itself and the spatial representation of that place.²⁹ In fact, Olwig uses the history of theatrical scenery during the Renaissance to demonstrate how the meaning of landscape slid from place into a kind of spatial scenery, developments which coincided with emerging ideas of nature itself as scenery.³⁰ I draw out the embodied aspects of landscape which thread through Olwig’s work, as “by living in or visiting the place whereby it becomes possible to both observe and participate in the expressive, reflective, and practical ‘doing’ of landscape in the place.”³¹ In what ways is landscape “done”? And how does a focus on this doing of landscape counter the illusory sense of nature so common in the history of landscape in which “we manage nature conceptualized as scenery, as with a landscape park, we are dealing with a kind of circular tautology in which the perspectival representation of the landscape architect provides the template for a material scene, which then comes to be perceived and managed as nature.”³² By practicing alternative ways of doing landscape, CLUI uncovers the ways that they “convey ideas and cultural meanings both through the form that they take, but also through how they are made and their material stuff.”³³ CLUI’s interpretative strategies reveal both the *representational* and *material* imbrications of “nature” and “culture” in ways that are specific rather than universalizing.

29. Kenneth R. Olwig, *The Meanings of Landscape: Essays on Place, Space, Environment and Justice* (London: Routledge, 2019), 5.

30. Olwig, *The Meanings of Landscape*, 9.

31. Olwig, *The Meanings of Landscape*, 19.

32. Olwig, *The Meanings of Landscape*, 10.

33. Jane Hutton, *Reciprocal Landscapes: Stories of Material Movements* (Abingdon, Oxford: Routledge, 2020), 11.

4.1.1 Capacious Cataloguing: The Land Use Database

“...democratization requires that other types of museums are recognized.”³⁴

CLUI’s main office and exhibit hall is a small unassuming building in Culver City, in Los Angeles’ West Side, just a few blocks from another institution invested in collecting, the Museum of Jurassic Technology.³⁵ Shaded by a tall potted plant and marked only by CLUI’s circular logo, the entrance is easy to miss. (I almost did.) Inside, a single large room provides exhibit space for a rotating series of investigations of land use in the United States. A few bookshelves occupy one corner; they feature a selection of works from diverse fields relevant to CLUI’s interests. When I visited in November 2019, the exhibit hall contained *Voice of America: The Long Reach of Shortwave*.³⁶ Photo and video display documented the remains of the US’s Voice of America broadcast program, including former transmission stations. A small monitor offered a recording of the demolition of one such station in Greenville, North Carolina.³⁷ In many ways, this exhibition hall does not differ from those of more traditional museum institutions: a collection of artifacts arranged and displayed to illustrate a specific theme. It is clearly on a smaller scale than other institutions I have discussed, but its display techniques do not substantially depart from conventional practices. Through rather traditional displays, the exhibits at CLUI’s main space highlight human intervention into the natural world rather than obscure or elide it. Rather than display, in this section I focus on CLUI’s philosophy and practice

34. Candlin, *Micromuseology*, 11.

35. See Lawrence Weschler, *Mr. Wilson’s Cabinet of Wonder: Pronged Ants, Horned Humans, Mice on Toast, and Other Marvels of Jurassic Technology* (New York: Vintage Books, 1995).

36. “Voice of America: The Long Reach of Shortwave,” The Center for Land Use Interpretation, accessed June 6, 2020, <http://clui.org/newsletter/winter-2020/voice-america>.

37. Matthew Coolidge told me that the video was extremely difficult to obtain from the private contractor hired by the federal government to undertake the demolition, as such firms keep their techniques as trade secrets.

of collecting, which offers an alternative model that imagines ways to reconceptualize the practice (and praxis) of collecting beyond the restrictions of knowledge in other kinds of institutions.

In the rear of the CLUI building the walls are lined with black filing cabinets. Near the ceiling, mounted shelves are stuffed full of books, papers, and documents. This is CLUI's Land Use Database—or the hard copy version of it at least. CLUI describes the Land Use Database as “an evolving and expanding catalog of unusual and exemplary places across the USA, highlighted and described by the CLUI. It is an annotation of the landscape as artifact, a product of our economy and society, an altered topography shaped by our individual and collective activities.”³⁸ The filing cabinets contain folders full of documentation of this “altered topography,” loosely organized by state. The Database also includes an interactive online map of the United States marked with hundreds of places of interest.

CLUI director Matthew Coolidge explained to me that, while CLUI members and staff investigate many sites of interest, much of the database material is provided by people not formally affiliated with CLUI. Anyone can submit documentation of a particular place they feel fits within CLUI's parameters, creating a rich archive of human-environment relations. Natural history museums are governed by scientific regimes of knowledge that determine which objects have “value” for collection and display. In contrast, the Land Use Database represents a more democratic approach. In a way this philosophy of openness echoes the beginning of institutional natural history. In the late nineteenth and early twentieth century museum staff were eager to increase public engagement and often accepted material donations from folks of all walks of life.

38., “About the Database,” The Center for Land Use Interpretation, accessed June 6, 2020, <http://clui.org/ludb/page/about-database>.

Natural history institutions “had long relied on the donations of amateur naturalists to fill their shelves, and their emphases on survey collection and local nature ensured that all citizens, regardless of educational background, could make useful contributions.”³⁹ As these institutions grew they gradually decreased this particular public relationship as it began to drain museum resources. As Rader and Cain chronicle, museums developed their collections so that “they could shape public perceptions of what could be found in the natural world. But such policies increasingly excluded the contributions of ordinary citizens and reduced burgeoning public participation in museums.”⁴⁰ In this way, nature became something that was “out there” to be mediated through the scientific authority of the natural history museum. The public (that is, those who are not museum workers or scientists) became doubly separated from “nature”: once via urbanization and again by the gatekeeping of collection practices and specialization of knowledge.

The form of collecting practiced in the Land Use Database intervenes in this double bind of separation. First, like all of CLUI’s work, the Database underscores that “the environment” is not merely something found in the middle of nowhere outside of human habitation. The Database includes both “natural” features—mountains, bodies of water, forests—and “artificial” constructions—airports, public art, monuments. Second, by returning to a more democratic practice of collecting the Database demonstrates that “the environment” has a multiplicity of meanings and can be found in immediate pedestrian surroundings. This particular philosophy of collection generates an eclectic and vibrant archive with diverse evidence representing any number of human-environment relations. For example, a quick perusal of the file cabinet drawer

39. Karen A. Rader and Victoria E.M. Cain, *Life on Display: Revolutionizing U.S. Museums of Science and Natural History in the Twentieth Century* (Chicago: University of Chicago Press, 2014), 31.

40. Rader and Cain, *Life on Display*, 34.

marked “Pennsylvania” revealed a collection of manila folders. One contained visual materials for Pittsburgh’s Center for PostNatural History (figure 21). Another contained memorabilia from the now-defunct Roadside America attraction in Shartlesburg, Pennsylvania (figure 22).



Figure 20. Contents of the Center for PostNatural History folder at CLUI.

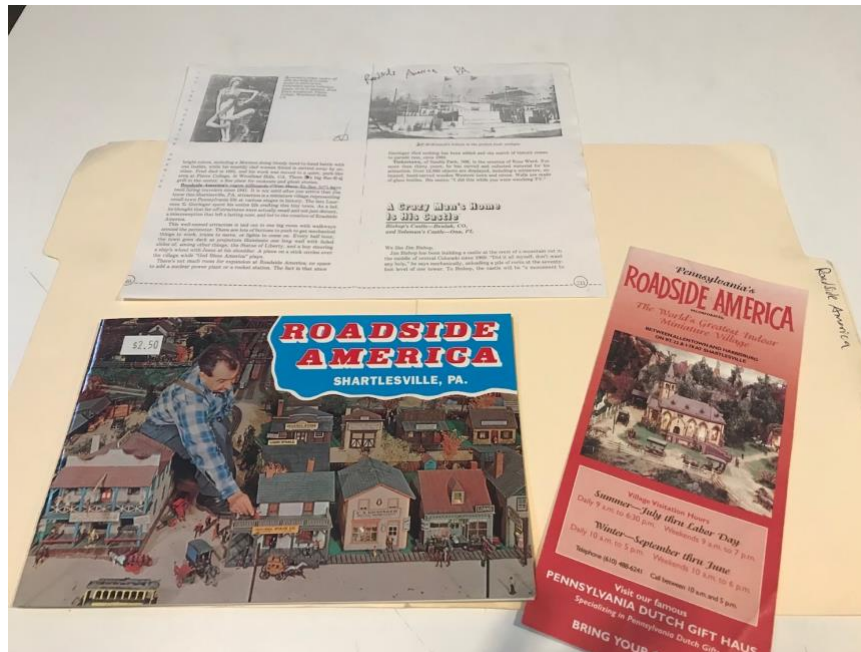


Figure 21. Contents of Roadside America folder at CLUI.

This kind of intellectual abundance is a hallmark of many micromuseums. A major institutional museum could not “fulfill its mission to educate and uplift unless its collections were organized in ‘scientific’ ways. Likewise, museums could not make rational sense out of the world unless they devoted themselves to collecting, organizing, and displaying particular categories of knowledge.”⁴¹ Thus the history of the museum is one of shrinking display, where the number of objects has been dramatically reduced.⁴² Many micromuseums, on the other hand, abandon the rigidity and sparseness of the modern museum in favor of capacious collections that allow for unexpected connections.

As a micromuseum, CLUI operates free from some of the apparent restrictions on larger natural history institutions. Just as the Land Use Database accepts material from anyone, the archive is open for anyone to visit; only an email to schedule an appointment is required. The exhibition space is open to the public during certain hours, and there is no cost for admission.⁴³ All of CLUI’s programming is created by staff or independent researchers and artists; no material is commercially commissioned.⁴⁴ The facility in Wendover, at the Nevada–Utah border, accepts proposals for place-based projects and artist residencies. No particular affiliation is required to propose a project, and CLUI encourages experimental and long-term projects.⁴⁵ While CLUI is a nonprofit and does accept donations for support, the identities of donors are not publicized in any way. Arguably, then, CLUI operates more democratically than either of the institutions I discussed in the previous chapter. Democratizing museums means not only

41. Steven Conn, *Do Museums Still Need Objects?* (Philadelphia: University of Pennsylvania Press, 2010), 21.

42. See Conn, *Do Museums Still Need Objects?*.

43. Of course, like most gathering places, CLUI’s spaces were closed for most of 2020 due to the COVID-19 pandemic.

44. “Programs and Projects,” The Center for Land Use Interpretation, accessed January 18, 2021, <http://www.clui.org/section/programs-projects>.

45. “CLUI Wendover,” The Center for Land Use Interpretation, accessed January 18, 2021, <http://www.clui.org/section/working-clui-wendover>.

attention to access and diversifying audiences but “it is also important to re-evaluate official conceptions of museums, how they operate, who runs them, and to what purpose.”⁴⁶ In other words, what is on display, and how, and why, are crucial questions to ask of natural history museums in the Anthropocene.

Though primarily composed of documentary evidence—photographs, publications, publicity materials—rather than objects per se, in its abundance the Land Use Database promotes a sense of curiosity hearkening back to the early-eighteenth-century practice of cabinets of curiosity. Usually the product of individual collectors, cabinets of curiosity typically contained diverse collections of materials both “natural” and “man-made.” (The cabinet of curiosity has become a sort of theoretical touchstone for many in the Anthropocene, inspiring artwork and scholarship alike.⁴⁷) Under the knowledge regimes and collecting practices of natural history museum, “curiosity is no longer sufficient grounds, nor a satisfactory object, for museum collecting; plenitude is no longer representative of a worldview but of disorder.”⁴⁸ In the Land Use Database curiosity serves as an important part of an epistemic openness which leaves room for the possibility of multiple interpretations. Through a fluid “system” of categorization, in this archive curiosity “enables unpredictable collisions between diverse images and things...[it] is a way of knowing that combines both empirical investigation and imaginative leaps, that it concerns pleasure in exploration and surprise for its own sake, and as such, that it resists instrumentalism.”⁴⁹ By promoting curiosity, for collectors and visitors alike, the “collecting

46. Candlin, *Micromuseology*, 11.

47. See Gregg Mitman, Marco Armiero, and Robert S. Emmett, eds., *Future Remains: A Cabinet of Curiosities for the Anthropocene* (Chicago: University of Chicago Press, 2018). Artist Mark Dion has used the cabinet of curiosity to interrogate museum practices; see Colleen J. Sheehy, ed., *Cabinet of Curiosities: Mark Dion and the University as Installation* (Minneapolis: University of Minnesota Press, 2006).

48. Susan A. Crane, “Museums and Memory, Curious Cabinets and Imaginary Museums,” in *Museums and Memory*, ed. Susan A. Crane (Stanford: Stanford University Press, 2000), 75.

49. Candlin, *Micromuseology*, 135.

rubric” of the Land Use Database counters the instrumentalism of nature under capital, a project in which natural history museums have played (and continue to play) a significant role. Coupled with an emphasis on situated landscape-as-artifact, which I will next address, this collection philosophy continues to emphasize the interdependence of humans and their environments, rather than their separation.

4.1.2 The Desert Research Station: Situated Landscapes

“Place is thicker and more concrete than mere location, and story helps makes it concrete...place can be focussed widely or narrowly in relation to different frameworks, but in a materially-embodied life has ultimately to locate a piece of ground, a piece of the earth.”⁵⁰

I began this section with a description of my visit to the Desert Research Station. One of three interpretive facilities which CLUI operates, the Desert Research Station includes a conventional exhibition space inside a small trailer and the outdoor walking trail. The interpretive devices at the research station make clear that the surrounding landscape can itself be experienced as an artifact, a practice that both critiques other display practices and embodies other ways of relating to the natural world. This facility exemplifies CLUI’s approach to landscape, and how as an artifact it can be experienced outside of a traditional museum.

In her 1998 work *Destination Culture: Tourism, Museums, and Heritage*, Barbara Kirshenblatt-Gimblett describes the ways that academic disciplines and institutions of knowledge

50. Val Plumwood, “Shadow Places and the Politics of Dwelling,” *Australian Humanities Review*, no. 44 (March 2008): 144.

constitute themselves through the creation of their objects of study, a process she names excision. As a practice of excision, then, museum display becomes an exercise of asking the question “where do we make the cut?”⁵¹ Which parts of an object’s relations are severed to accommodate the (partial) knowledge frameworks of display? Kirshenblatt-Gimblett identifies two strategies museums use in the excision process: *in situ* and *in context*. Objects displayed *in situ*, as a relation to an absent whole, can often be found in a mimetic facsimile of their environment;⁵² ethnographic and biological dioramas are an example of this kind of excision. *In context* displays, on the other hand, “exert strong cognitive control over the objects, asserting the power of classification and arrangement.”⁵³ In this formation, specific compositions of objects convey ideas, like the organization of biological specimens by species. CLUI’s interpretative strategies, and the Desert Research Station in particular, offer a third alternative. Departing from Kirshenblatt-Gimblett’s binary, the Desert Research Station displays and interprets landscape-as-artifact in its actual—or “natural”—place. Not *in situ* in the sense above, but instead *situated*.

By theorizing landscape-as-artifact as situated, I draw from the long legacy of feminist science studies, especially the work of Donna J. Haraway, who proposed situated knowledge(s) as a counter to the view from nowhere, “the god trick of a Star Wars paradigm of rational knowledge.”⁵⁴ Haraway and other feminist scholars have argued for the value of the feminist standpoint; this of course spread to the wider realm of standpoint theory. In theorizing situated landscapes, I think alongside this version of knowledge to include the value of the spatial

51. Barbara Kirshenblatt-Gimblett, *Destination Culture: Tourism, Museums, and Heritage* (Berkeley: University of California Press, 1998), 18.

52. Kirshenblatt-Gimblett, *Destination Culture*, 19.

53. Kirshenblatt-Gimblett, *Destination Culture*, 21.

54. Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 589.

standpoint, the always-partial perspective from the place itself. The situated artifact facilitates “politics and epistemologies of location, positioning, and situating, where partiality and not universality is the condition of being heard to make rational knowledge claims...the view from a body, always a complex, contradictory, structuring, and structured body.”⁵⁵ In situated landscapes, like those interpreted at the CLUI, knowledge claims are also made *from a specific place*, offering a “radically particular view.”⁵⁶ The CLUI’s landscapes-as-artifacts remain relentlessly situated, honing in on the particularities of a place to uncover something about the relationship between humans and the spaces in which we live. Just as other artifacts can “creat[e] dialogue between small facts and big issues,” I contend that the relationship modeled by the CLUI offers a pathway to a more ethical understanding of nature than that proposed by more traditional display techniques.⁵⁷

The artifacts on the walking trail and in the exhibit space at the Desert Research Station reveal the influence of human activity on the landscape, particularly effects that are not visible from other perspectives: evidence of underground water systems, military aircraft testing, and mining operations (figures 23 and 24). These artifacts trace the human impact on landscapes like the Mojave Desert, offering a history of environmental relations. However, unlike other Anthropocene narratives which attempt to subsume the “natural world” under the rubric of the human, CLUI’s interpretive strategies maintain a necessary separation as well as a reminder that only *some* humans have modified the landscape. CLUI’s landscapes-as-artifacts remind us that the act of looking is always also an act of obfuscation: directing your attention toward one aspect

55. Haraway, “Situated Knowledges,” 589.

56. Candlin, *Micromuseology*, 183.

57. Fiona Candlin, *Micromuseology*, 19.

of the environment means drawing it away from another.⁵⁸ Especially when experiencing a situated landscape-as-artifact these multiple meanings present themselves as always at play; CLUI founder Matthew Coolidge described this to me as a “paradox” of competing ideas existing in the same place. Outside the confines of conventional natural history museums, CLUI shows not only that there is room for such a paradox, but that embracing that dissonance is necessary for new environmental relations.



Figure 22. Aircraft Fragments.

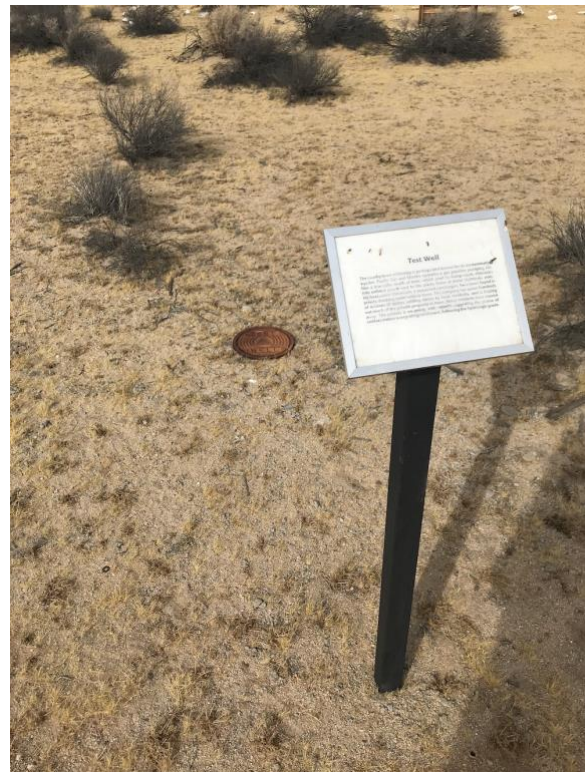


Figure 23. Test Well.

Insofar as they reconceive human’s relationship with place, these situated landscapes achieve some of what Val Plumwood calls for: “An ecological re-conception of dwelling has to

58. Matthew Coolidge, “The American Land Museum: Places as Cultural Artifacts” (Harvard Museums of Science and Culture, April 17, 2019), [youtube.com/watch?v=QdooB6Dd3iU&feature=emb_logo](https://www.youtube.com/watch?v=QdooB6Dd3iU&feature=emb_logo).

include a justice perspective and be able to recognise the shadow places, not just the ones we love, admire or find nice to look at.”⁵⁹ The Desert Research Station and its surrounds represent a shadow place. It is desolate, forgotten by the mechanisms of capital which built it. Though CLUI’s practice of situating opens up opportunities to recognize these places, a more robust commitment to environmental justice, particularly the histories of Indigenous peoples and their relationships with land(s), would pave the way for truly radical planetary praxis.

4.2 Putting Display on Display: Not An Alternative’s The Natural History Museum

*The capitalist class relies on ideological apparatuses like museums to produce and reproduce the subjects it needs.*⁶⁰

Pittsburgh’s Carnegie Museum of Natural History (CMNH) boasts a lovely outdoor seating area which separates CMNH from its neighbor, the Carnegie Museum of Art. Underneath several tall trees sporting fall foliage, master totem pole carver Jewell Praying Wolf James of the Lummi Nation and a tribal delegation led a ceremony to bless a beautifully carved and painted wooden totem pole. The event was the culmination of the 2017 Totem Pole Journey made by the House of Tears Carvers of the Lummi Nation, a tour of a number of sites across the country to promote Indigenous leadership in environmental movements. This ceremony also launched the exhibit *Kwel’Hoy: We Draw the Line!* at CMNH. Created in collaboration with Not An Alternative’s project the Natural History Museum, *Kwel’Hoy* exhibited artifacts and personal

59. Plumwood, “Shadow Places and the Politics of Dwelling,” 139.

60. Not An Alternative, “Institutional Liberation.”

stories collected from people along the route of the totem pole journey.⁶¹ This was the first time a totem pole had entered a natural history museum under the care of Indigenous people, rather than as the anthropological spoils of colonial violence.⁶²

Along with members of the tribal delegation, the blessing was attended by museum leadership from natural history institutions around the world, as the event also coincided with the opening of the annual conference of the International Committee for Museums and Collections for Natural History (ICOM NATHIST). This context further underscores the question of the role of natural history institutions, and natural history broadly, in understanding and facing the climate emergency. As Not An Alternative member Beka Economopolous explains, the goal of these kind of projects is to “expose the [museum] sector, not as a monolithic block of power or a microcosm of the capitalist ecosystem, but rather a politicized site of struggle over the meaning of natural history and the responsibility of the natural history museum.”⁶³ By confronting important figures responsible for the dispossession and erasure of Indigenous peoples and their culture within the natural history museum—who may very well have totem poles on display in their own institutions, in a decidedly different manner—*Kwel’Hoy* opens up the natural history institution as a site of contention rather than of unquestioned scientific authority. As I demonstrated in the previous chapter, the interrogation and reconsideration of this role is imperative in light of ecological emergency.

61. “Kwel’Hoy: We Draw the line!,” The Natural History Museum, accessed January 7, 2021, <http://thenaturalhistorymuseum.org/events/kwel-hoy-we-draw-the-line/>.

62. The ethical implications of displaying Indigenous artifacts and remains is an ongoing discussion among museum practitioners.

63. Not An Alternative, “The Visibilities and Invisibilities of a Changing Climate” (Miami Museum of Art & Design, April 14, 2019), <http://notanalternative.org/2019/04/14/the-visibility-and-invisibility-of-a-changing-climate/>.

Not An Alternative's Natural History Museum (NHM) supported the Lummi Nation in achieving this exhibit as part of their political philosophy of insurgency: occupying existing institutions from within for radical change. They argue that this tactic serves to best remedy the state of public institutions under neoliberalism, where "museums and other public institutions become little more than apparatuses for public relations, resources for reshaping common sense according to capitalist values and priorities."⁶⁴ Such intervention is a tactic often used by Not An Alternative, which also played a role in the Occupy movement. Institutions broadly, and museums specifically, are sites of struggle. Alongside a number of other artists and groups like Liberate Tate, Not An Alternative works to "commandeer" museums and redirect the power and resources which already exist within them. NHM's philosophy provides one example of how conditions of display can themselves be examined rather than accepted as truth.

A pop-up traveling museum, NHM began offering exhibitions and programming in September 2014 with a mission to "affirm the truth of science."⁶⁵ NHM has created a number of specific exhibitions which have shown at museums around the United States, including *Kwel'Hoy*. NHM's grand opening event, *Exhibiting the Gaze*, exemplifies Not An Alternative's organizing philosophy and demonstrates the necessity of interrogating museum practices which continue to significantly shape environmental relations. *Exhibiting the Gaze* was shown at the Queens Museum in New York, and included an installation, a free exhibition publication, panels, workshops, and film screenings (figure 25). The exhibit coincided with the first People's Climate March.⁶⁶

64. Not An Alternative, "Institutional Liberation."

65. "About," The Natural History Museum, accessed August 28, 2020.<http://thenaturalhistorymuseum.org/about/>.

66. Lisa W. Foderaro, "Taking a Call for Climate Change to the Streets," *The New York Times*, September 21, 2014. <https://www.nytimes.com/2014/09/22/nyregion/new-york-city-climate-change-march.html>.



Figure 24. *Exhibiting the Gaze* exhibition tent.

Image courtesy of Not An Alternative.

NHM set up a one-thousand-square-foot tent at the Queens Museum to house *Exhibiting the Gaze*. On display under the tent for the duration of the exhibition, NHM placed taxidermied specimens and a series of lightboxes showing photographs of natural history dioramas at other museums. Some photographs included people viewing the dioramas.⁶⁷ The reflective surfaces of the lightboxes, coupled with their illumination, also mirrored visitors' images back to them, underscoring the emphasis on the positionality of seeing. This exhibition, as Jodi Dean writes, "puts display on display."⁶⁸ NHM expropriates the two most common methods of display—taxidermy and the diorama—to reveal the constructed nature of museum's supposed scientific objectivity. Both methods depend upon a performance of "real" nature, and thus also a performance of "the human," as I discussed in the previous chapter. And, as many scholars have

67. Dean, "A View from the Side," 88.

68. Dean, "A View from the Side," 77.

argued, as natural history museums create a particular version of nature, they “simultaneously erase the fact of its cultural production...the result of these kinds of tales is that other ways of encountering nature are rendered unthinkable, other stories unsayable.”⁶⁹ By turning what Not An Alternative describes as an “anthropological perspective” on museums themselves, NHM reveals the social, cultural, and political construction of these ideas.⁷⁰ In contrast, exhibitions like CMNH’s *We Are Nature* and the Smithsonian’s Fossil Hall try to show how nature outside the museum has always been influenced by humans while overlooking, eliding, or purposefully ignoring their historical role in constructing ideas of nature, and thus the human. As I have argued throughout this dissertation, in the face of climate crisis and economic devastation, new forms of being human are necessary. As numerous museum studies scholars have articulated, natural history museums serve as a way of promoting specific versions of humanity. Or, as Tony Bennett observes, “the museum is engaged in a constant historical band-aid exercise in seeking to put back together the badly shattered human subject.”⁷¹

Thus as “a place from which visitors see their world as knowable,” the natural history museum and its practices demand critique if alternative praxes are to be manifested.⁷² Unlike traditional natural history museums that steadfastly maintain an “objective” or “apolitical” stance, the anthropological gaze NHM advocates for is decidedly partisan. NHM is not only partisan as in openly political but also partisan as in partial. NHM adopts a such a perspective in the face of the scalar challenge of climate change. As Dean (a former member of Not An

69. Stephanie Rutherford, *Governing the Wild: Ecotours of Power* (Minneapolis: University of Minnesota Press, 2011), xi.

70. “Grand Opening: Exhibiting the Gaze,” The Natural History Museum, accessed September 3, 2020, <http://thenaturalhistorymuseum.org/events/grand-opening-of-the-natural-history-museum/>.

71. Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995), 39.

72. Jodi Dean, “Exhibiting the Gaze,” in *Exhibiting the Gaze* by The Natural History Museum, http://thenaturalhistorymuseum.org/wp-content/uploads/2014/09/NAA14_0001_NHM_essaybooklet_version2-1.pdf.3.

Alternative) shows, the apathy created by our inability to apprehend the totality of climate change has been adopted by both the fossil fuel industry and the left. Dean (and Not An Alternative) identifies the left's "fascination with climate change's anthropogenic knot of catastrophe, condemnation, and paralysis" as a key obstacle in the struggle for a common future.⁷³ NHM approaches climate change from the side, in what Dean calls an anamorphic way: what appears distorted from one angle becomes clear from another.⁷⁴ Thus a partisan perspective on climate change, embodied in the NHM project, provides avenues for action and builds collective power, rather than reproducing and spreading paralysis and despair.

As Dean points out, truth itself is partisan: "The practice of science is configured by its settings, settings to which it contributes. But the truth of science is not the same as the practice of science. To affirm this truth is to force a gap within scientific practice, making science the truth of a subject."⁷⁵ This "gap" is precisely what NHM works to create and expose, carefully walking the line between critiquing scientific methods and affirming the reality of climate change.⁷⁶ Not An Alternative describes this process as identifying, creating, and exploiting "gaps." In the case of NHM, dioramas and displays open gaps in both the politics of museum display and in the ideology of nature: "By exhibiting how nature appears, the NHM opens up not only the irreducibility of nature to its appearing but also the gap of human systems, perceptions, and institutions within nature. This gap forces 'visitors'...to acknowledge the place from which they see."⁷⁷

73. Jodi Dean, "The Anamorphic Politics of Climate Change," *e-flux journal* 69 (2016).

74. Dean, "Anamorphic Politics."

75. Dean, "A View from the Side," 97.

76. Critiques of science and climate change can slide too easily into climate denialism, and thus reappropriated by capitalism.

77. Dean, "A View from the Side," 85.

NHM's installation at the 2015 American Alliance of Museums Annual Convention illustrates the critical potential of the gap. At the convention in Atlanta, Georgia, more than seven thousand institutions displayed exhibits and programming. NHM (with the single largest exhibit space in the convention hall) showed several different installations, including their museum bus. Other exhibits included dioramas, installations, a tent for film screenings, and a video series called "The Museum of the Future" featuring interviews with luminaries such as Vandana Shiva and Naomi Klein.⁷⁸



Figure 25. NHM display at AAM 2015 convention.

Image courtesy of Not An Alternative.

78. All videos are available online at "NHM.tv," The Natural History Museum, <http://thenaturalhistorymuseum.org/nhm-tv/>.

One diorama in particular captures NHM's working methods and offers a useful example of how I see their work as contributing to radical planetary praxes. *Will the Story of the 6th Mass Extinction Ever Include the Role of its Sponsors?* shows a dinosaur hall of the future, as indicated by a sign and the fossil of an allosaurus skull within a plexiglass case. Observing the fossil, a human skeleton stands with one arm raised, as if considering the dinosaur exhibit. A sign on the adjacent wall reads "The David H. Koch Dinosaur Wing," a name shared by a part of New York's American Museum of Natural History (figure 26). This exhibit-within-an-exhibit deploys the aesthetics of display to critique the ongoing connection between museums and the fossil fuel industry. Around the time of the convention, NHM and more than one hundred scientists wrote an open letter to the scientific community calling on them to cut their financial ties with fossil fuels and end corporate greenwashing. The letter went viral.⁷⁹ At the same time, NHM, in partnership with a number of other scientific and environmental groups, circulated a petition calling for the removal of David H. Koch from the boards of the Smithsonian National Museum of Natural History and American Museum of Natural History. (Koch resigned from the board of AMNH in December 2015 but retained his position at the Smithsonian until his death in August 2019.)

Like many narratives of the Anthropocene, *Will the Story of the 6th Mass Extinction Ever Include the Role of its Sponsors?* interpellates a future reader who exists after the current crises have played out. According to Pieter Vermeulen, "this imagined retrospect supposedly not only affords an epistemological advantage, but also entails a call to action...an imagining of the future

79. For the text of the letter, see The Natural History Museum, "An Open Letter to Museums from Members of the Scientific Community," The Natural History Museum (blog), March 24, 2015, <http://thenaturalhistorymuseum.org/open-letter-to-museums-from-scientists/>. For later coverage, see The Natural History Museum, "Our Letter Has Gone Viral...," The Natural History Museum (blog), March 25, 2015, <http://thenaturalhistorymuseum.org/our-letter-has-gone-viral/>.

as if it were already past.”⁸⁰ Vermeulen is particularly concerned with narratives that imply the extinction of the human race, because

the serious concern with a posthumous reader...by even bothering to engage narratively with the end of the species, I believe, it testifies to the impossibility of dispassionately surrendering human difference to a world without us. What is distinctive about these figurations of a posthumous reader is not their lack of concern with human life, but rather that they (unlike the authors of these works) do not imply an ethical or political programme for change; there is, in these works, no global solution to a planetary problem.⁸¹

NHM’s exhibit certainly suggests the possibility of the future of human extinction through the “performing remains” of the human skeleton.⁸² But the “call to action” embodied by this speculative display is certainly clear. The named sponsors of the display of dinosaurs are the same who actively contribute to the sixth mass extinction event through their actions. The display literally names names, refusing the “mythic Anthropos as geologic world-maker/destroyer of worlds” for an explicitly partisan call to action.⁸³

Beyond this clear critique of capital, *Will the Story of the 6th Mass Extinction Ever Include the Role of its Sponsors?*, and the Natural History Museum more broadly, demonstrates the politically constructed nature of museum display techniques. Despite their claim to scientific neutrality, such institutions (and the people that fund them) are not and have never been neutral. In the natural history museum of the future, when the evidence of our own cultures and bodies is on display alongside those of the dinosaurs, will the same parties responsible for the devastation caused by fossil fuels continue to sponsor environmental display?

80. Pieter Vermeulen, “Future Readers: Narrating the Human in the Anthropocene,” *Textual Practice* 31, no. 5 (2017): 872.

81. Vermeulen, “Future Readers,” 873.

82. Schneider, *Performing Remains*.

83. Kathryn Yusoff, “Anthropogenesis: Origins and Endings in the Anthropocene,” *Theory, Culture & Society* 33, no. 2 (2016): 5.

4.3 Performative Speculation in The Museum of Capitalism

*“It is no longer easy even to imagine capitalism as an object of historical inquiry precisely because it is perceived as a condition of life, more timeless than the very ecological foundations of existence, which, frail and tottering, seem to give way at any moment.”*⁸⁴

Speculative fiction has offered a rich archive for scholars striving for new forms of ecological relationality. Particularly in feminist science studies, thinkers like Donna J. Haraway, Anna Tsing, and Karen Barad have drawn from speculative genres in crafting their work. Similarly, writers interested in climate change have found in science fiction a vast repertoire of ideas to capture and understand contemporary environmental conditions. The periodization of the Anthropocene itself is inherently speculative, insofar as it depends upon the perspective of an imagined future geologist reading the planetary record.⁸⁵ For example, Naomi Oreskes and Erik Conway’s speculative history *The Collapse of Western Civilization: A View from the Future* works to understand environmental inaction and societal collapse from the perspective of a future historian, complete with a “lexicon of archaic terms” like “capitalism” and “invisible hand.”⁸⁶

Much of the speculative production—artistic and scholarly—dealing with climate change and the Anthropocene tends toward the dystopic or apocalyptic. The scientific introduction of the Anthropocene has been accompanied by an increase in “extinction porn:” narratives of

84. Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (London: Verso Books, 2016), 278.

85. I discuss this in relation to natural history museums in “Imagining Planetaryity through Museological Performance.”

86. Naomi Oreskes and Erik M. Conway, *The Collapse of Western Civilization: A View from the Future* (New York: Columbia University Press, 2014).

destruction, decline, and apocalypse that create a certain kind of aesthetic pleasure.⁸⁷ Despite the apparent critical possibilities for such speculative production in communicating climate crises, it is important to ask precisely *for whom* these alternative futures are dystopic. Potawatomi scholar Kyle Powys Whyte responds to this proliferation of apocalypses by foregrounding the perspective of Indigenous peoples, who “already inhabit what [their] ancestors would have understood as a dystopian future.”⁸⁸ I include this brief gloss on climate change apocalypse to contextualize another speculative perspective, one that rejects the catastrophism of extinction porn and harnesses the critical potential of such a perspective in imagining other futures: the Museum of Capitalism.

The speculative perspective of the Museum of Capitalism is not explicitly ecological. Unlike other examples mentioned here, which directly interrogate the relationship between the human and the other-than-human, the Museum of Capitalism approaches the world under capitalism as an object of historical inquiry. Additionally, departing from the majority of speculative cultural production, which is textual or cinematic, the Museum of Capitalism deploys speculation as a performative aesthetic.⁸⁹ Like Oreskes and Conway’s speculative scholarship, the Museum of Capitalism extrapolates the aesthetics of an existing form—in this case, the museum—to expose and critique the conditions of contemporary neoliberal capitalism. In 2015, artistic collective FICTILIS (Andrea Stevens and Timothy Furstnau) established the Museum of Capitalism as an institution to “educate this generation and future generations about the ideology,

87. Joanna Zylińska, *Minimal Ethics for the Anthropocene* (Ann Arbor: Open Humanities Press, 2014), 108.

88. Kyle Powys Whyte, “Indigenous Science (Fiction) for the Anthropocene: Ancestral Dystopias and Fantasies of Climate Change Crises,” *Environment and Planning E: Nature and Space* 16, no. 4 (May 2018): 4.

89. See Shelby Brewster, “Food Futures: Speculative Performance in the Anthropocene,” *Journal of American Drama and Theatre* 29, no. 2 (Spring 2017).

history, and legacy of capitalism.”⁹⁰ The Museum’s first exhibition appeared in Oakland, California, in 2017, displaying a wide variety of artifacts, exhibitions, and artworks. Since this inaugural event, the Museum of Capitalism has traveled to Boston and New York, and offered a variety of programming.⁹¹ FICTILIS has published two editions of an exhibition catalogue, a collection of documentation, essays, poetry, and quotations.

FICTILIS uses the exhibition spaces and traditional display practices as a *dispositif performatif*/performative apparatus to critique the museum space, adopting a speculative perspective in order to apprehend contemporary neoliberal capital.⁹² In some ways, the Museum of Capitalism serves as a response to the oft-cited maxim (variously attributed to Frederic Jameson or Slavoj Žižek) that it is easier to imagine the end of the world than the end of capitalism. If, as I have been arguing throughout this dissertation, new forms of environmental relationality necessitate an anti-capitalist perspective, then *imagining the end of capitalism is essential to the generation of new planetary praxes*. But, as FICTILIS writes in the introduction to the Museum of Capitalism’s exhibition catalogue, before capitalism can be critiqued it must be defined: “we didn’t just need to *agree on terms*; we needed to *come to terms* with capitalism.”⁹³ And so, through the performance of the aesthetics of museum display, the Museum of Capitalism works to capture the conditions of capital as a historical object in order to imagine alternatives beyond it. Or, to cast this in the terms I have been working with, the Museum of Capitalism helps uncover the ways capitalism has become naturalized as praxis, as the way of being human, so that other ways of being might become possible.

90. “About,” Museum of Capitalism, accessed August 19, 2020, <https://www.museumofcapitalism.org/about>.

91. “About,” Museum of Capitalism.

92. Hudon, “Le détournement du commissariat.”

93. FICTILIS, “Introduction,” in *Museum of Capitalism*, ed. FICTILIS (New York: Inventory Press, 2017), 14.

For the purposes of analysis, I consider the *Museum of Capitalism* as a performative apparatus which includes its exhibitions, programming, events, and published materials. Like many other special exhibits in traditional art and natural history museums, FICTILIS published a catalogue to accompany their display; a second, expanded edition appeared in early 2020. The exhibition has appeared three times: in Oakland, CA (2017); Boston, MA (2018); and New York City, NY (2019). Each instance featured slightly different artifacts on display as well as specific programming to accompany the exhibition's runs. I visited the most recent exhibition, on display at Parson's School of Design in New York City from October 30 to December 10, 2019. Admission was free. In addition to material from the project's previous installations, FICTILIS collaborated with local New York artists who contributed new pieces for display.

The exhibition at Parson's featured an eclectic mix of artifacts, artworks, and interactives. Following the conventional practice of museums, each piece was accompanied by one or more labels featuring the piece's title, artist, medium, and a short description. Before turning attention to specific pieces included in this version of the exhibition which exemplify its work, I theorize the ways these labels create the speculative performance of the exhibit as a whole. Take the information displayed alongside *Pharmaceutical Pen Collection* (2001–2008) by Dr. Jeffrey Caren (figure 27). This artifact consisted of a diverse assortment of pens laid out in two neat rows in a glass case. The label above explained:

Throughout the end of the 20th and beginning of the 21st centuries, representatives (or “reps”) from American pharmaceutical companies regularly visited doctors' offices to sell their products. These reps often brought gifts ranging from pens and other branded items to meals and rounds of golf, all with the goal of reminding (or coercing) doctors to prescribe their drugs to patients. Over the years, Dr. Jeffrey Caren, a Los Angeles-based cardiologist, collected over twelve hundred pens from the various sales representatives who came to his office on the sixth floor of the Cedars-Sinai Medical Center. As his collection grew, Caren began requiring representatives to present him with a new variety of pen before stepping into his office, challenging them to add unique items to his collection.

The label goes on to contextualize this artifact in light of the 2008 Physicians Payment Sunshine Act, which aimed to regulate the actions of pharmaceutical reps.⁹⁴



Figure 26. Pharmaceutical Pen Collection (2001–08).



Figure 27. Supermajor (2019).

This appropriation of typical museum aesthetics aims for an affect of estrangement similar to that which I discussed in the previous chapter, exemplified by the label’s future-oriented tone. The marking of the centuries addresses a future spectator who might not have direct experience with—or even general knowledge of—the healthcare system of the United States at the beginning of the twenty-first century. The parenthetical detail explaining that “reps” is often used as an abbreviation of “representatives” similarly underscores the exhibition’s speculative tone. By adopting the perspective of a future viewer, the Museum of Capitalism exposes the apparently natural conditions of capitalism that have become so ubiquitous as to be

94. See Neil M. Kirschner, Lois Snyder Sulmasy, and Aaron S. Kesselheim, “Health Policy Basics: The Physician Payment Sunshine Act and the Open Payments Program,” *Annals of Internal Medicine* 161, no. 7 (2014): 519–21.

totalizing, “extended to all aspects of society, as an all-inclusive principle from which no exit is possible.”⁹⁵ This speculative framing runs throughout the exhibition, acting as a performative—speaking the world(s) beyond capital into existence.

Gelare Khoshgozaran’s piece *US Customs Demands to Know* (2016–present) imagines the world beyond borders: “Checkpoints were locations which would limit the flow of persons and goods across borders. At checkpoints, a hierarchy between an ‘authority’ who was reviewing the credibility, identity, safety, and trustworthiness of the person or goods was often established.” Matt Kenyon’s sculpture *Supermajor* (2019) imagines a world beyond fossil fuels: “It had seemed like oil would continue to flow, as if by magic, in inexhaustible quantities, from an unlimited supply, to fuel the ever-growing energy demands of capitalist economies. Or at least those who profited from the oil business made it seem that way. This exhibit stands humbly on the ground as a memorial to the era of petro-capitalism and its mistaken beliefs” (figure 28). Sharon Daniel’s video and sculpture *Undoing Time / Pledge* (2013) imagines a world beyond the prison-industrial complex: “In the late 20th and early 21st centuries, inmates in US prisons were often treated as a readily available source of cheap labor...The goal of profit maximization via prison labor connected to a broader escalation in incarceration for minor offenses, as well as increased privatization of incarceration facilities and services...”

This speculative tone works alongside the distancing effect of traditional display aesthetics to capture capitalism as a historical object, intervening in capitalist realism: “the widespread sense that not only is capitalism the only viable political and economic system, but also that it is now impossible even to imagine a coherent alternative to it.”⁹⁶ One of the reasons

95. Foster, “Absolute Capitalism.”

96. Mark Fisher, *Capitalist Realism: Is There No Alternative?* (Winchester, UK: Zero Books, 2009), 2.

which capitalist realism exercises so much power, shaping so much of human experience, comes partly from “the way that capital subsumes and consumes all of previous history.”⁹⁷ By presenting artifacts of capitalism through the lens of a museum visitor living in a new and different world, the Museum of Capitalism both reveals and disrupts capitalist realism. This is the first step toward imagining alternatives.

In the previous chapter, I argued that the objectification and instrumentalization of nature common in traditional museums obstructs those institutions’ efforts to create new environmental relations. The Museum of Capitalism appropriates that objectification as a tactic of resistance. Like the Brechtian *Verfremdungseffekt* from which it originates, in the museum space this kind of estrangement becomes “an experiential pressure that estranges the spectator from hegemonic constructions of reality and instigates a radical or revolutionary ideological rethinking.”⁹⁸ The casting of the material evidence of capitalism in the plexiglass case of the museum gallery exposes the very constructedness of this reality, thereby pointing the way to alternatives beyond it. This subversion of capitalocentrism, “a semi-unconscious framing that normalize[s] capitalist economic relations, instating them as the only legitimate way of securing livelihoods,” is central to creating new social and political relations.⁹⁹ Through the museum as a performative apparatus, the Museum of Capitalism creates an imaginative space outside of the domination of capital which so many scholars have remarked on. The museum as an embodied experience, a

97. Fisher, *Capitalist Realism*, 3.

98. Douglas Robinson, “The Spatiotemporal Dialectic of Estrangement,” *TDR/The Drama Review* 51, no. 4 (December 2007): 123. For the Brechtian origins of estrangement in science fiction theory, see Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (New Haven: Yale University Press, 1979).

99. J.K. Gibson-Graham, “Capitalocentrism and its Discontents,” in *Museum of Capitalism*, ed. FICTILIS (New York: Inventory Press, 2017), 25.

performative apparatus, accomplishes the intellectual and cognitive work of exposing the constructed nature of capital.

But the Museum of Capitalism takes things a step further. Several particular artifacts build on this work by equipping visitors with the material means to resist capitalist realism outside of the museum space. This is vital because, as J.K. Gibson-Graham describes in their contribution to the exhibition catalogue, even those resisting and fighting the violence of capital have fallen victim to the vagaries of capitalocentrism.¹⁰⁰ Several examples of more “interactive” artifacts and artworks extend the performative apparatus of the exhibit outside of its temporal and physical bounds at Parsons School of Design. I hesitate to use the word “interactive” here, as the term is also used to describe any number of display objects or techniques which visitors do more than “look at.” The addition and expansion of interactive element in traditional museums is often cited as evidence of the democratization of such institutions, though as I hope I have shown in the previous chapter, that is not always the case.

Many of the items on display in the Museum of Capitalism adhere to the traditional display aesthetics of the museum—plexiglass case or framed behind glass accompanied by explanatory labels. The work I discussed above, *Pharmaceutical Pen Collection*, exemplifies this type. Other parts of the exhibition, however, offer opportunities for visitors to create, destroy, take, and/or deposit objects. And, unlike interactive displays in traditional museum contexts, these interactives build on the intellectual work of the exhibition by materially equipping visitors to resist capitalism after they leave the museum. So not only does the exhibition imagine alternatives to capitalism, but it also works to create those alternatives materially.

100. J.K. Gibson-Graham, “Capitalocentrism and its Discontents.”

Take the installation *Universal Keys* (2017) by The Center for Tactical Magic. This piece consisted of hundreds of universal handcuff keys hung on a wall in the shape of two links of a chain (figure 29). The accompanying label explained the connection between the police, state power, and capitalism, materially embodied by the handcuff. However, the majority of handcuffs can be opened with a single universal key which is legal for anyone to possess. The label encourages visitors to take a key with them. Empty pins within the sculpture indicated that other visitors had in fact done so. I too took a key, which I carry on my own set of keys. The universal key serves as a reminder of the exhibition's work in exposing the conditions of capital, but it is also a material object capable of resisting state violence outside of the museum space.



Figure 28. *Universal Keys* (2017).

Blake Fall-Conroy's *Minimum Wage Machine* (2012–2016) similarly creates a material intervention. The machine consists of a glass case full of pennies atop a wooden stand with a crank on one side. Turning the crank provides the user with one penny every four seconds, or fifteen dollars an hour, New York City's minimum wage in 2019. This piece refracts wage labor into an embodied experience for the visitor, crystallizing what it means to do wage work into just a few moments. As the label explains, the user stops earning when they stop working. Surviving under capital is thus a perpetual motion machine where workers must continuously labor to receive their (inadequate) wage.

Unlike in natural history museums, bound by the performance of scientific objectivity, artifacts of the natural world on display in the Museum of Capitalism are never compartmentalized from their attendant political meanings. The set of objects donated for the exhibition by the Borderlands Archive shows how the display of “natural” objects can contribute to a radical praxis for living on a damaged planet.¹⁰¹ The Borderlands Archive is a project by artist Cheyenne Concepcion. Both a physical collection and an online gallery, the Borderlands Archive chronicles experiences with and ideas about the Mexico–US border. Like CLUI and the Museum of Capitalism, the Borderlands Archive accepts relevant artifact contributions from anyone.¹⁰² For the Parsons exhibit, the Borderlands Archive lent several artifacts and a mixed-media map by Concepcion and artist Oscar Romo. The three Borderlands pieces included: a used plastic water bottle manufactured in Tijuana, thrown away in the US, and found again in Tijuana as pollution; a garland of dried cempasuchil (marigold) blossoms, an indigenous Mexican plant

101. Anna Lowenhaupt Tsing et al., eds., *Arts of Living on a Damaged Planet* (Minneapolis: University of Minnesota Press, 2017).

102. “Borderlands Archive,” accessed January 17, 2021, <https://cheyenneconcepcion.com/Borderlands-Archive>.

now found globally (figure 30); and the seeds of the ancient grain Teosinte entwined within a tumbleweed, designed to resist the monopoly of agricorporation Monsanto (figure 31).

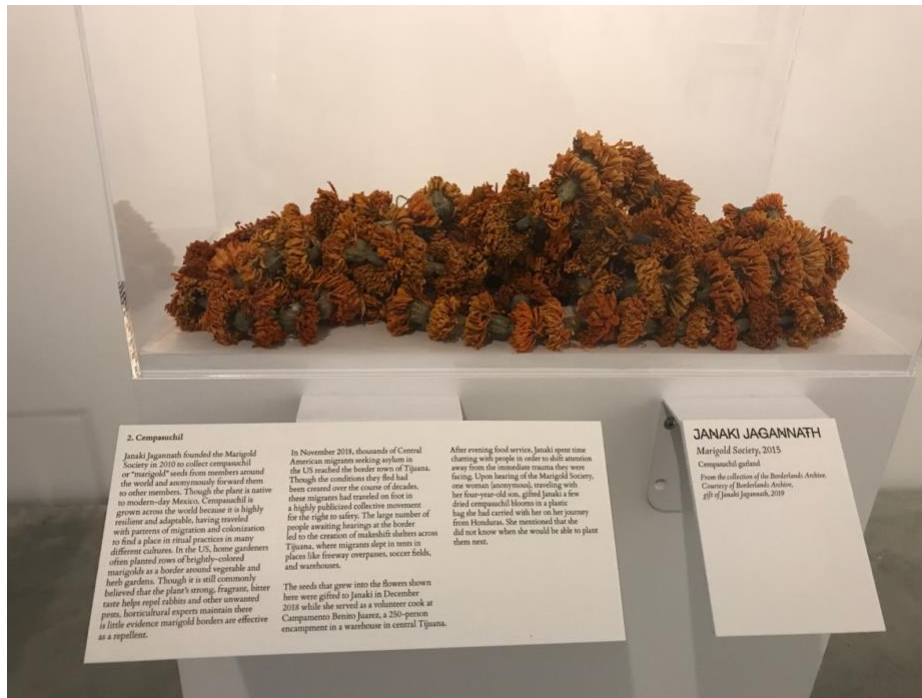


Figure 29. *Marigold Society* (2015).

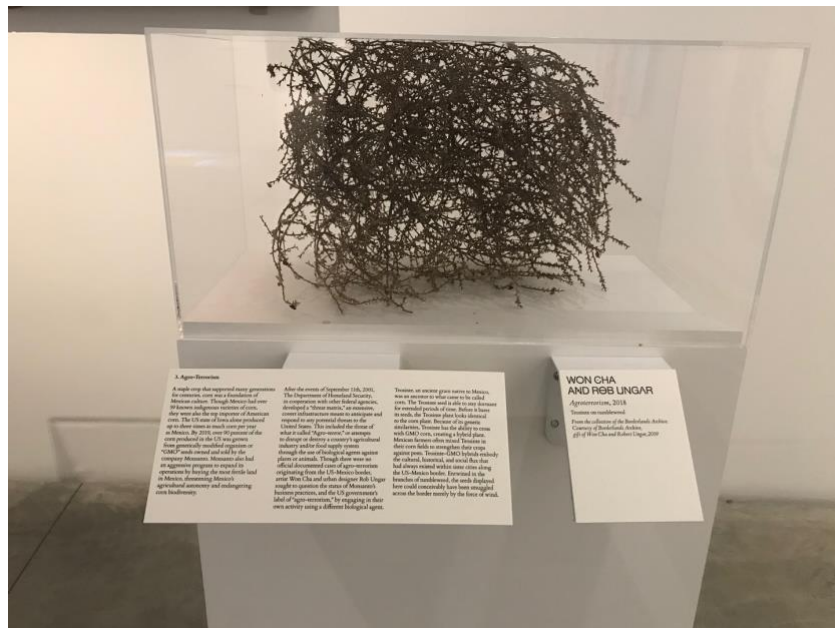


Figure 30. *Agroterrorism* (2008).

Just like the other artifacts assembled in the Museum of Capitalism, these displays embody the economic realities of global capitalism, making the invisible visible. Specifically, they work to reconceive capitalism as always also ecological, illuminating its effects on the nonhuman while also pointing to the interrelations between the human and nonhuman. For example, the discarded plastic bottle represents the environmental impact of foreign industry in Mexico, the flow of both resources and people across the border, and humanitarian efforts to provide water to those attempting to cross dangerous desert areas to reach the US. The ecological effects cannot be separated from the political effects, and vice versa. This is a necessary cognitive shift toward “recognizing ‘the economy’ as a historical, discursive production rather than an objective ontological category” in order to “enable us to begin exploring different ways of thinking and experiencing our processes of livelihood-making. What if we were to see economic activities not in terms of a separate sphere of human activity, but instead as thoroughly social and ecological?”¹⁰³ That is, to begin to imagine other forms of being human, other praxes, first the realities of current conditions need to be appropriately apprehended.

Tim Portlock’s piece *Clearcut* (2019) also engages in similar work, pointing to the erasure of the natural world in urban environments. The image, created using 3D-design software for video games, underscores the way cities serve as playgrounds for particular classes of people. It foregrounds the detritus of urban construction while sleek skyscrapers loom in the background. A single tree stands atop a small hill, the earth around it removed by construction vehicles. The tree’s reflection shines in the windows of the skyscraper opposite. Such vistas of destruction—especially environmental devastation—are absent from the idealist aesthetics of architectural

103. J.K. Gibson-Graham and Ethan Miller, “Economy as Ecological Livelihood,” in Katherine Gibson, Deborah Bird Rose, and Ruth Fincher, eds., *Manifesto for Living in the Anthropocene* (Brooklyn, NY: Punctum Books, 2015), 8.

designs, the target of this piece. Portlock's image reveals the erasure which urbanization and gentrification depends upon, point out "the impact that buildings and other built infrastructure have on the environment and our thinking about it."

Collectively the artifacts of the Museum of Capitalism capture the experience of capitalism as an (historical) object through the aesthetics and infrastructure of museum display. As successfully demonstrated by Not An Alternative's The Natural History Museum, such infrastructure—and the political authority it contains—can be appropriated for other means. The Museum of Capitalism deploys the museum as a performative apparatus to reject the assumption that there is no outside to capital. The exhibit space intervenes in the "atmosphere" of capitalist realism and imagines a different world after it.¹⁰⁴ As the construction and continuance of global capitalism depends upon continued extraction from the natural world, bringing forth alternatives is politically crucial. The Museum of Capitalism not only reveals capitalism as a historical object, but also the constructed nature of humans under capital, what Sylvia Wynter calls *Homo oeconomicus*, the West's "hegemonic model of being human, a model that supposedly preexists all other models of societies/religions/cultures."¹⁰⁵ Just as models of early human ancestors can be found in dioramas in traditional natural history museums, the artifacts on display in the Museum of Capitalism reveal the constructed contingency—not permanent universality—of *Homo oeconomicus*, thus making way for new relations in the face of ecological emergency.

104. Fisher, *Capitalist Realism*, 16.

105. Sylvia Wynter, "Unparalleled Catastrophe for Our Species? Or, to Give Humanness a Different Future: Conversations," in *Sylvia Wynter: On Being Human as Praxis*, ed. Katherine McKittrick (Durham, NC: Duke University Press, 2015), 21.

4.4 Conclusion: Seizing the Means of Representation

*“By making a certain kind of sense of the world, this discourse of ‘the economy’ literally made sense—transforming our sensual perceptions and experiences, altering the material and conceptual conditions of possibility for our identifications with others, and changing our abilities to see, think and feel certain interrelationships and the responsibilities that come with such experiences.”*¹⁰⁶

J.K. Gibson-Graham and Ethan Miller explore how the discourse formation of “the economy” made sense. This discourse, like the museum, is a sense-making apparatus through which “the material and conceptual conditions of possibility for our identifications with others” are created and enacted.¹⁰⁷ As I have demonstrated through this discussion of alternative museum practices which approach museums as “targets and resources for radical political practice” make room for new conditions of possibility.¹⁰⁸ Collectively these examples reframe traditional display practices to manifest radical planetary praxes. Though they refrain from imposing a singular, universal prescription for humanity, these praxes all share a commitment to dismantling the dominance of capital and creating more equitable relations among humans and nonhumans alike.

Museums thus embody a unique opportunity to reimaging human-environment relations. They are, as Not An Alternative writes, “sites worth seizing.”¹⁰⁹ But natural history museums are far from the only sites in which this political work is carried out. Other types of cultural

106. Gibson-Graham and Miller, “Economy as Ecological Livelihood,” 9.

107. J.K. Gibson-Graham and Ethan Miller, “Economy as Ecological Livelihood,” 9.

108. Not An Alternative, “Institutional Liberation.”

109. Not An Alternative, “Institutional Liberation.”

production also have a role to play in describing and creating new planetary praxes. In the next chapter, I focus on how artistic and protest movements likewise intervene in capitalist realism to repair connections among humans and planetary others. If ethics can be defined as “the inevitable and persistent fact of finding oneself in relation to the other,” then these praxes strive for ethical planetarities alongside the radical versions outlined here.¹¹⁰

110. R. Clifton Spargo, *The Ethics of Mourning: Grief and Responsibility in Elegiac Literature* (Baltimore: Johns Hopkins University Press, 2004), 7.

5.0 “Solidarity with the Dead”:

Ecological Grief, Political Mourning, and Ethical Planetarities¹

“We can be alive or dead to the sufferings of others—they can be dead or alive to us. But it is only when we understand that what happens there also happens here, and that ‘here’ is already an elsewhere, and necessarily so, that we stand a chance of grasping the difficult and shifting global connections in ways that let us know the transport and the constraint of what we might still call ethics.”²

When it comes to environmental issues, representatives of the United States government have a habit of giving overblown performances to justify their inaction. In 2015, Senator Jim Inhofe (R-OK), then-chairman of the Senate Environment and Public Works Committee, drew both positive and negative media attention when he brought a snowball onto the Senate floor. The unusually cold February weather in the eastern US (and the snow on the ground), Inhofe argued, clearly showed that global warming was not actually occurring.³

Republican response to proposed Green New Deal legislation has taken a similarly theatrical turn. The resolution, jointly introduced in early 2019 by Senator Ed Markey (D-MA) and Representative Alexandria Ocasio-Cortez (D-NY), recommended several sweeping systemic

1. R. Clifton Spargo, *The Ethics of Mourning: Grief and Responsibility in Elegiac Literature* (Baltimore: Johns Hopkins University Press, 2004), 5.

2. Judith Butler, “Precarious Life, Vulnerability, and the Ethics of Cohabitation,” *Journal of Speculative Philosophy* 26, no. 2 (2015): 150.

3. Philip Bump, “Jim Inhofe’s Snowball Has Disproven Climate Change Once and for All,” *The Washington Post*, February 26, 2015, <http://www.washingtonpost.com/news/the-fix/wp/2015/02/26/jim-inhofes-snowball-has-disproven-climate-change-once-and-for-all/>.

changes. These include a transition to 100% renewable energy and the elimination of emissions caused by transportation and agriculture.⁴ On March 26, 2019, Senator Mike Lee (R-UT) addressed the Senate in advance of a vote on the resolution. Echoing Inhofe’s snowball stunt four years earlier, he made a number of increasingly absurd points designed to deride the research supporting the Green New Deal. For example, in response to evidence demonstrating the need to rapidly reduce airplane emissions, Lee feigned concern for the citizens of Hawaii (whom he does not represent). He (disingenuously) asked how they would fare isolated from the continental US, especially with an economy so dependent upon tourism. Accompanying this performance of worry for a population already uniquely affected by climate crises and a history of US colonial occupation, Lee exhibited a large posterboard with an image of the cartoon superhero Aquaman astride a giant seahorse. Lee remarked that, with the reduction or elimination of air travel, such giant seahorses are “probably Hawaii’s best bet.”⁵ That is, Hawaii would become so cut off that there could be no possible way to travel there in the absence of airplanes.

Lee made several other “challenges” to undermine the legitimacy of the Green New Deal, each more ludicrous than the last.⁶ He claimed that the state of Utah has a particularly vested interest in climate issues as it was hit particularly hard by the natural disaster depicted in the film *Sharknado 4: The 4th Awakens* (2016):

Critics will no doubt chastise me for not taking climate change seriously. But please, Mr. President. Nothing could be further from the truth. No Utahn needs to hear pious lectures about the gravity of climate change from politicians from other states. For it was only

4. U.S. Congress, House, *Recognizing the Duty of the Federal Government to create a Green New Deal*, HR 109, 116th Cong., 1st sess., introduced in House February 7, 2019, <https://www.congress.gov/bill/116th-congress/house-resolution/109>.

5. senatormikelee, “Remarks on the Green New Deal,” YouTube Video, 13:33, March 26, 2019, <https://www.youtube.com/watch?v=sK27NZon11w>.

6. It is beyond the scope of this project to explore the merits and drawbacks of this proposed legislation. However, the Green New Deal encapsulates the difficulties of addressing climate change from the US neoliberal perspective, where, as Wendy Brown has written, “the market is the organizing and regulative principle of the state and society.” See Wendy Brown, “Neo-Liberalism and the End of Liberal Democracy,” *Theory & Event* 7, no. 1 (2003).

2016—as viewers of the SyFy Network will remember—when climate change hit home in Utah, when our state was struck not simply by a tornado, Mr. President, but a tornado...with sharks in it!...So let’s be really clear, Mr. President. Climate change is no joke. But the Green New Deal is a joke.⁷

Lee passionately argued that climate crises will not be avoided by government regulation, the reduction of fuel emissions, new economic priorities, or what he calls “political posturing or virtue signaling.” Instead, he suggested that the true solution to climate change is...babies. Because Lee articulates climate change as “an engineering problem,” “more forward-looking adults” and “more markets for innovation” will provide the solutions. Lee’s proposal, while intellectually dishonest and purposefully absurd, typifies the US conservative approach to climate change: explicit (re)investment in neoliberal progress.⁸

Lee’s view of climate solutions seriously reveals the ways that chrononormativity links with both nationalism and capitalism. Elizabeth Freeman articulates how chrononormativity, “the use of time to organize individual human bodies toward maximum productivity,” structures human lives to serve the interests of heteronormative society, the nation-state, and capital.⁹ Freeman proposes that chrononormativity describes the temporal structures necessary for genealogical descent (human reproduction) and domestic life.¹⁰ The salience of this concept for understanding climate change becomes apparent through Lee’s performance. As he believes that the solution to climate change will be found in the continued increase of the human race, Lee exhorts heterosexual people to “fall in love, get married, and have some kids.”¹¹ This proposed solution to climate crises clearly aligns with normative ways of living under neoliberal

7. senatormikelee, “Remarks on the Green New Deal.”

8. senatormikelee, “Remarks on the Green New Deal.”

9. Elizabeth Freeman, *Time Binds: Queer Temporalities, Queer Histories* (Durham, NC: Duke University Press, 2010), 3.

10. Freeman, *Time Binds*, xxii.

11. senatormikelee, “Remarks on the Green New Deal.”

capitalism and the biopolitical rhythms of chrononormativity that emphasize human reproduction. In Lee's understanding, not only is business-as-usual *not* the cause of climate change, but the way to address environmental crises is the expansion of human lifeways along both spatial (increased human population) and temporal (ensuring the future of humans) dimensions. Such flourishing would result in further solidifying humanity's control of the planet.¹²

However, this chrononormative solution rests on the continued prospering of a particular subset of humanity. It's not just any babies that will have the solutions, it's US ones: "American babies, in particular, are likely going to be wealthier, better educated, and more conservation-minded than children raised in still-industrializing regions."¹³ Exactly how new members of one of the nations responsible for consuming the most fossil fuels would be inherently more "conservation-minded" remains to be seen, as Lee offers no evidence for this assertion. In fact, data refutes this claim, as "an average American, for example, uses thirty-two times more resources and energy than an average Kenyan" is nowhere to be found in Lee's polemic.¹⁴

Lee's argument very clearly depends on a belief in US exceptionalism and white supremacy.¹⁵ But his position is not limited to Republican politicians. In a February 2021 interview with *CBS Evening News*, US billionaire philanthropist Bill Gates, whose political leanings appear fairly liberal, extolled the virtues of Elon Musk's environmental ideas, saying "we need hundreds of Elon Musks and that's how we'll get this done."¹⁶ These arguments very

12. See "The Nature of Our Ancestors: De-extinction and Planetary Techno-optimism" in this dissertation.

13. senatormikelee, "Remarks on the Green New Deal."

14. Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History, and Us* (New York: Verso Books, 2016), 70.

15. For an Indigenous critique of the Anthropocene, see Kyle Powys Whyte, "Indigenous Climate Change Studies: Indigenizing Futures, Decolonizing the Anthropocene," *English Language Notes* 55, no. 1–2 (2017): 153–62.

16. Caitlin Yilek, "'We Need Hundreds of Elon Musks' to Combat Climate Change, Bill Gates Says," CBS News, February 16, 2021, <https://www.cbsnews.com/news/bill-gates-elon-musk-climate-change/>.

clearly echo the Eurocentric nature of much environmentalist discourse and some versions of the Anthropocene concept itself. The economic and intellectual superiority of these hypothetical future children—“hundreds of Elon Musks”—stems from the industriousness of their parents (who in Lee’s imagination are white), obstructing the role that a history of global imperialism and the active destruction of the lives and environments of those “still-industrializing” regions.¹⁷ Lee’s solution to fighting the degradation of the environment and the potential extinction of the human species, then, is not rethinking the status quo, but actually pursuing chrononormative, capitalist ways of life even more strongly.

In this chapter, I examine two artistic and political movements as examples of planetary praxes which resist extinction (both human and nonhuman) by disrupting chrononormative rhythms: Remembrance Day for Lost Species (RDLS) and Extinction Rebellion. These two contemporary environmental activist movements share an organizational openness. They do not gatekeep *who* can participate nor exactly *how* they should do so. As I will articulate through attention to each movement’s practices, this openness strives for both specificity and planetarity, for “an inclusive totality.”¹⁸ The two movements are also united by their embracement of ecological grief. As I detail in this chapter, RDLS and Extinction Rebellion each take up embodied practices of mourning as political tools for imagining ethical planetary praxes.

Remembrance Day for Lost Species is a loose coalition of artists and activists who unite every November 30 to bear witness the extinction of species, cultures, and habitats. RDLS began in 2011, founded by UK-based performance collective Feral Theatre and artist group The Life

17. For analyses of the ways imperialism, capitalism, and ecological destruction are intertwined, see Utsa Patnaik and Prabhat Patnaik, *A Theory of Imperialism* (New York: Columbia University Press, 2016) and Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2001).

18. Masao Miyoshi, “Turn to the Planet: Literature, Diversity, and Totality,” *Comparative Literature* 53, no. 4 (2001): 293.

Cairn. Since its founding, a number of organizations, museums, and artists have joined. These include ONCA (a UK-based organization facilitating environmental interaction), the Extinction Symbol (an anti-capitalist graffiti movement), Extinction Witness, and several scientific foundations dedicated to preventing species loss. Beginning in 2016, RDLS invited wider participation in memorial activities via its website, expanding RDLS to include a loosely connected network of both individual actors and organizations. Any of these participants can self-identify their RDLS event through the website, which maintains a global archive of past and future events. Although RDLS provides suggested activities to memorialize extinct animals, the organization does not maintain any specific requirements for participation. Instead, RDLS works to give participants the knowledge and tools to create extinction memorials in their own backyards. That is, RDLS recognizes the potential for a diversity of practices in witness of ecological loss. I analyze how RDLS observances open up spaces outside the “fully ‘bound,’ commodified postfeminist, postgay, postsocialist, postnational world in which we are told our problems are solved now that our market niche has been discovered.”¹⁹ Through multiple levels of communal witnessing, RDLS provides an alternative to temporalities of capital.

Second, I turn to the work of Extinction Rebellion, an organization that advocates for direct action and civil disobedience on behalf of the environment. Though founded in the UK, chapters have since been created in a number of other countries: Australia, Belgium, Canada, Denmark, France, Germany, Italy, the Netherlands, New Zealand, South Africa, Switzerland, and the US. Like RDLS, Extinction Rebellion is open to anyone and everyone who shares its principles and values. As written in a ten-point manifesto on the movement’s main website, these principles include a philosophy of non-violence, a commitment to breaking down power

19. Freeman, *Time Binds*, xvi.

hierarchies, and a goal of creating a regenerative culture.²⁰ As Extinction Rebellion explains, “this rebellion is fuelled by our love, which is growing because we are willing to face the grief of these times. Grieving is part of our work.”²¹ I explore how Extinction Rebellion mobilizes grief, particularly by drawing on the history of protest tactics of previous civil rights movements and AIDS activism. These movements both reject capitalist constructions of time and behavior, mobilizing alternative temporal relations to resist ecological destruction. I argue that, as they disrupt the rhythms of capital, these movements queer chrononormative temporality, wherein the act of queering offers “other possibilities for living in relation to indeterminately past, present, and future others.”²² Further, these movements reconceive nonhuman life as valuable beyond its potential as fodder for capital, linking environmental destruction with structural violence faced by marginalized humans under neoliberal capitalism. I theorize the ways RCLS and Extinction Rebellion push against the rhythms of capital’s inexorable “progress” and imagine alternative ecological relations. As a biopolitical formation, neoliberal capitalism depends upon relentless forward movement of capital at the expense of life. This includes the extraction and appropriation of “nature.” Under the biopolitics of capitalism, the lives of both humans and nonhumans are inscribed within chrononormative rhythms. As Jaclyn I. Pryor argues, “straight time” determines which events get recorded as history, from which queer subjectivities remain excluded, othered, or left behind.²³ Because they emerge from queer studies, the frameworks of chrononormativity and straight time largely focus on the particular ways queer human bodies and subjectivities are uniquely targeted by the machinations of capital. To the valuable perspectives

20. “About Us,” Extinction Rebellion, accessed March 1, 2021, <https://rebellion.global/about-us/>.

21. “About Us,” Extinction Rebellion.

22. Freeman, *Time Binds*, xxii.

23. Jaclyn I. Pryor, *Time Slips: Queer Temporalities, Contemporary Performance, and the Hole of History* (Chicago: Northwestern University Press, 2017).

that both concepts provide, I add that, particularly in their organization of life for the (re)production of capital, these temporal structures also depend upon the destruction of nonhuman subjectivities. That is, life, nonhuman and human alike, becomes circumscribed within straight time.

While queer studies has significantly engaged with the nonhuman, this work has not been explicitly connected to questions of queer time, and the implications of this connection for ethical ecological relations under capital. For example, Mel Y. Chen's *Animacies: Biopolitics, Racial Mattering, and Queer Affect* shows how considerations of (in)animacy and animality offer new ways of thinking about biopolitical life. Like much work rising out of queer studies, Chen turns to the nonhuman and inhuman as a way of articulating different versions of the human, largely leaving aside questions of ecology.²⁴ In fact, queer theory largely "has not been particularly interested in environmental questions."²⁵ Some scholars have delved into the potential for animality to illuminate queer subjectivities, and the importance of desire in ecological scholarship.²⁶ I am interested in how queer theories such as Freeman's chrononormativity and Pryor's straight time, as conceptualizations of life under capital, already (albeit implicitly) include nonhuman life. In countering chrononormativity, the practices I examine here engage in queerness as an action: "Queerness is also a performative because it is

24. Mel Y. Chen, *Animacies: Biopolitics, Racial Mattering, and Queer Affect* (Durham, NC: Duke University Press, 2012).

25. Nicole Seymour, *Bad Environmentalism: Irony and Irreverence in the Ecological Age* (Minneapolis: University of Minnesota Press, 2018), 22.

26. See, for example, Catriona Mortimer-Sandilands, Bruce Erickson, and Eric Gable, eds., *Queer Ecologies: Sex, Nature, Politics, Desire* (Bloomington: Indiana University Press, 2010); Dana Luciano and Mel Y. Chen, "Introduction: Has the Queer Ever Been Human?," *GLQ: A Journal of Lesbian and Gay Studies* 21, no. 2-3 (2015): 183–207; Nicole Seymour, *Strange Natures: Futurity, Empathy, and the Queer Ecological Imagination* (Chicago: University of Illinois Press, 2013).

not simply a being but a doing for and toward the future.”²⁷ The futures these praxes call forth recognize the value of nonhuman life.

Both Freeman and Pryor emphasize that these temporalities structure and determine ontologies and epistemologies; “articulating, representing, and even imagining life outside the margins of straight time” becomes extremely difficult.²⁸ Because Pryor is particularly invested in marginalized subjectivities (particularly queer ones) and remembrances of trauma, they emphasize the difficulty queer subjects face as they are perceived outside the boundaries of straight time. To slightly shift Pryor’s formulation, then, straight time dictates what can be determined as “life,” particularly insofar as life denotes which subjectivities are valued and preserved. Straight time describes the rhythms of capitalism, which Jason W. Moore has argued “depends on a repertoire of strategies for *appropriating* the unpaid work/energy of humans and the rest of nature.”²⁹ Therefore, I understand capitalist straight time as always constituted by ecological destruction. In particular, the perpetuation of these rhythms rests on the extinction of vast numbers of nonhuman species deemed *not* “life,” or as only valuable for their service to the market.³⁰

If (capitalist) time is straight or normative, any departure from or intervention in its progression has the potential to become an act of resistance. Pryor notes that digressions from straight time, what they call “time slips,” “*queer*, or question, spectators’ internalized, straight senses of time.”³¹ Freeman similarly describes how “a hiccup in sequential time” can connect

27. José Esteban Muñoz, *Cruising Utopia: The Then and There of Queer Futurity* (New York: New York University Press, 2009), 1.

28. Pryor, *Time Slips*, 21.

29. Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (New York: Verso, 2015), 54, original emphasis.

30. See John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift: Capitalism’s War on the Earth* (New York: Monthly Review Press, 2010).

31. Pryor, *Time Slips*, 13, original emphasis.

people in ways beyond heterosexual coupling.³² The planetary praxes of RDLS and Extinction Rebellion both plumb the ethical possibilities of disrupting chrononormative temporalities. They share a conscious rejection of the violent consumption of life, *both human and nonhuman*, by capitalist time. They each intervene in the progress of straight time by memorializing loss, critiquing structural violence, and imagining new planetary relations between humans and nonhumans through geographically-dispersed communities.

Specifically, both RDLS and Extinction Rebellion turn their attention to extinction as a dimension of (capitalist) temporality, what Deborah Rose Bird calls the death zone, “the place where the living and the dying encounter each other in the presence of that which cannot be averted.”³³ In multiple ways, which I will illuminate throughout the rest of this chapter, both movements use a sense of grief to (re)articulate nonhuman life as worthy of saving, making space for ethical encounters in the death zone. In order to articulate the ecological relations RDLS and XR work toward, first I sketch out chrononormative understandings of extinction which have become significant scientific and cultural discourses in the Anthropocene. I show how this discourse perpetuates humanism by anthropomorphizing the nonhuman. I then turn to the work of RDLS as a planetary movement. Through the example of a specific RDLS event, the Lake Merritt Regenerative Memorial and Pollinator Procession (2017), I theorize the ways nonhuman life becomes grievable and the ethical potential of timespaces dedicated to mourning. Finally, I examine the practice of Extinction Rebellion, and the ways its activists mobilize tactical mourning in the legacy of AIDS activism to spark political change. Together, these movements

32. Freeman, *Time Binds*, 3.

33. Deborah Bird Rose, “In the Shadow of All This Death,” in *Animal Death*, ed. Jay Johnston and Fiona Probyn-Rapsey (Sydney: Sydney University Press, 2018), 3.

offer pathways for resisting capital's ecological destruction and envision ways of living differently.

5.1 “Don’t Let the Dream Go Extinct”: Representing Extinction in the Anthropocene

“...animals never entirely vanish. Rather, they exist in a state of perpetual vanishing.”³⁴

Extinction has emerged as one of the most prominent aspects of human-nonhuman relations in the Anthropocene, where news of the impending disappearance of species regularly makes the media rounds.³⁵ The introduction of the so-called Sixth Extinction has popularized the concept, in both its cultural and scientific dimensions. Anthropogenic biodiversity loss, the geologic timeframe of the Anthropocene, and increasing considerations of the possible extinction of the human species itself all contribute to extinction discourse.

Even in times of relative climate stability, extinction plays an important role in ecological systems; most species that have ever existed throughout the planet's history have become extinct. This “normal” rate of extinction proceeds even in the absence of human impact, thus its moniker “background extinction.” Wiens and Slaton argue that “only a small proportion of species are apt to be in the process of background extinction at any particular time, although the process will be

34. Akira Mizuta Lippit, *Electric Animal: Toward a Rhetoric of Wildlife* (Minneapolis: University of Minnesota Press, 2000), 1.

35. For example, see Ed Yong, “Is the Insect Apocalypse Really Upon Us?,” *The Atlantic*, February 19, 2019, <https://www.theatlantic.com/science/archive/2019/02/insect-apocalypse-really-upon-us/583018/>; Eric Levitz, “Humanity Is About to Kill 1 Million Species in a Globe-Spanning Murder-Suicide,” *New York Magazine*, May 6, 2019, <http://nymag.com/intelligencer/2019/05/un-report-humans-are-driving-1-million-species-extinct.html>.

faster during massive extinction events.”³⁶ Such events involve a dramatic spike in the background extinction rate: “an extinction of a significant proportion of the world’s biota in a geologically insignificant period of time.”³⁷ Previous mass extinctions include the Cretaceous-Paleogene (formerly K-T) event, which resulted in the destruction of approximately seventy-five percent of life on earth, including the dinosaurs.³⁸

What distinguishes the current Sixth Extinction from those previous is that it can be directly attributed to human activity. Its unique characteristics have gained cultural traction, especially following the 2014 publication of US journalist Elizabeth Kolbert’s Pulitzer-Prize winning *The Sixth Extinction: An Unnatural History*. Kolbert, who has also written extensively on environmental issues for publications like *The New Yorker*, links the Sixth Extinction to the planet’s geological past through the stories of thirteen individual species. Some, like the mastodon and ammonite, have been extinct for thousands of years. Others, including the Sumatran rhinoceros and the Panamanian golden frog, have seen their populations reduced as a result of the destruction of their habitats, hunting, or the introduction of invasive species. Kolbert’s account helps demonstrates the ways that extinction is both “the most natural thing in the world and, at the same time, is not and never could be natural.”³⁹

The role of animal life in sustaining the rhythms of neoliberal capital illuminates this unnatural nature of the Sixth Extinction. The progress of capital depends upon the perpetual consumption of animals as so much raw material, what Nicole Shukin aptly terms animal

36. Delbert Wiens and Michèle R. Slaton, “The Mechanism of Background Extinction,” *Biological Journal of the Linnean Society* 105, no. 2 (February 2012): 265.

37. A. Hallam and P.B. Wignall, *Mass Extinctions and Their Aftermath* (Oxford: Oxford University Press, 1997), 1.

38. See Anthony D. Barnosky et al., “Has the Earth’s Sixth Mass Extinction Already Arrived?” *Nature* 471, no. 7336 (2011): 51–7; Hallam and Wignall, *Mass Extinctions and Their Aftermath*, Chapter 9.

39. Cary Wolfe, “Foreword,” in *Extinction Studies: Stories of Time, Death, and Generations*, ed. Deborah Bird Rose, Thom van Dooren, and Matthew Chrulew (New York: Columbia University Press, 2017), vii.

capital.⁴⁰ She argues that biopower hinges on the species divide: “the zoo-ontological production of species difference as a strategically ambivalent rather than absolute line, allowing for the contradictory power to both dissolve and reinscribe borders between humans and animals.”⁴¹ That is, within neoliberal capitalism, animals operate as both material capital and symbolic capital. The system of capitalism also depends on the decomposed remains of extinct creatures, as in fossil capital “the combustion of fossil fuels *is* material necromancy: the conjuring up of dead organisms, reawakening their vital forces to steer the actions of the living.”⁴² Even within the conservation movement, the pervasiveness of animal capital as a concept can be felt in the rhetorics of species and biodiversity. As Audra Mitchell explains, the concept of species helps simplify extinction into a phenomenon which can be described and managed.⁴³ Therefore, the conservation movement understands extinction “in terms of the loss, accumulation, production and extraction of value from ‘natural’ capital.”⁴⁴ The perpetuation of fossil capitalism depends upon both species difference and species extinction.

An articulation of these understandings of extinction which undergird fossil capital—that are chrononormative—provides a counterpoint to the new praxes created by RDLS and Extinction Rebellion as they imagine alternative ways to relate to animal life beyond capital. For as Donna Haraway reminds us, “it matters what matters we use to think other matters with; it matters what stories we tell other stories with.”⁴⁵ Extinction is “both a materiality and a cultural

40. Nicole Shukin, *Animal Capital: Rendering Life in Biopolitical Times* (Minneapolis: University of Minnesota, 2009).

41. Shukin, *Animal Capital*, 11.

42. Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (London: Verso Books, 2016), 209, original emphasis.

43. Audra Mitchell, “Beyond Biodiversity and Species: Problematizing Extinction,” *Theory, Culture & Society* 33, no. 5 (2016): 25.

44. Mitchell, “Beyond Biodiversity and Species,” 27.

45. Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), 12.

discourse.”⁴⁶ Perhaps more so than scientific research, it is the cultural discourse of extinction which shapes the relationship between humans and nonhumans within straight time. Even ecologically minded representations that aim to oppose species violence fall into tropes of chrononormativity, particularly in their mobilization of grief and loss. Nicole Seymour identifies the “affective status quo” of environmentalist cultural production as overly reverent and serious, which she argues forecloses change.⁴⁷ Seymour turns to queer theory as a source of dissident affects which offer alternatives to normative environmental structures. Similarly, I take an expansive understanding of queerness, focusing particularly on resistance to capital as a normative structure. And, like Seymour, I identify examples of environmental work that depart from traditional models.

Such normative extinction stories attempt to convince audiences that “current biodiversity loss is a major crisis, that we do not care enough collectively, that we need to care and do more to rescue species at risk, and that audiences should participate in this concern and contribute to conservation efforts.”⁴⁸ Ursula K. Heise argues that the prevalence of extinction in cultural production actually demonstrates that humans do care about extinction: “Rather than the imperative that we should care, the fact that we evidently do care a great deal, *even if our concern may not at present suffice to save many animal and plant species at risk*, imposed itself more and more as the central question for thinking about why conservation matters and how it might be fostered. The omnipresence of endangered species...highlights just how sustained an interest cultural communities in various nations already have in certain endangered species, if not

46. Ashley Dawson, *Extinction: A Radical History* (New York: OR Books, 2016), 15.

47. Nicole Seymour, *Bad Environmentalism: Irony and Irreverence in the Ecological Age* (Minneapolis: University of Minnesota Press, 2018), 18.

48. Ursula K. Heise, *Imagining Extinction: The Cultural Meanings of Endangered Species* (Chicago: University of Chicago Press, 2016), 2.

in all of them.”⁴⁹ Heise calls attention to the many ways that the discursive formation of the human has been determined and delineated by its (animal) other. Therefore, extinction and species loss are first and foremost cultural concerns, not scientific.⁵⁰ An excavation of the ways humans articulate themselves in relation to nonhumans (in this case extinct and endangered species), is critical in order to move toward forms of environmental justice for the Anthropocene.

Dream, an animated short film by Brazil-based animation group Zombie Studio, epitomizes common characteristics of extinction stories. Created as an advertisement for the 2016 Wildlife Conservation Film Festival, the film mobilizes the schmaltz of the popular ballad “I Dreamed a Dream” from the global musical-theatre hit *Les Misérables* (1980). *Dream* features the song’s lyrics ventriloquized through four different animals: pelican, blue whale (mother and calf), juvenile Arctic seals, and rhinoceros (mother and calf). Each of these serves as an example of a charismatic species, “animal types whose appeal to the broad public makes them good tools in campaigns to raise public awareness and funds for conservation issues.”⁵¹ Other common examples include primates (especially gorillas) and large megafauna, like the woolly mammoth.⁵² As they come to stand in for conservation writ large, charismatic species generate what Heise calls proxy logic, where “certain kinds of species are taken as a shorthand for all species...[they] serve as proxies for ecosystems and biodiversity.”⁵³

As *Dream* progresses, the seemingly pristine natural habitats of these species are violently disrupted by the machinations of capitalist modernity in multiple manifestations. The

49. Heise, *Imagining Extinction*, 4, my emphasis.

50. Heise, *Imagining Extinction*, 5.

51. Heise, *Imagining Extinction*, 24.

52. See, for example, Ben Mezrich, *Woolly: The True Story of the Quest to Revive One of History’s Most Iconic Extinct Creatures* (New York: Atria Books, 2017).

53. Heise, *Imagining Extinction*, 23.

pelican's wings become coated with slicks of oil as a drilling platform burns in the background. The mother rhino is captured by poachers who saw off her horn, leaving her weak and broken as her calf nuzzles her. The mother whale bleeds from a harpoon thrown by menacing whalers. The seal pups' youthful play is cut short by a menacing Arctic explorer raising a machete. Before the seals fall prey to the hunters, the image dissolves, replaced by an urgent message to the viewer: "Don't let the dream go extinct."⁵⁴ Collectively, this menagerie demonstrates the effects of different dimensions of modernity. Humans (poachers and explorers) are both directly present and absent, present only through their technological artifacts (the oil rig). The legacies of colonialism inherited by ecotourism emerge in the scene on the savannah. Practices of consumption, such as overfishing, reverberate through the ocean.

Here proxy logic has three particular effects: standing in for extinction as a concept, a focus on the individual, and perpetuating a rhetoric of wildness. Each animal serves to "perform" their respective habitats—the seals for the Arctic and its disappearing ice, the pelican and whales for acidifying and pollution-choked oceans, the rhinos for the savannah. But these species also stand in for the event of extinction more broadly. This substitution is accompanied by an anthropomorphization which turns upon the tragic sentimentality of the song's lyrics. "I Dreamed a Dream" serves as an emotional peak of *Les Misérables*' first act. The song describes the tragic life of Fantine, forced into prostitution after the father of her child abandons her. Fantine, "essentially an innocent... a pure woman," laments the loss of her pristine past.⁵⁵ The wildlife shown in *Dream* follow a similar narrative path, from a state of idyllic, natural innocence to human-enacted violence which destroys their "dreams" of nature. But "I Dreamed a

54. Zombie Studios, *Dream*, 2016, <https://www.zombiestudio.com.br/dream-wcff-2>.

55. Stacy Wolf, *Changed for Good: A Feminist History of the Broadway Musical* (Oxford: Oxford University Press, 2011), 146.

Dream” does not only serve as an underscore to illustrate the animals’ plight. Instead, their mouths move along with the lyrics in an uncanny imitation of human. As the pelican watches an oil rig burning in the distance, he opens his beak to sing a drawn-out riff on the final word of the line “as they turn your dream to shame.”⁵⁶ As an approximation of the human, this serves to render them even more tragic. Moreover, these are tragic individuals. Each species appears in their habitats without the myriad other species which compose their lifeworlds. The bracketing of not only particular species, but particular individual organisms, makes the tragic mode work but dangerously aligns the story of the animal with that of the tragic hero. That is, the story becomes a human story.

The depiction of two mother-offspring pairs also trades on chrononormative emphases on (hetero)sexual reproduction.⁵⁷ Current understandings of speciation as a concept “[en]grain] a fundamentally hetero-normative and significantly gendered notion of life and evolution. Specifically, it predicates the existence—and therefore the value—of species on the basis of biparental *sexual* reproduction requiring male and female species.”⁵⁸ Charismatic species, the embodiments of “the useful and the cute” which will ostensibly spur audiences to act, are also those that align with chrononormative rhythms of reproduction.⁵⁹ An emphasis on reproduction, beyond enacting tropes of straight time, also excludes the innumerable forms of life that fall outside of chrononormative rhythms. These might include organisms which reproduce in other ways, or life forms such as bacteria or plants.⁶⁰

56. The gender of the pelican is not clear, but the vocalist cast as the bird is a tenor.

57. Such emphasis is not absent from *Les Misérables* either. In “I Dreamed a Dream,” Fantine laments the loss of a nuclear family. Her only dramatic function is to reproduce, lose her “innocence,” and die.

58. Mitchell, “Beyond Biodiversity and Species,” 34, original emphasis.

59. Joanna Zylinska, *Minimal Ethics for the Anthropocene* (Ann Arbor: Open Humanities Press, 2014), 110.

60. Mitchell, “Beyond Biodiversity and Species,” 33–5.

Finally, the cast of creatures selected maintains rhetorics of wildness.⁶¹ They inhabit landscapes (once) far removed from human activity, thus the arrival of humans initiates the tragic narrative. These species represent wildness as both in the past to be recovered and in opposition to the human, who is removed from the natural world.⁶² Moreover, those species needing to be saved from human violence are not those which already live in proximity to humans, but those in “exotic” locales. In the beginning of the film, before their inevitable contact with humans, each species inhabits a pristine wilderness. The violent intrusion of the human into these spaces underscores the separation between the wildness of the animals and the modernity of the human, as “ontological divisions of human–non-human are reiterated in the spatial framings.”⁶³

Dream exemplifies both the power and risk of (cinematic) representation for nonhuman subjects, as “animals enter a new economy of being during the modern period, one that is no longer sacrificial in the traditional sense of the term but, considering modern technological media generally and the cinema more specifically, *spectral*. In supernatural terms, modernity finds animals lingering in the world *undead*.”⁶⁴ Spectral traces determine the discursive formation of biodiversity, and therefore determine what is worth saving. Thus representations are crucial.⁶⁵ Yusoff identifies the connection between representation and protection in the conservation movement, wherein representation itself becomes the environmental action. The

61. For further discussion of wildness, see “The Nature of Our Ancestors: De-extinction and Planetary Techno-Optimism.”

62. Stewart Brand’s organization Revive & Restore demonstrates this particular brand of nostalgia. See “The Nature of Our Ancestors: De-extinction and Planetary Techno-Optimism” in this dissertation for an analysis of de-extinction as a performance of this desire.

63. Kathryn Yusoff, “Aesthetics of Loss: Biodiversity, Banal Violence and Biotic Subjects,” *Transactions of the Institute of British Geographers* 37, no. 4 (2012): 583.

64. Lippit, *Electric Animal*, 1, original emphasis.

65. Yusoff, “Aesthetics of Loss,” 581.

creation and circulation of sentimental representations like *Dream* supposedly ensures the survival of species. In this vein, protection hinges on presence: “if we can make something more present, we can account for it, register it as a subject and thus extend care to it (*if we like it enough*).”⁶⁶ More often than not, this presence is expressed through modes like the tragic, potentially rendering these biotic subjects as only worthy insofar as they can be read through human lenses.

Given that the vast number of extinctions occur outside the realm of human sensibility, I look to praxes which turn on absence rather than presence, striving to avoid the further subjugation of nonhumans by representation?⁶⁷ The praxes I examine here attempt other ways of “creating communities at the edge of extinction” through performance, which renders the absent present.⁶⁸ They are figured around absence and grief, and the potential of both for an ethical relationality between humans and nonhumans. Further, as subversions of capitalist business-as-usual, these planetary praxes engage in practices of queering normative temporal structures: they challenge a “sense of straight time.”⁶⁹ As “there is no singular phenomenon of extinction; rather, extinction is experienced, resisted, measured, enunciated, performed, and narrated in a variety of ways to which we must attend,” the two movements I examine in this chapter approach extinction—both human and nonhuman—in multiple, vital ways.⁷⁰

66. Yusoff, “Aesthetics of Loss,” 583, original emphasis.

67. Yusoff, “Aesthetics of Loss,” 583.

68. Deborah Bird Rose, “Monk Seals at the Edge: Blessings in a Time of Peril,” in *Extinction Studies: Stories of Time, Death, and Generations*, ed. Deborah Bird Rose, Thom van Dooren, and Matthew Chrulew (New York: Columbia University Press, 2017), 119.

69. Pryor, *Time Slips*, 13.

70. Deborah Bird Rose, Thom van Dooren, and Matthew Chrulew, “Introduction: Telling Extinction Stories,” in Deborah Bird Rose, Thom van Dooren, and Matthew Chrulew, eds., *Extinction Studies: Stories of Time, Death, and Generations* (New York: Columbia University Press, 2017), 2.

5.2 Rituals for Ecological Loss in Remembrance Day for Lost Species

*We are social animals enmeshed in bonds of solidarity, and we are members of the wider family of those who cry behind the corpse house. Exactly here, where to be alive is to be implicated in the lives and deaths of others; exactly here we are called into an ethics of proximity and responsibility. Because we live after, we bear the burden of witness.*⁷¹

In 1741, a ship captained by Vitus Bering wrecked on the Commander Islands, about a hundred miles east of the edges of Russia. Bering was leading the Great Northern Expedition, an ambitious undertaking directed by the Russian empire to map the northern and eastern edges of Asia.⁷² German naturalist Georg Wilhelm Steller accompanied the voyage, tasked with cataloging the new forms of life encountered in the course of the expedition. (Of course, several different Indigenous peoples knew and lived in this area of Asia before Bering's voyage there, and the flora and fauna of the area were known to them.) On the Commander Islands Steller recorded several new species: otters, a type of bird he called Steller's jay, and a large marine mammal since dubbed Steller's sea cow. He described the creature in his journal:

Down to the navel it is comparable to a land animal; from there to the tail, a fish. The head of the skeleton is not in the least distinguishable from the head of a horse, but when it is still covered with skin and flesh, it somewhat resembles the buffalo's head, especially as concerns the lips. The eyes of this animal, without eyelids, are no larger than sheep's eyes...The belly is plump and very expanded, and at all times so completely stuffed that at the slightest wound the entrails at once protrude with much hissing. Proportionately, it is like the belly of a frog...Like cattle on land, these animals live in herds together in the sea, males and females usually going with one another, pushing the offspring before them all around the shore.⁷³

71. Rose, "In the Shadow of All This Death," 4.

72. For a detailed description of the expedition, see John R. Bockstoe, *Furs and Frontiers in the Far North: The Contest among Native and Foreign Nations for the Bering Strait Fur Trade* (New Haven, CT: Yale University Press, 2009), especially Chapter 3.

73. Qtd. in Callum Roberts, *The Unnatural History of the Sea* (Washington, DC: Island Press, 2007), 12.

The expedition remained stranded for several months. Bering himself took ill and, despite Steller's efforts to heal him, died on December 19, 1741. The rest of the crew (already weakened by scurvy) was desperate for a food supply to survive the winter.

The sea cows, plentiful and slow-moving, proved the perfect solution to their hunger. Before they were able to leave the island, the remaining members of Bering's crew decimated the sea cow herds. The waves of European maritime explorers who followed Bering's route in pursuit of sea lion and otter pelts found the sea cows easy prey and continued to kill them for food. Steller's description is one of few drawn from direct observation of a sea cow, as by 1768 no living sea cows could be found.⁷⁴

The extinction of the Steller's sea cow was entwined with its so-called discovery; just as it became legible to Western science through Steller's observations, the species was hunted to destruction, demonstrating the connection between representation (in this case, scientific) and extinction. Though the sea cow was "exceptional in the rate at which it succumbed to extinction," this species is of course not the only one to fall victim to human action.⁷⁵ But their violent extermination in service of colonial exploration illuminates the linkages between colonialism, capitalism, and extinction. The Great Northern Expedition expanded the territory of the Russian empire, as territories including Kamchatka were annexed, regardless of the Indigenous peoples already living on those lands. The exploration of this region by Bering and others also contributed to a rapidly growing fur trade, which would later be taken up by private enterprise.⁷⁶ Like many other species, the sea cow was subsumed into the frontier of what Jason

74. Roberts, *The Unnatural History of the Sea*, 14.

75. Roberts, *The Unnatural History of the Sea*, 15.

76. See Bockstoce, *Furs and Frontiers in the Far North*.

W. Moore has called Cheap Nature: “something to be mapped, rationalized, quantified, and above all, *controlled* in ways that eased the endless accumulation of capital.”⁷⁷ Few traces beyond Steller’s description record the sea cow’s demise in service of capitalist accumulation. A single drawing made from observation of a living sea cow preserved its likeness. Skeletal remains were not uncovered until the 1840s. There are only a few nearly complete fossil reconstructions in museums around the world. For many extinct species, such scant traces, rendered through the lens of Western science, are all that mark their unique existence. They have been made spectral by the progress of capital, “reced[ing] into the shadows of human consumption and environmental destruction.”⁷⁸

The ghost of the sea cow haunted Remembrance Day for Lost Species 2018 as people across the planet created and performed rituals to mark its loss. Artists created new depictions of the sea cow, natural history museums held lectures on the animal’s history, and a group held a ritual procession in its honor.⁷⁹ Though participants have the option to engage in any RDLS activities that they choose, each year organizers select a focal species like the Steller’s sea cow to provide a unifying point for the geographically dispersed movement. Previous days have centered the thylacine, a striped marsupial sometimes called the Tasmanian tiger (2016), and pollinator species (2017).⁸⁰

RDLS began in 2011, founded by UK-based performance collective Feral Theatre and artist group The Life Cairn. Feral Theatre, co-directed by artists Rachel Porter, Persephone Pearl,

77. Moore, *Capitalism in the Web of Life*, 62, original emphasis.

78. Lippit, *Electric Animal*, 1.

79. For a list of RDLS 2018 activities, see “Artwork and Events for RDLS 2018,” RDLS, February 28, 2019, <https://www.lostspeciesday.org/?cat=20>.

80. For an analysis of the effort to de-extinct the thylacine, see Amy Lynn Fletcher, *Mendel’s Ark: Biotechnology and the Future of Extinction* (Dordrecht: Springer Netherlands, 2014), Chapter 5: “Bio-Identities: Cloning the Recently Extinct.”

and Emily Laurens, creates devised performance treating grief and loss. Artist Andreas Kornevall and Reverend Peter Owen Jones established The Life Cairn to build memorials to extinct species around the world.⁸¹ The two collectives differ in aesthetics but share an interest in the role grief plays in climate change. RDLS has since expanded beyond these founders to include a loosely connected web of individuals and organizations. Like other movements discussed in this chapter, RDLS is led by volunteers and has no codified institutional or organizational structure. Anyone may participate in any activities of their choice or design on or around November 30. While RDLS offers a list of suggested activities on their website, they do not maintain any specific requirements for participation, instead “honour[ing] diverse experiences and practices associated with enduring and witnessing the loss of cultural and biological diversity.”⁸² RDLS also encourages participants to document their practices, maintaining a map of events from 2013 to 2018 which records a rich diversity of observances.

As both a collective movement and in its specific instantiations, RDLS emerges as a planetary praxis that offers space for a multiplicity of grief. The planetary community created through this movement strives for the sense of collectivity prompted by ecological emergency, in which “right when we think we have a location—these-versus-those—our focus must immediately extend over and outward. The global nature of climate change, capital, toxicity, and discursivity immediately demands that we look elsewhere than where we are standing...we need not scale up to the Human or the global, but we cannot remain in the local. We can only remain *hereish*.”⁸³ I argue that RDLS is a movement to “look elsewhere,” creating a planetary whole that

81. Keith Parkins, “The Life Cairn: A Memorial for Extinct Species,” *Medium*, December 20, 2013, <https://medium.com/dark-mountain/the-life-cairn-1483610d05ab>.

82. “Remembrance Day for Lost Species,” *Remembrance Day for Lost Species*, <https://www.lostspeciesday.org>.

83. Elizabeth A. Povinelli, *Geontologies: A Requiem to Late Liberalism* (Durham, NC: Duke University Press, 2016), 13.

also remains particular, answering the ethical obligation placed upon us by virtue of our proximity to planetary others.⁸⁴

To echo the coeval totality and specificity of RDLS's praxis, I consider both the movement as a whole and a single RDLS observance from 2017, the Lake Merritt Pollinator Procession and Regenerative Memorial. Through video and photographic documentation, I explore the ways this event gestures toward how a practice of mourning can become the foundation for a new relationality between humans and nonhumans. For even as they position nonhumans as grievable life, RDLS observances acknowledge the radical alterity of the nonhuman. These practices resist the vast unmarked (biodiversity) loss intrinsic to global capitalism, particularly by creating a queer timespace that opens up possibilities outside of the inexorable forward movement of capital.

5.2.1 The Ethics of Being Hereish: RDLS as Planetary Community

“These are not necessarily relations of love or even of care, but constitute obligations toward others, most of whom we cannot name and do not know, and who may or may not bear traits of familiarity to an established sense of who ‘we’ are.”⁸⁵

As people separated by massive geographical distance become temporally bound together through performed acts of grieving and mourning, RDLS emerges as a constellation of

84. Judith Butler, *Frames of War: When Is Life Grievable?* (New York: Verso Books, 2009).

85. Butler, *Frames of War*, 14.

ecological witnessing, a community on the edge of extinction.⁸⁶ By bringing together humans to commemorate the loss of nonhumans, even when that loss remains outside of their lived experiences, RDLS enacts what Masao Miyoshi calls an inclusive totality, one which does not destroy particularity in pursuit of a whole.⁸⁷ Miyoshi reminds us that many existing totalities—the nation-state, the global—are in fact exclusionary and repressive. He proposes a pursuit of planetarianism, with a goal “to nurture our common bonds to the planet—to replace the imaginaries of exclusionist familialism, communitarianism, nationhood, ethnic culture, regionalism, ‘globalization,’ or even humanism, with the ideal of planetarianism.”⁸⁸ However, Miyoshi’s concept of a “planet-based totality,” even as it strives to displace humanism, remains human-centered.⁸⁹ His primary concerns remain how diverse communities of people might come together under planetary commonality and how to move toward forms of economic and political organization that do not depend upon inequality: “the reduction of waste in the First World must be simultaneous with the increase of consumption in much of the Third.”⁹⁰ While recognizing the violence that many groups of humans face under capitalism, Miyoshi does not explicitly address the loss of the nonhuman. But this claim, that the planet provides an ethical basis for community because “none of us can escape” from present and future ecological disasters, holds true for both humans and nonhumans.⁹¹

As an inclusive totality, RDLS pursues an ethical planetarity which does not require the erasure of particularity, specificity, or difference. Instead, considering the planet as the

86. Rose, “Monk Seals at the Edge,” 119.

87. Miyoshi, “Turn to the Planet,” 293.

88. Miyoshi, “Turn to the Planet,” 295.

89. Miyoshi, “Turn to the Planet,” 295.

90. Miyoshi, “Turn to the Planet,” 296.

91. Miyoshi, “Turn to the Planet,” 295.

foundation for community opens up political possibilities for coalition across (temporal, species, geographic) difference. Through a praxis of multispecies attachment, RDLS expands the so-called rational community, “made up of people who share language, values, and understandings of the world that enable them to sustain their commitment to working together for their common (shared) goals.”⁹² As Rose explains, “it is taken for granted that the rational community is a human community.”⁹³ She shows how a refusal to explain actions in the terms of the rational community is itself an ethical act: “a justification [for such actions] within the rational community would bring the discussion back around to what is good for the human community.”⁹⁴ Through a variety of specific practices RDLS seeks to create a new community that includes nonhuman members, not for the services they provide humans but as members with distinct lifeways that might be inaccessible to humans. RDLS mourners refuse to rationalize their activities within the logic of (human) capital.

This community emerges in what Edith Wyschogrod calls the age of man-made mass death, in which “a new alignment of forces has come into being that impacts upon the bonds of human connectedness...the nexus of occurrences that, taken together, form a pattern against which passing historical happenings are to be interpreted, a design marked by scale—the vast numbers of those destroyed—and by the compression of time—the brevity of the interval now required to achieve massive destruction.”⁹⁵ While Wyschogrod’s formulation emerged prior to the proposal of the Anthropocene, the sheer scale of destruction of both human and extra-human life places this new epoch as a continuation of the death event. Rose also identifies the relevance

92. Rose, “Monk Seals at the Edge,” 131.

93. Rose, “Monk Seals at the Edge,” 132.

94. Rose, “Monk Seals at the Edge,” 133.

95. Edith Wyschogrod, “Man-Made Mass Death: Shifting Concepts of Community,” *Journal of the American Academy of Religion* 58, no. 2 (1990): 166.

of the age of man-made mass death in understanding ecological destruction; she argues that in the face of such violence, “a commitment to being there is in itself an ethical statement.”⁹⁶ Or, to reiterate Povinelli’s point: “But right when we think we have a location—these versus those—our focus must immediately extend over and outward... We can only remain *hereish*.”⁹⁷ Thus, by being present (hereish) in witness of nonhuman loss, those who participate in RDLS embody an ethical planetary praxis through their presence in spaces and times outside of the flow of straight time.

Memorial activities for (long) extinct species exemplify this ethical orientation. For example, as no living Steller’s sea cow has been seen since the late eighteenth century, this creature is entirely removed from direct contact with any currently living humans. Under the dictates of the rational community, prescribed by chrononormative rhythms, memorializing the sea cow is an act without purpose. The refusal to justify these activities is integral to RDLS praxis, which renders nonhumans as inherently valued as members of a planetary community, not value-able as part an ecosystems services model.⁹⁸

This ethics of presence exists in tension with RDLS’s foregrounding of absence, which departs from the conventional tactics of many conservation efforts. Kathryn Yusoff describes the role of representation as it composes the scene of ecological politics, where “engagement is configured around presence, sociality (however loosely this is construed), but not absence (not the missing face), but, rather, the anticipated one, the looked for...”⁹⁹ The one that is “looked for” in biodiversity, rendered through aesthetic and scientific representation, often coincides with

96. Rose, “Monk Seals at the Edge,” 122.

97. Povinelli, *Geontologies*, 13.

98. Helen Kopnina et al., “Anthropocentrism: More than Just a Misunderstood Problem,” *Journal of Agricultural and Environmental Ethics* 31, no. 1 (2018): 109–27.

99. Yusoff, “Aesthetics of Loss,” 586.

a charismatic species with a history of representation. (Think of the widely circulated panda bear logo of the World Wildlife Foundation, or the *National Geographic* photograph of a starving polar bear that went viral in 2017.) Yusoff articulates how through “nomenclature, speciation, archiving, creatures become subject to the sovereignty of the biological sciences and their offspring, conservation practices.”¹⁰⁰ She understands representation as potentially violent act: “the non-human subject is always subjected or subjugated by representation...In giving subjectivity, we take sovereignty. The thing is not as it would be on its own terms.”¹⁰¹ This challenge of representation looms large across RDLS as a movement and manifests differently in each unique practice. Observances grapple with the tension between representation as subjugation and the creation of new planetary relations through making nonhumans sensible.¹⁰² Thus RDLS praxis comes up against the traditional representational practices of conservation, in which charismatic species come to serve as proxies for extinction writ large, a rhetorical function achieved through what I call hyperpresence.

The cultural and scientific discourse around the polar bear demonstrate the overdetermined hyperpresence of this particular species, and how engagement with extinction is often predicated upon that presence. For example, “the image of the solitary polar bear on a shrinking ice floe...has become the icon of coming extinctions as one of the catastrophic consequences of climate change.”¹⁰³ In the words of Jon Mooallem, polar bears have a high “cultural carrying capacity.”¹⁰⁴ Their survival depends not only upon the continued existence of

100. Yusoff, “Aesthetics of Loss,” 583.

101. Yusoff, “Aesthetics of Loss,” 583.

102. Kathryn Yusoff, “Insensible Worlds: Postrelational Ethics, Indeterminacy and the (k)Notes of Relating,” *Environment and Planning D: Society and Space* 31 (2013): 208–26.

103. Heise, *Imagining Extinction*, 240.

104. Jon Mooallem, *Wild Ones: A Sometimes Dismaying, Weirdly Reassuring Story about Looking at People Looking at Animals in America* (New York: Penguin Press, 2013), 21.

their habitats and food sources, but also on cultural attitudes about them.¹⁰⁵ The polar bear also figures prominently in works of ecocriticism, further cementing its rhetorical hyperpresence. Una Chaudhuri, for example, uses the prevalence of the polar bear to develop her concept of the theater of species. She traces the ways representations of the endangered polar bear exemplify “zoöpathology,” “a disease of the ties that bind humans to other animals.”¹⁰⁶

But rhetorical emphasis on specific species can sometimes obscure the material realities faced by animal populations, and erase other relationships to them which do not depend on Western science, including Indigenous perspectives. Through the circulation of images like Cristina Mittermeier’s 2017 video footage of a solitary, emaciated polar bear audiences become so “mesmerized and impressed by the polar bear’s charisma that the truth of its predicament gets lost.”¹⁰⁷ Mittermeier’s video and photographs are a fitting example of this tendency. After *National Geographic* shared the video online with the caption “This is what climate change looks like,” its viral spread erased the original context of the images. As Mittermeier explained in an interview a year later, the *National Geographic* narrative directly attributing the bear’s condition to climate change took things too far, as the effects of climate change on individual animals and species are rarely so clear cut. “Climate change kills slowly and by proxy,” writes Mittermeier, “perhaps we made a mistake in not telling the full story—that we were looking for a picture that foretold the future and that we didn’t know what had happened to this particular

105. For a more extended analysis of cultural attitudes toward polar bears, see Part 1 of Mooallem, *Wild Ones*. For a discussion of the cultural role of endangered species more broadly, see Heise, *Imagining Extinction*.

106. Una Chaudhuri, “The Silence of the Polar Bears: Performing (Climate) Change in the Theater of Species,” in *Readings in Performance and Ecology*, ed. Wendy Arons and Theresa J. May (London: Palgrave Macmillan, 2012), 46.

107. Mooallem, *Wild Ones*, 22.

polar bear.”¹⁰⁸ Such rhetorical hyperpresence in conservation discourse sometimes paradoxically coincides with material hyperpresence, especially for communities that live in close proximity to these species. For example, Heise cites Inuit experiences that the presence of polar bears is actually increasing; the animals are less threatened by climate change than by the intrusion of scientists.¹⁰⁹ In February 2019, a small town in Siberia witnessed a “bear invasion,” when as many as fifty polar bears wandered into town. They entered residential buildings and rooted through garbage. But (in an ethical paradox typical of the Anthropocene) endangered species laws prevented anyone from shooting the bears, even if the residents were in danger of losing their lives.¹¹⁰

The scientific concept of biodiversity and the practice of conservation similarly depend upon (hyper)presence. Yusoff argues that the scientific legibility of animals—which influences conservation decisions—relies upon representing animals in some way: “in ecology, presence and absence in the representative frame, be it in quadrant, sample sector, webcam, scat, scientific paper or political protest, has been a problematic on which protection is either raised or falls.”¹¹¹ Given that a large number of nonhuman species remain unknown to and unsensed by humans, the necessity of presence troubles current and future conservation efforts.¹¹² The problematic of scientific representation and the overdetermined hyperpresence of charismatic species such as the polar bear in cultural understandings of biodiversity trouble relations to ecological loss.

108. Cristina Mittermeier, “Starving-Polar-Bear Photographer Recalls What Went Wrong,” *National Geographic*, August 2018, <https://www.nationalgeographic.com/magazine/2018/08/explore-through-the-lens-starving-polar-bear-photo/>.

109. Heise, *Imagining Extinction*, 241-243.

110. “Polar Bear Invasion on Novaya Zemlya as 50 Wild Animals Besiege Remote Town and ‘Chase People,’” *The Siberian Times*, February 10, 2019, <https://siberiantimes.com/other/others/news/polar-bear-invasion-on-novaya-zemlya-as-50-wild-animals-besiege-remote-town-and-chase-people/>.

111. Yusoff, “Aesthetics of Loss,” 584.

112. Yusoff eloquently articulates the ethical challenge of life outside human sense in “Insensible Worlds.”

RDLS embraces this difficulty. Rather than depending upon presence (rhetorical or material) to determine ethical orientation, RDLS observances engage with absence on multiple levels, including the felt absence of species long extinct. Not only do rituals focus on absent (rather than hyperpresent) extinct species, but many involve an aesthetics of absence. For example, as part of the RDLS 2018 observance, in January 2019 ONCA held a ritual memorial for the Steller's sea cow. The procession began on ONCA's barge at Brighton Marina in the UK, which they use as a community learning and art development space.¹¹³ Families and children on the barge heard the story of the animal's extinction while a large model of the sea cow looked on. Participants had the opportunity to share their own stories of grief, thankfulness, and hope for the future. Following this ritual, participants carried the Steller's sea cow through the streets of Brighton to a beach, where they burned it in a ceremony.

Unlike many other cultural engagements with ecological loss, as a performance practice this memorial enacts and embraces the slippages between presence and absence through the (aesthetic) traces of the sea cow. For "it is not presence that appears in the syncopated time of citational performance," writes Rebecca Schneider, "but precisely (again) the missed encounter—the reverberations of the overlooked, the missed, the repressed, the seemingly forgotten."¹¹⁴ Schneider illuminates the ways repeated performance "plays the 'sedimented acts' and spectral meanings that haunt material in constant collective interaction, in constellation, in transmutation."¹¹⁵ Just as Schneider's citational performance repeats again and again across time, RDLS memorials are reiterated across space and time, tracing the planetary haunting of lost

113. "The Barge," ONCA, accessed July 10, 2019, <https://onca.org.uk/the-berge/>.

114. Rebecca Schneider, *Performing Remains: Art and War in Times of Theatrical Reenactment* (New York: Routledge, 2011), 102.

115. Schneider, *Performing Remains*, 102.

ecological subjects, continually troubling the presence/absence binary on both rhetorical and material levels.

By bringing together a multiplicity of memorializing and mourning activities into a single community, RDLS imagines new planetary relations through grief in what Rose calls “the death age.”¹¹⁶ If, as she argues, “ethical action takes place in a domain of entangled worlds of life and death within which we are exposed to our shared precariousness and express our responsiveness to the vulnerability and suffering of others,” then it is through embodied praxes of mourning lives marked as expendable that new, ethical planetarity might be glimpsed.¹¹⁷

5.2.2 Grievable Lives in the Pollinator Procession and Generative Memorial

“This way of imagining community affirms relationality not only as a descriptive or historical fact of our formation, but also as an ongoing normative dimension of our social and political lives, one in which we are compelled to take stock of our interdependence.”¹¹⁸

RDLS approaches the difficult disjunctures between the local and global under ecological emergency by creating both a planetary community and particular rituals for particular spaces: an inclusive totality. While the movement as a whole memorializes nonhuman life, I turn to a specific RDLS event to demonstrate some of the many ways participants engage with absence and mobilize grief in a planetary praxis. This particular observance, due to both its site and aesthetic characteristics, offers an example of the ethical possibilities of this praxis. I theorize the

116. Rose, “Monk Seals at the Edge,” 137.

117. Rose, “Monk Seals at the Edge,” 135.

118. Judith Butler, *Precarious Life: The Power of Mourning and Violence* (New York: Verso Books, 2004), 27.

work of the Pollinator Procession and Generative Memorial through Judith Butler’s concept of grievability.¹¹⁹ While I expand and extend Butler’s theorization to explicitly include the nonhuman, I follow her emphasis on the political and ethical power of grief, “the corporeal response to the affective residue of the vanished past in the present tense.”¹²⁰ Through this particular example, I explore the uses of grief in articulating new nonhuman-human relations.

In 2017 RDLS invited activities centered around pollinator species: bees, butterflies, moths, bats, and others. The selection of pollinators as the focal point coincided with the designation of the first bumblebee species as endangered under the US Endangered Species Act.¹²¹ The dwindling of insect populations has recently attracted popular attention; *Huffington Post*, *Vox*, and *Business Insider* all published news of scientists announcing an impending insect apocalypse.¹²² In Oakland, California, RDLS participants gathered to remember pollinators that have been lost and nurture those that still survive at the Lake Merritt Regenerative Memorial and Pollinator Procession. The event was co-created by artist Meg Hollingsworth of Extinction Witness, collective Giant Puppets Save the World, and the activist group Pollinator Posse.

Lake Merritt, a large tidal lagoon near the center of Oakland, served as the site of this ritual of ecological witnessing. The history of Lake Merritt encapsulates the complex imbrication of historical, ecological, colonial, racial, and structural violence which RDLS strives to comprehend and combat. The 140-acre lake, a biodiverse habitat home to numerous marine,

119. This concept runs through several of Butler’s works. See *Precarious Life; Frames of War*; and “Precarious Life, Vulnerability, and the Ethics of Cohabitation.”

120. Dana Luciano, *Arranging Grief: Sacred Time and the Body in Nineteenth-Century America* (New York: New York University Press, 2007), 2.

121. “In a Race Against Extinction, Rusty Patched Bumble Bee is Listed as Endangered,” US Fish & Wildlife Service, last updated December 20, 2019, <https://www.fws.gov/midwest/news/861.html>.

122. See Francisco Sánchez-Bayo and Kris A.G. Wyckhuys, “Worldwide Decline of the Entomofauna: A Review of Its Drivers,” *Biological Conservation* 232 (2019): 8–27. While this article did garner significant popular attention, other scientists have critiqued its findings.

avian, mammal, and plant species, was central to the Indigenous inhabitants of the region, the Ohlone. They were forcibly removed from the area to allow for the expansion of the city. Dr. Samuel Merritt, the thirteenth mayor of Oakland, donated the lake and surrounding acreage to the government, intending the naturally beautiful area to serve as a source of civic pride. In 1870, the California state legislature dedicated Lake Merritt as the first wildlife refuge in North America, and it became a National Historic Landmark in 1963. The legal designation of Lake Merritt as a specially demarcated space of refuge where nonhuman species are protected hinges on the violent expulsion of Indigenous peoples and lifeways. This history exemplifies the ways the legacies of settler colonialism permeate contemporary environmental activism.¹²³ Today, Lake Merritt continues to serve as an important feature of the city of Oakland, even as it is afflicted by pollution. The non-profit Lake Merritt Institute organizes volunteers who remove trash from the lake almost every day, collecting between a thousand and five thousand pounds of trash every month.¹²⁴

The Lake Merritt Pollinator Procession paraded around the perimeter of this site of ecological and historical significance. A group composed of artists, activists, community members, families, children, and pets processed around the lake—a distance of about three and a half miles. Many carried homemade signs. Some wore costumes inspired by various pollinator species; the distinct orange and black wings of the monarch butterfly were easy to spot. The work of Giant Puppets Save the World was on full display throughout the procession as

123. See Carolyn Finney *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors* (Chapel Hill: University of North Carolina Press, 2014); Kyle Powys Whyte, “Indigenous Science (Fiction) for the Anthropocene: Ancestral Dystopias and Fantasies of Climate Change Crises,” *Environment and Planning E: Nature and Space* 16, no. 4 (May 2018): 1–18.

124. “About the Institute,” Lake Merritt Institute, accessed May 8, 2019, <https://lakemerrittinstitute.org/about-the-institute/>.

numerous puppets—birds and butterflies—waved over the marchers on colorful wings. A group of artists working in the tradition of Bread and Puppet Theatre’s cheap art aesthetic, Giant Puppets Save the World seeks not only to craft characters for political purposes, but also to establish community through the creation and operation of the large puppets. Each puppet is the result of collective efforts by numerous designers, artists, and participants.¹²⁵

This event also included the opening and dedication of the first Regenerative Memorial, created by Hollingsworth under the auspices of her project Extinction Witness. Hollingsworth aims to reconceptualize and reshape ecological grief, especially in Western cultures which may not have historical practices of expressing such affects. Through several different creative avenues, Hollingsworth promotes a practice of “embodied grieving” that “may take the form of direct action (literally repairing bodies and buildings), purely emotive, and/or creative expression...The effort is to peacefully express emotions associated with past, present, and anticipated loss. Doing so, we can maintain spiritual vitality, creativity, and helpful action, while avoiding despair and the tragic consequences of revenge.”¹²⁶ For the Lake Merritt Memorial, Hollingsworth partnered with Pollinator Posse, an activist group that fosters pollinator-friendly landscaping through outreach, education, and direct action.¹²⁷ The memorial serves as a space for embodied grieving and provides refuge for pollinator species, as a public garden comprised of the plant species they need to survive.

As a nexus of performance practices, the Lake Merritt event serves as an example of an ethical planetary praxis: an embodied response to climate crises which critiques capitalist

125. “Giant Puppets Save the World,” accessed June 8, 2019, <https://giantpuppetsavetheworld.com/>.

126. “Generative Memorial,” Extinction Witness, accessed July 5, 2019, <https://www.extinctionwitness.org/grief-generation>.

127. Pollinator Posse, accessed June 8, 2019, <https://pollinatorposse.org/>.

spacetime and calls forth new relations between the human and nonhuman. Both the procession and memorial, in distinct ways, carve out space for embodied grieving from the rhythms of chrononormativity, “the use of time to organize individual bodies toward maximum productivity.”¹²⁸ By articulating nonhuman life as grievable, RDLS opens up opportunities for what Freeman calls “living aslant,” directing emotional and physical effort toward ecological mourning in spite of the strictures of biopolitical regime of capital.¹²⁹

The procession around Lake Merritt emerges in the legacy of historical practices of ambulatory mourning: walking as an act of memorializing loss. Processional performance, “not simply a means of getting from Place X to Place Y, but a means of getting there in ways that have ceremonial and symbolic importance,” is a common strategy for both artists and activists.¹³⁰ The Lake Merritt processors, by placing their bodies in that particular space in an act of presencing, both spectacularize (as in make visible) and memorialize the disappearance of pollinator species. The families, pets, puppets, and artists who process around the lake make present what Rob Nixon calls slow violence, “the long dyings” which occur at imperceptible temporal scales, often outside of the geographical awareness of the privileged Global North.¹³¹ Not a spectacularly disastrous event like a massive oil spill or the murder of an endangered animal by a celebrity trophy hunter, slow violence goes on in the background of global capitalism, outside of traditional rhetorical conventions of understanding violence which “routinely ignore ongoing, belated casualties.”¹³²

128. Freeman, *Time Binds*, 3.

129. Elizabeth Freeman, “Hopeless Cases: Queer Chronicities and Gertrude Stein’s ‘Melanctha,’” *Journal of Homosexuality* 63, no. 3 (2016): 341.

130. Barbara Kirshenblatt-Gimblett and Brooks McNamara, “Processional Performance: An Introduction,” *TDR/The Drama Review* 29, no. 3 (1985): 2.

131. Nixon, *Slow Violence*, 2–3.

132. Nixon, *Slow Violence*, 13–4.

The disappearance of pollinator species can be understood as a manifestation of slow violence, particularly as it persists outside of human phenomenological awareness.¹³³ Not only are these species separated from humans by species difference, but their extinction will result in a seemingly infinite number of ecological effects, both recognizable and unseen. As Yusoff eloquently explains, despite the sense-making apparatus of biological science, much biodiversity loss occurs outside of human sense: “while the making sensible of biotic subjects is a basic tenet of conservation practices and taxonomic orders, every attempt to do so simultaneously acknowledges the impossibility of such a project through the excess of ‘insensible subjects’ that always await description, nomination, or apprehension.”¹³⁴ Despite overwhelming focus on (most often mammalian) charismatic species, much ongoing biodiversity loss continues beneath or outside human awareness even as many humans contribute to its causes.

The Pollinator Procession around Lake Merritt both brings pollinators into the realm of sensibility and emphasizes their worth as biotic subjects.¹³⁵ The procession circumscribes the lake, the site of past colonial violence and capitalist philanthropy, of present pollution and an uncertain future. As a memorializing walk, a processional performance, the act of walking becomes, like funeral processions or protest marches, a way of carving out emotional space for extinct and endangered nonhumans.

This procession coincided with the opening of Lake Merritt Regenerative Memorial, a pollinator-friendly garden to serve as refuge for humans and pollinators alike. The Regenerative Memorial rejects the capitalist commodification of space and survival. As it offers a physical

133. I realize that particular groups of humans, such as Indigenous peoples or those in heavily agrarian societies, likely have a different relationship to pollinator species. However, as a practice originating in the Global North, RDLS intervenes in dominant understandings of “nature” which persist there.

134. Kathryn Yusoff, “Insensible Worlds,” 209.

135. Yusoff, “Insensible Worlds.”

space for reflection, the Memorial counters the increasing disappearance of accessible public spaces. This phenomenon has intensified into calculated efforts to make those spaces which remain inhospitable and inconducive to rest, so-called hostile or defensive architecture. The Memorial supports subsistence “unbound by human monetary exchange,” offering respite without expectation of remuneration.¹³⁶

Hollingsworth held a burial for several pollinator individuals as she opened the Memorial. As seen in video documentation of the event, Hollingsworth opens a small cardboard box holding the desiccated bodies of several different pollinator species. She gently lays them into small holes in the dark earth. As she covers their bodies with soil, Hollingsworth explains “when I think of lost species, I think of individuals.”¹³⁷ By treating the pollinators as individual beings worthy of grieving and memorializing, Hollingsworth demonstrates a way of relating to extinct animals aside from what Ricardo de Vos calls the logic of the specimen and the logic of the species. De Vos explains that “the logic of the specimen works to suggest that specific conditions, specific groups of people and specific practices led to the deaths of specific animals. However, when conflated with the logic of the species such evidence is ‘returned’ as objective, removed from specific instances.”¹³⁸ The logic of the specimen resists the universalism of the logic of the species which attempts to approach geologic time and often results in the abdication of responsibility by those specific parties most implicated in extinction. However, both logics are made legible via scientific understandings; animals’ existence becomes refracted through the intellectual and cultural apparatus of Western science. Or, as Shukin writes, “the logic of the

136. Regenerative Memorials, accessed July 4, 2019, <https://www.regenerativememorials.com>.

137. <https://www.facebook.com/ExtinctionWitness/videos/1378010325660690/?type=2&theater>.

138. Ricardo De Vos, “Extinction Stories: Performing Absence(s),” in *Knowing Animals*, ed. Laurence Simmons and Philip Armstrong (Leiden: Brill, 2007), 189.

specter and the logic of the *specimen* (conceived as the reduction of animals to the ostensibly transparent literality of their bodies), are flip sides of animal capital and signal the double bind with which capital achieves a biopolitical lock on ‘life.’”¹³⁹

This ritual of pollinator burial, in contrast, creates a relation between the individual human subject (in this case, Hollingsworth) and the pollinators as individuals. This is not the logic of the specimen, in which an animal becomes translated into quantifiable data fit for scientific consumption.¹⁴⁰ They are not to be kept in neat rows in so many specimen drawers, wings violently pinned to boards, labeled, numbered, catalogued, part of the regime of biological knowledge. Instead, through the act of burial, these pollinators are recognized as worthy of remembrance and mourning. They are rendered as individuals, as *lives*, through what Butler has called grievability. She argues that, particularly within the context of war, “some lives are grievable, and others are not; the differential allocation of grievability that decides what kind of subject is and must be grieved, and what kind of subject must not, operates to produce and maintain certain exclusionary conceptions of who is normatively human: what counts as a livable life and a grievable death?”¹⁴¹ If grievability determines the definition of human life, might grievability also determine the definition of life more broadly? That is, how can performative acts of witnessing—of grieving, mourning, memorializing—like the pollinator burial at Lake Merritt expand what (particularly Western) humans deem as life worthy of preservation and restoration?

139. Shukin, *Animal Capital*, 39, my emphasis.

140. See “Imagining Planetary through Museological Performance” in this dissertation.

141. Butler, *Prekarious Life*, xiv.

Butler speaks of the power of the obituary as “the instrument by which grievability is publicly distributed,” as it serves to render a life grievable and therefore *a life*.¹⁴² This is partly because, she explains, the criterion for grievability is familiarity or identification.¹⁴³ By making pollinators familiar, the pollinator burial serves a parallel function: it renders them as both individuals and identifies them as grievable lives. Moreover, this act of grieving resists capitalist commodification. This burial ritual does not grieve for the loss or lack humans will experience as a result of the extinction of pollinators, such as the impending scarcity of honey in the absence of bees. Instead, the pollinators are *worthy of mourning in and of themselves*. Hollingsworth’s humble, reverent burial of the pollinators serves as a gesture toward a new mindset, one that recognizes radical alterity while opposing the pervasiveness of capital.

Butler argues that the US must lose its perspective that “the world is mine.”¹⁴⁴ Building on this claim, an ethical radical planetary praxis means rethinking the (capitalist, Eurocentric) mindset that “the world is mine,” that nonhuman life is somehow less than or value-able. By doing so, the Lake Merritt Generative Memorial also seeks to enact Haraway’s assertion that we stay with the trouble. Haraway advocates for a persistent and conscious presentness, a practice of making kin outside of genetic or species lines, what she calls oddkin. The Lake Merritt Procession and Memorial, and the funeral ritual in particular, looks to the past in order to create the such desperately needed odd-kinship bonds. By laying the bodies of these pollinators to rest, who had been destroyed by the environmental violence of capitalism, the burial not only makes them legible as grievable lives, but also makes them kin. The praxes of grief embodied by RDLS are not the fearful anticipation of an apocalyptic future nor an ignorant longing for the pristine

142. Butler, *Precarious Life*, 34.

143. Butler, *Precarious Life*, 38.

144. Butler, *Precarious Life*, 40.

Nature of a modernist past, but instead a new way to imagine kinship relations which might offer new paths for the future.

5.3 Extinction Rebellion and Mourning-as-Protest

*“Capital was born from extinction, and from capital, extinction has flowed.”*¹⁴⁵

Oxford Circus in London’s West End is one of the city’s busiest intersections and may be one of the busiest shopping districts in Europe. The area is normally full of cars, pedestrians, and riders from the nearby tube station. But in April 2019 this bustle came to a halt. Rather than the usual crush of commuters, shoppers, and tourists, a crowd of protestors took over the space. A bright pink boat with TELL THE TRUTH painted in bold on its side sailed from hand to hand. Activists brought commercial activity to a standstill, gluing themselves to buildings, blocking intersections, and staging die-ins. They had three clear demands. First, that the UK government must tell the truth about climate change, declaring a state of climate emergency. Second, that the government immediately act to stop biodiversity loss and reduce emissions. Finally, the creation of a people’s assembly to govern on issues of climate change.¹⁴⁶ In protests lasting about a week at five strategic locations around the city, at least a thousand people were arrested.¹⁴⁷

145. Justin McBrien, “Accumulating Extinction: Planetary Catastrophism in the Necroocene,” in *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, ed. Jason W. Moore (Oakland, CA: PM Press, 2016), 116.

146. “Our Demands,” Extinction Rebellion, accessed July 14, 2019, <https://rebellion.earth/the-truth/demands/>.

147. Frances Perraudin, “Extinction Rebellion arrests pass 1,000 on eighth day of protests,” *The Guardian*, April 22, 2019. <https://www.theguardian.com/environment/2019/apr/22/people-arrested-at-london-climate-protests>.

This was Extinction Rebellion, a decentralized, organic group that encourages direct action and civil disobedience on behalf of the environment. The movement began on October 31, 2018, with an assembly in London's Parliament Square, a public declaration of rebellion against the UK government due to its inaction on climate change. Approximately fifteen hundred people attended, vastly exceeding organizers' expectations. Leaders worked to build on this momentum, planning an International Day of Rebellion on April 15, 2019. Extinction Rebellion chapters began appearing in number of other countries and on other continents. Issue-specific groups developed from the central movement, such as XR Youth, which is composed of activists born after 1990, and Doctors of Extinction Rebellion. The group remains open to anyone and everyone who shares their values, which are encapsulated in a ten-point manifesto. These include a philosophy of non-violence, a commitment to breaking down power hierarchies within their organization, and a goal of creating a regenerative culture.¹⁴⁸ Since 2018, along with planned international actions, smaller protests, direct actions, and local events have been ongoing, often mobilized through Twitter activity (see figure 32).

Extinction Rebellion (sometimes abbreviated XR) appropriates the traditional tactics of labor movements—strikes and protest marches—in hopes of sparking immediate and significant environmental action from national governments, corporations, and international bodies. A number of XR groups have infused these established tactics of non-violent civil disobedience with an ethos of mourning. I examine several XR actions under the umbrella of what I call mourning-as-protest. Like conventional protest tactics, mourning-as-protest disrupts usual economic activity, but reaches beyond that disruption to subvert the temporal structures of capitalism which necessitate a focus on relentless progress for the immediate benefit of the one

148. "About Us," Extinction Rebellion UK, accessed May 21, 2019, <https://rebellion.earth/the-truth/about-us/>.

percent. Like RDLS rituals, these mobilizations of mourning work to reshape definitions of what is considered life, and therefore what is considered valuable.



Figure 31. A boat at an XR protest in London Borough of Lambeth, July 16, 2019.

Photograph courtesy of Courtney Colligan.

Extinction Rebellion and RDLS share a similar approach to creating a planetary community; both movements take to social media (particularly Twitter) to support their decentralized organizational structures. Although Extinction Rebellion does not characterize their movement in this way, this autonomous approach allows for a simultaneous specificity and totality which, as I have described, remains a significant challenge to any ethical planetary praxis. That is, because “anyone who follows [the] core principles and values can take action in the name of Extinction Rebellion,” particular praxes can respond to their local situations at the

same time that they are part of a larger planetary movement.¹⁴⁹ This organizational similarity coincides with a degree of crossover between the two movements. Extinction Rebellion has participated in RDLS events and the visual language of Extinction Rebellion (which I discuss below) often appears in RDLS practices. Insofar as the practices of both movements seek to render nonhuman life grievable, they aim to remake ecological relationships between humans and nonhumans.

However, the specific use of mourning differs between movements. RDLS praxes carve space for mourning from the violent rhythms of capitalist straight time; spaces like the Regenerative Memorial open up *outside* or *alongside* straight time. First, as I will demonstrate, Extinction Rebellion activists aim to *interrupt* and *disrupt* the progress of capital through mourning-as protest. These activists employ the act and aesthetics of mourning as part of direct political action and non-violent civil disobedience directed toward halting the loss of nonhuman animals and ensuring the possibility of a future for (particularly marginalized) humans. Second, by contextualizing XR's praxis of mourning-as-protest within the history of political activism, specifically the practices of AIDS activists in the 1970s and 80s, I articulate the ways that this movement ruptures the rhythms of straight time, enacting what Pryor calls time slips, interventions that "call capitalism into question, disrupting the logics of linearity, progress, and cultural amnesia."¹⁵⁰ Pryor describes digressions from capitalist time as "aberrant, delinquent, criminal, and queer."¹⁵¹ The praxes of XR show that these interventions can be also be rebellious. Finally, I address the complicated politics of ecological grief in the Global North, specifically the relationship between privilege and praxis. While there are no straightforward solutions to the

149. "About Us," Extinction Rebellion UK.

150. Pryor, *Time Slips*, 9.

151. Pryor, *Time Slips*, 5.

problem of privilege, the prevalence of police violence and (environmental) racism demands an analysis of the role of racial politics within the movement.

5.3.1 “This is an Emergency”: Obstructing the Progress of Capital

“...the process of creating political interference calls forth a perceptive and responsive physicality that, everywhere along the way, deciphers the social and then choreographs an imagined alternative.”¹⁵²

XR’s decentralization allows for groups to swiftly adapt to changing conditions on the ground in their communities. Extinction Rebellion leaders do not prescribe any particular parameters for protest actions. But a shared aesthetic has emerged across a variety of XR actions and practices which I identify as mourning-as-protest. This praxis manifests in specific events as die-ins, funeral processions, and/or burials. Like Hollingsworth’s pollinator burial, these practices render nonhumans as (grievable) life, “seeing and enacting the very activity of bonds of solidarity that emerge across space and time.”¹⁵³ But beyond this reconceptualization of nonhuman life, mourning-as-protest also links ecological violence with human vulnerability, gesturing toward a new planetary relation in which all forms of life are connected, and all similarly susceptible to the violence of capital.

I turn to the inaugural march of the Extinction Rebellion chapter in North Devon, UK, to demonstrate how mourning-as-protest manifests in a specific action. In early February 2019,

152. Susan Leigh Foster, “Choreographies of Protest,” *Theatre Journal* 55, no. 3 (2003): 412.

153. Butler, “Precarious Life, Vulnerability, and the Ethics of Cohabitation,” 135.

activists led a funeral procession from the Barnstaple town center up Devon's High Street. Many of the marchers wore black. Some dressed in formal attire: suits, top hats, long hooded robes. Some sported the Extinction Symbol, a stark visual language that has proliferated throughout Extinction Rebellion groups (figure 33). Extinction Symbol began as a graffiti project by London artist ESP in 2011. He encourages anyone and everyone to use the Symbol, as its striking simplicity helps capture the biodiversity crisis: the circle representing the planet and the hourglass inside the rapidly decreasing time to save disappearing species.¹⁵⁴ In 2018, Extinction Rebellion adopted the Symbol as its unifying visual sign.¹⁵⁵ The Extinction Rebellion marchers at the North Devon funeral, for example, wore green mourning armbands marked with the symbol. A large sign proclaiming "Rebellion Earth" was carried aloft over the marchers' heads. Other marchers held smaller signs with the names and images of animals, some nearly extinct and some already so. Many children in the march had their faces painted in the likenesses of animals. The procession was led by a group of pallbearers carrying a coffin draped in another green XR banner and a drummer. The marchers occasionally halted to hold moments of silent vigil.¹⁵⁶

This deployment of the aesthetics of mourning-as-protest echoes a number of activist movements, including the US Civil Rights movement of the 1950s and 60s, AIDS activism of the 1980s, and anti-globalization protests of the 1990s. Susan Leigh Foster identifies a common thread of embodiment that flows through each of these movements, "a recalcitrant physicality

154. Extinction Symbol, accessed June 12, 2019, <http://www.extinctionsymbol.info..>

155. Charlotte Webster, "The Origins and Rise of the Extinction Symbol." *Ecohostler*, 2019. <https://ecohustler.com/article/the-origins-and-rise-of-the-extinction-symbol/>.

156. Tony Gussin, "A Funeral for the Environment as Extinction Rebellion Arrives in North Devon," *North Devon Gazette*, February 13, 2019, <https://www.northdevongazette.co.uk/news/extinction-rebellion-barnstaple-funeral-procession-1-5889800>; Tony Gussin, "Pictures: Coffin Carried through Barnstaple High Street for Extinction Rebellion," *North Devon Gazette*, February 16, 2019, <https://www.northdevongazette.co.uk/news/extinction-rebellion-funeral-barnstaple-1-5895021>.

that refuses to comply with the bodies of those in positions of authority.”¹⁵⁷ In the case of Extinction Rebellion funeral marches like North Devon’s, activists occupy sites of consumerism and political power with their embodied mourning-as-protest. Marches often process to the seat of local government, sometimes depositing a coffin at the steps of political power.

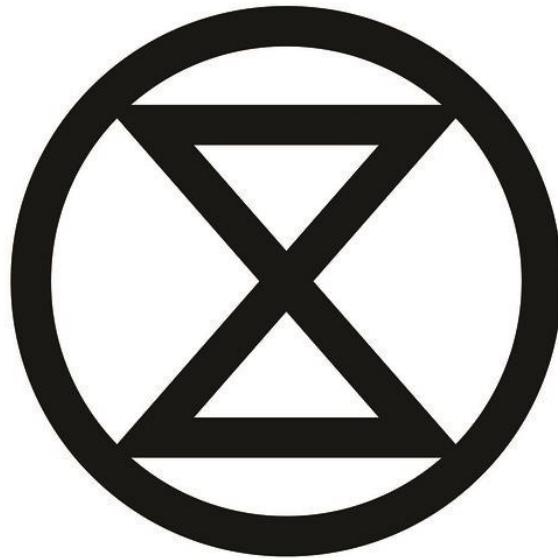


Figure 32. The Extinction Symbol.

Coffins or caskets are a common sight in Extinction Rebellion actions. The coffin operates as a fluid symbol depending on the organizers’ context, variously representing extinct nonhuman species, lives lost to air pollution, humanity, “our future,” and/or the planet. Regardless of the specific referent, in XR protests the coffin serves as a potent visual for outsiders, clearly marking the protest as an action of mourning. Like RDLS’s pollinator burial, the coffin renders nonhumans grievable, marking their lives as worthy of mourning. By taking up the embodied practice of the funeral march, Extinction Rebellion mourners remove their bodies from the prescriptive rhythms of straight time, in which bodies are regimented toward economic

157. Foster, “Choreographies of Protest,” 396.

productivity. Further, by inserting their physicality into spaces of power, the mourners impede the very progress of those rhythms, practicing a form of civil resistance that they recognize is the only way forward.¹⁵⁸

5.3.2 Climate Sorrow: The Uses of Mourning

“Facing feelings is not a substitute for political action, nor is it a distraction from action.

Feelings are an important feature of political activity.”¹⁵⁹

Of course, Extinction Rebellion is not the first activist movement to engage in practices of mourning-as-protest: publicly staging typically private rituals of grief to demand political change. XR’s civil disobedience model adopts many of the strategies used by US civil rights activists, and their mourning-as-protest demonstrates clear resonances with the tactics adopted by AIDS activists in the 1970s and 1980s. The NAMES Project AIDS Memorial Quilt remains one of the most visible and well-known works of mourning within AIDS activism. During the height of the AIDS epidemic in the United States, the AIDS Coalition to Unleash Power (ACT UP) conducted several political funerals. These public funerals, of ACT UP members and other AIDS activists, not only served to mourn their loss but also as a direct political intervention. In the context of the violence of AIDS and a culture of pervasive homophobia, their very publicness entailed a political act. Many public AIDS funerals occupied sites of national power and

158. Roger Hallam, “The Civil Resistance Model,” in *This Is Not a Drill: An Extinction Rebellion Handbook*, 99–105, (London: Penguin Books, 2019).

159. Susie Orbach, “Climate Sorrow,” in *This Is Not a Drill: An Extinction Rebellion Handbook*, (London: Penguin Books, 2019), 67.

significance.¹⁶⁰ If, as a common ACT UP rallying cry emphasized, Silence = Death, public funerals were deafeningly loud, sonically, emotionally, and politically. Through the contextual shift from private funeral home to public space the practice of mourning becomes a political intervention.

AIDS political funerals also functioned as “an opportunity for the externalization of aggression that serves to constitute the subject in a new way.”¹⁶¹ AIDS activist and art critic Douglas Crimp famously argued against the vilification of mourning within the movement in his foundational essay “Mourning and Militancy.” Crimp acknowledged that “public mourning rituals may of course have their own political force, but they nevertheless often seem, from an activist perspective, indulgent, sentimental, defeatist.”¹⁶² But Crimp maintained that for the gay community facing the violence of AIDS mourning was not only present but necessary. This mourning (and other negative feelings) did not preclude activism:

There is no question but that we must fight the unspeakable violence we incur from the society in which we find ourselves. But if we understand that violence is able to reap its horrible rewards through the very psychic mechanisms that make us part of this society, then we may also be able to recognize—along with our rage—our terror, our guilt, and our profound sadness. Militancy, of course, then, but mourning too: mourning *and* militancy.¹⁶³

Answering Crimp’s call for both mourning and militancy, XR rejects the idea that grief is anathema to activism. In this legacy of AIDS activism, Extinction Rebellion political funerals make acts of grief public, in spaces of economic and political power. The object of grief differs: rather than members of a marginalized community dying from government

160. Erin J. Rand, “Repeated Remembrance: Commemorating the AIDS Quilt and Resuscitating the Mourned Subject,” *Rhetoric & Public Affairs* 10, no. 4 (2007): 673.

161. Rand, “Repeated Remembrance,” 673.

162. Douglas Crimp, “Mourning and Militancy,” *October* 51 (1989): 5.

163. Crimp, “Mourning and Militancy,” 18, original emphasis.

inaction, Extinction Rebellion grieves nonhuman others and the possibility of a planetary future. Extinction Rebellion’s mourning-as-protest turns on the idea that “militancy might arise from conscious conflicts *within* mourning itself, the consequence, on the one hand, of ‘inadvisable and even harmful interference’ with grief and, on the other, of the impossibility of deciding whether the mourner will share the fate of the mourned.”¹⁶⁴ Crimp articulated the feelings of many ACT UP activists grappling with the uncertainty of their own futures in the face of the AIDS epidemic. Extinction Rebellion funerals similarly embrace this difficulty. In light of planetary ecological emergency, the futures of those marching (and the endangered animals that they march for) are under threat. Extinction Rebellion connects the future of human life with the extinction of nonhumans—a particularly effective tactic for young protestors staring down the loss of their futures, as embodied in the “our future” coffins.

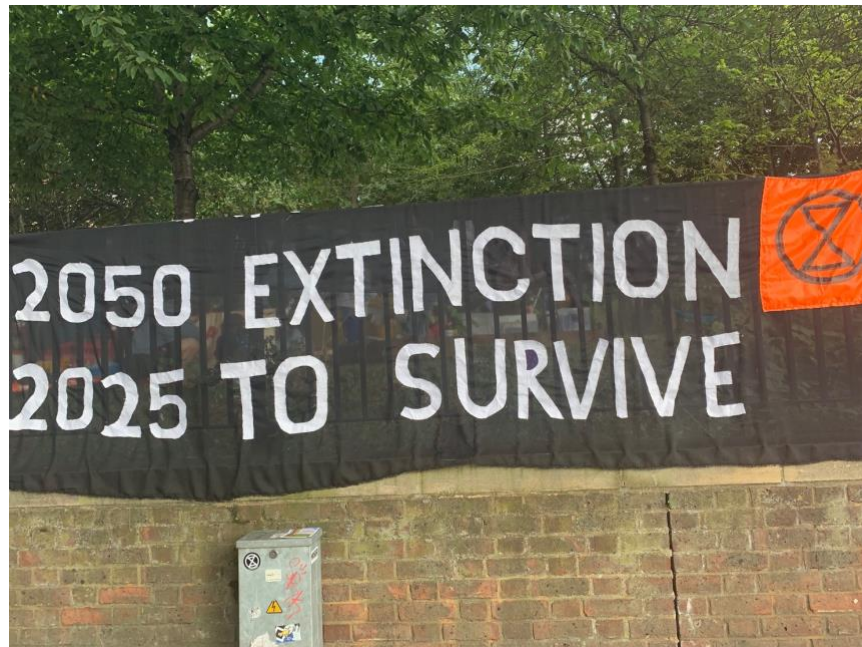


Figure 33. A banner at an XR protest in London Borough of Lambeth, July 16, 2019.

Photograph courtesy of Courtney Colligan.

164. Crimp, “Mourning and Militancy,” 10.

Extinction Rebellion activist Susie Orbach describes the necessity of addressing feelings of “climate sorrow” for the success of the movement in ways that echo Crimp’s belief in the coexistence of grief and activism. In *This Is Not a Drill*, a collection of essays and instructional guides that Extinction Rebellion published in April 2019 (coinciding with the International Day of Rebellion), Orbach explains that to be aware of climate emergency is always to face grief: “To come into knowing is to come into sorrow. A sorrow that arrives as a thud, deadening and fearful.”¹⁶⁵ Understanding, expressing, and addressing climate sorrow, then, becomes imperative for the movement. This is particularly pressing because “facing feelings is not a substitute for political action, nor is it a distraction from action...we need to mourn *and* organize.”¹⁶⁶ XR’s praxis of mourning-as-protest also shows a way that grief might be turned into organizing.

5.3.3 The Problems of Privilege

*“Failure to recognize the nature of the oppressive relations that drive extinction precludes meaningful responses to it.”*¹⁶⁷

In their publicness, political funerals offer “an opportunity for a new kind of existence, in which death and mourning need not preclude activism, opposition, and social transformation.”¹⁶⁸ Embracing, and then utilizing, climate sorrow is also vital to resist the rhetoric of techno-

165. Orbach, “Climate Sorrow,” 66.

166. Orbach, “Climate Sorrow,” 67, original emphasis.

167. Audra Mitchell, “Decolonizing Against Extinction, Part Iii: White Tears and Mourning,” *Worldly* (blog), December 14, 2017, <https://worldlyir.wordpress.com/2017/12/14/decolonizing-against-extinction-part-iii-white-tears-and-mourning/>.

168. Rand, “Repeated Remembrance,” 674.

optimism with its relentless focus on hope.¹⁶⁹ However, many XR activists come from the Global North, thus sharing space with those who espouse techno-fixes. While Extinction Rebellion chapters have emerged in a variety of geographies, the movement originated in the UK and continues to be most visibly active there and in other European countries. The use of public (ecological) mourning by XR activists illuminates the complicated ethics of praxes of grief taken up by those with privilege.

Audra Mitchell explores this issue by drawing on the politics of white privilege, arguing that displays of environmental grief by privileged people is a version of white tears, where “fear and anxiety about the ‘loss of species’ is linked to the desire to protect white futures, and the beings that are considered necessary—or simply desirable—to them.”¹⁷⁰ This can and does distract from those more directly affected by environmental catastrophe (in this case, particularly Indigenous peoples with close kinship ties to extinct and endangered nonhumans, and who have historically been more vulnerable to environmental violence). Perhaps even more problematic, white tears provide privileged subjects with a feeling of innocence, releasing them from responsibility.

Mitchell’s concerns are certainly worth of consideration; the majority of Extinction Rebellion activity is driven by activists from places of privilege. Since its inception, the movement has faced criticism, from both within and without, for its overall whiteness. As Youth Parliament MP Athian Akec wrote in an op-ed for *The Guardian*, “the tactics of Extinction Rebellion are designed by and for middle-class, white Britain. Their central rhetoric about a dystopian future fails to cut through for those of us already faced with a nightmarish present,

169. See “The Nature of Our Ancestors,” and “Imagining Planerarity through Museological Performance,” in this dissertation for more detailed analyses of the performance of techno-optimism.

170. Audra Mitchell, “Decolonizing Against Extinction, Part III.”

surrounded by poverty and austerity.”¹⁷¹ Akec’s criticism echoes Kyle Powys Whyte’s assertion that “the hardships many nonIndigenous people dread most of the climate crisis are ones that Indigenous peoples have endured already due to different forms of colonialism: ecosystem collapse, species loss, economic crash, drastic relocation, and cultural disintegration.”¹⁷² Thus, for many in the Global North, climate or eco-grief is in fact grief for the modern self, for particular ways of life which are becoming increasingly untenable.¹⁷³

However, I argue that the Rebellion’s deployment of the aesthetics of mourning *within* the spaces of white economic and legal privilege have the potential to operate in a different dynamic. Unlike practices of the environmentalism of the rich, which continue to uphold capitalist systems which perpetuate ecological violence, Extinction Rebellion public funerals do not obfuscate the role of their own nations in climate crises.¹⁷⁴ By occupying sites of power, both state power and economic importance, Extinction Rebellion implicates these spaces and those who inhabit them in both the extinction of nonhumans and the disappearing future.

XR activists not only acknowledge the privilege that many of them have, but a thoughtful examination of how to use that privilege to serve the movement’s objectives remains central to the organization’s work. As part of their goal of disruption, Extinction Rebellion activists seek to actively get arrested by law enforcement, a tactic which remains devisive among activists, particularly as activists of color face more danger in interactions with police. XR activists have been arrested at a number of XR actions, including after gluing or chaining themselves to

171. Athian Akec, “When I Look at Extinction Rebellion, All I See Is White Faces. That Has to Change,” *The Guardian*, October 19, 2019, <https://www.theguardian.com/commentisfree/2019/oct/19/extinction-rebellion-white-faces-diversity>.

172. Whyte, “Indigenous Science (Fiction) for the Anthropocene,” 3.

173. See Lesley Head, *Hope and Grief in the Anthropocene: Re-Conceptualising Human-Nature Relations* (London: Routledge, 2016).

174. Peter Dauvergne, *Environmentalism of the Rich* (Cambridge, MA: MIT Press, 2016).

buildings. In their instructions for building an XR action, Tiana Jacout and Robin Boardman acknowledge that “the decision to risk arrest, or prosecution, is a personal one, and is of course affected by your social position. There are roles within our movement for people who don’t, for whatever reason, want to take these risks.”¹⁷⁵ Cathy Eastburn, a fifty-one year old white woman, reflected on her own arrest and imprisonment during an XR protest: “As a middle-aged white woman living in the UK I felt no reason to fear for my life in this process—in fact I feel a duty to use this privilege to act on behalf of those who can’t, for whom arrest could be life-changing or even deadly.”¹⁷⁶ XR practices demonstrate the ways that an activism that addresses not only climate justice but also racial, gender, and economic justice might open the way for new ways of living under ecological emergency.



Figure 34. “Tell the Truth” banner at an XR protest in London Borough of Lambeth, July 16, 2019.

Photograph courtesy of Courtney Colligan.

175. Tiana Jacout and Robin Boardman, “Building an Action,” in *This Is Not a Drill: An Extinction Rebellion Handbook*, (London: Penguin Books, 2019), 110.

176. Cathy Eastburn, “Going to Jail,” in *This Is Not a Drill: An Extinction Rebellion Handbook* (London: Penguin Books, 2019), 131–2.

Critiquing First World environmental activism remains fundamental for ethical planetary praxis, especially as the history of environmental conservation is also the history of colonialism and imperialism. XR's mourning-as-protest memorializes nonhuman life specifically as both significant and grievable, and the First World positionality of many XR activists enable a direct disruption of the progress of capital. For example, in April 2019 an Extinction Rebellion group in Portland, Oregon, blockaded the entrance to Zenith Energy, a massive company that transports oil across North America. Activists successfully blocked the train tracks leading into the facility by planting a garden over the tracks.¹⁷⁷ They demanded that the area be rezoned by the city as a green space. Eleven XR activists were arrested and charged with criminal trespassing.¹⁷⁸ While Extinction Rebellion action alone cannot solve the climate emergency, their praxes that articulate that life as valuable beyond its inscription within capitalism *and* that directly implicate neoliberal capitalist governments in environmental violence offers a way to resist ecological devastation.

5.4 Conclusion: Grief in the Anthropocene

*"Mourning for ecological losses has no simple or predictable path."*¹⁷⁹

177. Extinction Rebellion PDX (@XR_PDX) "HAPPENING NOW: We are blockading the Zenith Energy facility by growing a garden directly on the train tracks," Twitter, April 21, 2019, video, https://twitter.com/xr_pdx/status/1119952119203635200.

178. KGW Staff, "11 Activists Arrested at Zenith Energy Plant in NW Portland," last updated April 22, 2019, <https://www.kgw.com/article/tech/science/environment/11-activists-arrested-at-zenith-energy-plant-in-nw-portland/283-04d4da1d-6c40-4274-8e0b-359b129495db>.

179. Phyllis Windle, "The Ecology of Grief," *Bioscience* 42, no. 5 (1992): 365.

Through public, collective demonstrations of grief, RDLS and Extinction Rebellion funerals move beyond the anthropocentrism which contributes to the relative absence of grief in climate change discourse. Unlike what Ashlee Cunsolo Willox calls the “limiting anthropocentric notion of mourning,” in which “it is always the human who occupies ethical and political consideration within mourning, and it is human loss that is predominately featured,” the praxes I have discussed here render nonhuman life worthy through grieving, linking nonhuman and human life through their shared vulnerability in the face of ecological crises.¹⁸⁰ Of course, grief and mourning have not been completely absent from climate change discourse or politics. Yet, as Cunsolo Willox points out, “those most likely to partake in this work in response to climate change are themselves bodies that do not usually matter within policy and discourses.”¹⁸¹ Many Indigenous peoples and those from the Global South already engage in a variety of place-based mourning practices and political demonstrations. Cunsolo Willox cites the openly emotional address of the Tuvalu Delegation to the Conference of the Parties (COP 15) climate change meeting in 2009.¹⁸² Similarly, just before the COP 15 meeting, the president of the small island nation of the Maldives led a cabinet meeting underwater to urge action on climate change.¹⁸³ RDLS and XR offer possibilities for ways those with privilege might not only embrace their climate sorrow, but also utilize that experience in an ethical, and possibly radical, practice of activism.

180. Ashlee Cunsolo Willox, “Climate Change as the Work of Mourning,” *Ethics and the Environment* 17, no. 2 (2012): 147.

181. Cunsolo Willox, “Climate Change as the Work of Mourning,” 154.

182. Cunsolo Willox, “Climate Change as the Work of Mourning,” 151.

183. “Maldives Cabinet Meeting Underwater.” *Smithsonian Ocean*, accessed August 18, 2019, <http://ocean.si.edu/conservation/climate-change/maldives-cabinet-meeting-underwater>.

This use of grief remains particularly important in the face of climate denial or inaction. Lesley Head argues that grief is in fact the reason for climate inaction in the first place, a perspective that helps move beyond a continuous debate of scientific evidence. Head explains that grief, as an intrinsic part of the cultural politics of climate change, encompasses two distinct temporal dimensions. First, a sense of grief for modernity itself. Those with economic and political privilege mourn for the ideal of an individual subjectivity which imagines progress, “values autonomy and individual freedom, and connects the future with the possibility of improvement.”¹⁸⁴ She argues that this aspect of grief prevents the urgently needed changes to (modernist) socioeconomic systems, at the same time that the future is no longer “a time and place of unlimited positive possibility.”¹⁸⁵ Second, a sense of grief for “a stable, pristine, and certain past.”¹⁸⁶ According to Head, this second sense of grief has been an integral part of biodiversity conservation and the environmentalist movement under modernism. Specifically, Head identifies “the lure of the past baseline” as exerting significant power in senses of environmental grief.¹⁸⁷ However, she exhorts us to “consider carefully what *we* are grieving for, and whether *we* ever actually had it.”¹⁸⁸ It is this “we” of grieving that goes largely unexamined in Head’s articulation of grief. Though the past baseline, an untouched and unspoiled nature, is largely a modernist fiction, this mourned-for past has its own history. The construction of this *rhetorical* temporal ideal is only made possible by the *material* exclusion, erasure, and elimination of other subjectivities, both human and nonhuman. Modernist subjectivity, as it

184. Head, *Hope and Grief in the Anthropocene*, 18.

185. Head, *Hope and Grief in the Anthropocene*, 16.

186. Head, *Hope and Grief in the Anthropocene*, 16.

187. Head, *Hope and Grief in the Anthropocene*, 53.

188. Head, *Hope and Grief in the Anthropocene*, 53, my emphasis.

depends on both progress toward a better future and an untainted past, have *always* depended upon the violent structures of racism, colonialism, and speciesism.

As the history of activism broadly demonstrates, emotions are a key part of activist struggles, what Deborah B. Gould calls the emotional habitus of a movement. The “socially constituted, prevailing ways of feeling and emoting,” are inextricably linked to the political possibilities that a particular group can imagine.¹⁸⁹ As they offer opportunities for expressing climate sorrow in articulating new relationships with the nonhuman, both mourning *and* organizing, as planetary praxes RDLS and XR open up new political possibilities in the face of environmental devastation.

189. Deborah B. Gould, *Moving Politics: Emotion and ACT UP's Fight Against AIDS* (Chicago: University of Chicago Press, 2009), 10.

6.0 Conclusion: On Performing the Human

*“Humanism, too, can be a performative, one that (after feminism and critical race theory and queer theory and postmodernism) needs to be continually recreated...”*¹

Cubes of white streaked with gray and black stacked in pyramids fill the frame. The lack of outside context leaves the viewer unsettled and unmoored. There’s no concrete sense of scale. These cubes could be microscopic or monumental, vascillating between miniature and mammoth. As the camera zooms out, a diagonal line appears at the bottom of the frame: a road. The vehicles traveling up the road are dwarfed by the hillside, more like toy trucks rather than construction vehicles. As the camera continues to move further away, the sky appears at the top of the frame, finally giving the viewer a clear sense of scale. The cubes—Carrara marble—are the product of a quarry, raw material for artworks and interior design.

This scene, from the 2019 documentary *Anthropocene: The Human Epoch*, is one visualization among many of the “ruin imaginaires of the Anthropocene” on display in the film.² Depictions of heaps of burning ivory poached from elephants, jewel-toned pools of lithium in Chile, a massive landfill in Kenya picked over by people and animals alike flow by under narration by Academy-Award winner Alicia Vikander. Its aesthetics trade on Romantic ideas of the sublime—the unification of beauty and terror—to capture humanity as planetary force.³ The

1. Jill Dolan, *Utopia in Performance: Finding Hope at the Theater* (Ann Arbor: University of Michigan Press, 2005), 170.

2. Mia M. Bennett, “Ruins of the Anthropocene: The Aesthetics of Arctic Climate Change,” *Annals of the American Association of Geographers*, December 10, 2020, 1.

3. Niklas Salmose, “The Apocalyptic Sublime: Anthropocene Representation and Environmental Agency in Hollywood Action-Adventure Cli-Fi Films,” *The Journal of Popular Culture* 51, no. 6 (December 2018): 1415–33.

experience of watching this film is one of disassociation and unsettlement: “by overpowering the viewer, sublime aesthetics diminish the potential for individual action.”⁴ If these scenes represent the human epoch, what (or who) is “the human”?

Anthropocene: The Human Epoch offers an aesthetic distillation of Sylvia Wynter’s conception of the hegemonic model of Man which the West imposed upon the human species under the claim that it supposedly preexists all other ways of being.⁵ The Anthropocene Man has become geological. Thus the concept of the Anthropocene itself acts as a “‘descriptive statement’ in whose terms humans inscript and insitute themselves/ourselves as this or that genre of being human.”⁶ Regardless of the name given to the conditions of ecological emergency in which we currently find ourselves, the disruption of known environmental norms gives rise to new understandings of what it means to live on this planet. If the destabilization of recorded norms has enabled humans to “project a sense of order onto the world that is not really there,” what new senses emerge in this break?⁷

As I have shown throughout this dissertation, while the looming specter of ecological emergency and the conceptual schema of the Anthropocene produce the framework of the planetary, such constructions are not necessarily always ethical or radical ways of being. Instead, a spectrum of planetary praxes are emerging. Some continue to rely on ideas of nature, politics, and culture which help constitute capital. These techno-optimistic praxes position the human as earthmaster, reaching out into all aspects of the biosphere (and, in some cases, outside of it) to

4. Bennett, “Ruins of the Anthropocene,” 5.

5. Sylvia Wynter, “Unparalleled Catastrophe for Our Species? Or, to Give Humanness a Different Future: Conversations,” in Sylvia Wynter: On Being Human as Praxis, ed. Katherine McKittrick (Durham, NC: Duke University Press, 2015), 21.

6. Sylvia Wynter, “Unsettling the Coloniality of Being/Power/Truth/Freedom: Towards the Human, After Man, Its Overrepresentation—An Argument,” *CR: The New Centennial Review* 3, no. 3 (2003): 277.

7. Whitney A. Bauman, “Climate Weirding and Queering Nature: Getting Beyond the Anthropocene,” *Religions* 6, no. 2 (2015): 744.

ensure a future for humanity. But these praxes double down on the alienation responsible for the current ecological emergency: “The structural significance and scale of the ecological crisis is not reflected in solutions of a corresponding significance and scale. This failure of both imagination and social practices is in many ways a product of double alienation: from nature and within human society itself.”⁸ While the scientific results of planetary techno-optimist interventions have yet to be seen, this continuance of capitalist praxis—in the guise of more ecologically minded relations—will also continue to relegate some humans and nonhumans to sacrifice zones.⁹

Other praxes, such as those encouraged by the traditional practices of natural history museums, solidify the exceptionalism of the human. In such institutions nature is “made sensible” through particular regimes of knowledge render “modes of recognition beyond ‘our’ abilities to make nonhuman worlds intelligible.”¹⁰ Given that the “Other” of nature has historically defined the human, the versions of nature expressed through museum display continue to create versions of the human in the Anthropocene. The inherited structures of these institutions, however, limit the possibility for envisioning new praxes through them.

Planetarity also prompts new forms of relationality with the potential to bring about new futures. These praxes as “how can we be enabled to come to mind about the well-being or ill-being of those inhabiting worlds outside that of our normatively politically liberal democratic referent-we of homo-oeconomicus rather than to continue, as we reflexly do, to mind about only

8. John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift: Capitalism’s War on the Earth* (New York: Monthly Review Press, 2010), 37.

9. Jobb Dixon Arnold, “Bare Nature and the Genocide–Ecocide Nexus—The Conditions of General Threat and the Hope of Cultural Adaptation: The Case of Canada’s Tar Sands,” *Space and Culture* 21, no. 1 (February 2018): 18–32.

10. Kathryn Yusoff, “Insensible Worlds: Postrelational Ethics, Indeterminacy and the (K)Notes of Relating,” *Environment and Planning D Society and Space* 31 (2013): 209.

the well-being of the above referent-we...?”¹¹ Critical display practices open up possibilities for alternative praxes, new forms of relationality that combat the destruction wrought by capital’s metabolic rift. They leave room for a multiplicity of natures, emphasizing the always-situatedness of human understandings of the planet we inhabit. Ethical planetary praxes are possible, as practices of grieving and protest demonstrate. These movements approach praxes as utopian, as “an index to the possible, to the ‘what if.’”¹² By opening up timespaces outside of or in direct opposition to the architecture of capital, such praxes show that other praxes can be called into being.

If, as Wynter writes, the human is also *homo narrans*—a storytelling species—then it is also through stories that praxes are imagined and planetarities performed.¹³ What other forms of being in the world are arriving as the built and natural worlds crumble around us? In what stories can they be glimpsed? Wynter writes in order to “give humanness a different future.”¹⁴ If we are to give humanness a different future, then we must reject those planetary praxes that reify Man, and embrace those of equity, justice, reparations, and care.

11. Wynter, “Unparalleled Catastrophe for Our Species?,” 44.

12. Dolan, *Utopia in Performance*, 13.

13. Wynter, “Unparalleled Catastrophe for Our Species?,” 25.

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

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