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Two Nineteenth-
Century
Contributions to
Climate Change
Discourse:

The Narra-tive of Hu-man Extinction and the Logic of Eco-sys-tem Management

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Consider the following passage from Oscar Wilde's "Decay of Lying" (1891):

> *Where, if not from the Impressionists, do we get those wonderful brown fogs that come creeping down our streets, blurring the gas-lamps and changing the houses into monstrous shadows? [...] The extraordinary change that has taken place in the climate of London during the last ten years is entirely due to a particular school of Art. [...] For what is Nature? Nature is no great mother who has borne us. She is our creation. It is in our brain that she quickens to life. Things are because we see them, and what we see, and how we see it, depends on the Arts that have influenced us.*[1]

The speaker is Vivian, a self-consciously sophistical aesthete, and his argument is that "Nature" is the causal consequence of "Art." Not long ago, a literary critic might have quoted such a passage with unmitigated approbation: "Things are because we see them, and what we see, and how we see it, depends on the Arts that have influenced us." The post-structural resonance of that kind of claim is strong, and the Jamesonian tradition of treating art as a means through which ideology reproduces itself depends heavily on the conviction that between the knower and the known, there must be some determining symbolic mediation.[2] Now, however, it is difficult not to hesitate over the assertion that the "extraordinary change that has taken place in the climate of London during the last ten years is entirely due to a particular school of Art." Now we tend to take referential claims about "Nature" very seriously, especially with regard to climate.

At a symposium called "The Novel and the Anthropocene" held by NOVEL at Duke in 2013, Noah Heringman made the point regarding climate change that it is difficult to critique a fundamentally right-minded discourse (in that we do need to take climate change seriously).[3] While I agree, I am also reminded of the psychoanalytic observation that a paranoiac is no less paranoid if it turns out that she actually does have something to fear. Might one say that the discourse of climate change is no less ideological simply because it happens to be true? That is essentially the claim of this paper: that climate change is both referentially real and ideologically constructed, and not merely in the sense that ideology is also real. Part of the force of ideology may be that in addition to its power to

1 Oscar Wilde, "The Decay of Lying," in The Artist as Critic: Critical Writings of Oscar Wilde, ed. Richard Ellmann (Chicago: The University of Chicago Press, [1891] 1982), 312.

2 See Frederic Jameson, The Political Unconscious: Narrative as a Socially Symbolic Act (Ithaca: Cornell University Press, 1981).

3 Noah Heringman, paraphrased from comments offered after delivering a paper entitled "Deep Time at the Dawn of the Anthropocene," at "The Novel and the Anthropocene," a symposium hosted by NOVEL: A Forum on Fiction at Duke University on 18 October 2013.

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constitute social realities like marriage and sovereignty, it can also martial and reconstruct those realities that would be there whether we discursively constructed them or not. Thus, while climate change has a physical history whose "actants" are things like chemicals and capital, it also has a discursive "genealogy," and it is to that genealogy that I will try to contribute.[4]

To do this I will attempt to describe the emergence of two phenomena in nineteenth-century British culture that I see as important to the contemporary discourse on climate change: the narrative of human extinction and the logic of ecosystem management.[5] These are only two of many factors, and other works to which one might turn for a fuller sense of the nineteenth-century Anthropocene than I can provide include (but are not limited to): Katharine Anderson's Predicting the Weather (2005), Peter Thorsheim's Inventing Pollution (2006), Deidre Lynch's "'Young Ladies Are Delicate Plants': Jane Austen and Greenhouse Romanticism" (2010), and Jesse Oak Taylor's "The Novel as Climate Model: Realism and the Greenhouse Effect in Bleak House" (2013).[6] This essay is only exploratory, and my goal is to consider the possibility that if climate change did not exist, we might have had to invent it.

Given the nature of such a question, I cannot repeat too often that I am not a climate change denier: climate change is real and must be stopped. But the broader point I wish to make is that ideology, at least since the dawn of the nineteenth century, does not proceed by making things up. The work of ideology is the work of posing problems. Climate change is a problem, and the types of solutions it incites should make us think. Many favour government intervention, while others rest their hopes on the powers of entrepreneurial innovation, and with regard to industrialization, the Global North continues to dictate terms to the Global South. Government control, capitalism, and Euro-American "leadership": these are some of the forces materially responsible for climate change, and these are the forces most widely called upon to provide the solution.

Setting aside for a moment the fact that climate change is real and must be stopped, it seems worth acknowledging that this is often the pattern ideology employs: pose a problem, pose a solution, and in failing to solve the problem while convincingly promising to do so, continue to exist. This is not to deny the wealth of truly critical alternatives, such as the reclamations

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4 On "actants" as both human and non-human actors, see Bruno Latour, Reassembling the Social: An Introduction to Actor-Network-Theory (Oxford: Oxford University Press, 2005). For "genealogy" as a methodology for studying discourse, see Michel Foucault, "Nietzsche, Genealogy, History," in The Essential Foucault: Selections from the Essential Works of Foucault 1954-1984, ed. Paul Rabinow and Nikolas Rose (New York: The New Press [1971] 2003), 351–369.

5 For an excellent investigation of ecosystem management in relation to subject-formation, see Adam Bobbettee and Seth Denizen, "It's All Here: Pardisan and Zoopolis," Volume Magazine 35 (April 2013): 25–29.

6 Katharine Anderson, Predicting the Weather: Victorians and the Science of Meteorology (Chicago: The University of Chicago Press, 2005); Peter Thorsheim, Inventing Pollution: Coal, Smoke, and Culture in Britain Since 1800 (Athens: Ohio University Press, 2006); Deidre Shauna Lynch, "'Young Ladies Are Delicate Plants': Jane Austen and Greenhouse Romanticism," English Literary History 77, no. 3 (Fall 2010): 689–729; Jesse Oak Taylor, "The Novel as Climate Model: Realism and the Greenhouse Effect in Bleak House," NOVEL: A Forum on Fiction 46, no. 1 (Spring 2013): 1–25.

of biopower one finds in Hardt and Negri's <u>Multitude</u> (2004) or Roberto Esposito's <u>Bíos</u> (2004), or various other positions taken by Feminism, Marxism, Anti-Racism, Queer Theory, Anarchism, and so on.[7] My point is rather that even in the face of these radical alternatives, climate change appears to continue to provoke the ramification of precisely those semiotic, material, and ideological forces to which it owes its birth. It is for this reason, I claim, that even a partial genealogy may be of value. I will therefore attempt to begin to account for two of the many components of contemporary climate change discourse: the narrative of human extinction and the logic of ecosystem management.

The Narrative of Human Extinction

In a documentary made about him in 2005, Slavoj Žižek reflects as follows:

> *We all silently accept global capitalism is here to stay. On the other hand, we are obsessed with cosmic catastrophes: the whole life on earth disintegrating, because of some virus, because of an asteroid hitting the earth, and so on. So the paradox is, that it's much easier to imagine the end of all life on earth than a much more modest radical change in capitalism.*"[8]

As Žižek observes, contemporary narratives in fiction, science, and the news cluster noticeably around humanity's extinction by epidemic or environmental collapse. Some see nothing historically new in this, but it strikes me as significant that our apocalypse, unlike others, figures no afterlife and has no purpose. If, then, I may be permitted the counterintuitive gesture of bracketing the apocalyptic tradition, how did our narrative of human extinction emerge? How was it that our culture learned to think of humanity not as eternal or destined for heaven, but merely as a thing that can die?

Michel Foucault has argued that mortality is the defining characteristic of the organism, to the point that the science of biology begins with the assumption that organic structure and function can only be explained in relation to the struggle for life, whether of the organism or its species.[9] Foucault's perspective is helpful in that it allows me to reframe the question: to know how we began to think about the death of humanity, we might begin by identifying the first analysis in which someone reduced

7 Michael Hardt and Antonio Negri, <u>Multitude: War and Democracy in the Age of Empire</u> (London: Penguin, 2004); Roberto Esposito, <u>Bíos: Biopolitics and Philosophy</u>, trans. Timothy Campbell (Minneapolis: Minnesota University Press, [2004] 2008).

8 <u>Žižek!</u>, directed by Astra Taylor (2005; Toronto: Zeitgeist Films).

9 Michel Foucault, <u>The Order of Things: An Archeology of the Human Sciences</u> (New York: Vintage, [1966] 1994), 263–279.

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the human to an organism. In other words, the starting point would not be a text that deals with human uniqueness or exceptionality, nothing that depends on Aristotle's "political animal," the soul, rationality, or the social contract. What is needed is a text that reduces the human to the same properties as any other organism, a living thing whose structure and function are fully explained by the struggle to survive. The first text of this kind, as far as I know, is Thomas Malthus's <u>Essay on the Principle of Population</u> (1798), an analysis of social change that admits only those so-called "facts" of human nature that are equally true for the "race of plants": survival and sexual reproduction.[10]

Positioning Malthus as the first thoroughgoing modern theorist of the human organism will help to make three things clear. First, we know that Malthus developed his argument in opposition to the politics of William Godwin, so we know that the human organism, and by extension the narrative of human extinction, either is or can be a political tool. Second, Malthus uses the logic of the organism to discredit Godwin's rationalism, which allows us to think of the human organism as an argument against the Enlightenment's faith in the power of human reason. Third, we know that the <u>Essay</u> influenced poor-law reform, which means that the human organism can inform government policy. Here are the basic steps of the argument.

Malthus begins from two "postulata": "That food is necessary to the existence of man," and "That the passion between the sexes is necessary, and will remain nearly in its present state."[11] Neither of these claims is unassailable, but one has to leave Malthus's assumptions in tact in order to follow his logic. On the basis of these assumptions he proceeds as follows: "Assuming, then, my postulata as granted, I say, that the power of population is indefinitely greater than the power in the earth to produce subsistence for man."[12] This is to say that food production cannot keep up with population increase, the result being poverty and starvation. An optimist might counter, as many did, that new technologies or politics could change that equation, but Malthus insisted that the very forces necessary to humanity's survival, hunger and sexual reproduction, must increase population size to catch up with any increase in food production. The result is a levelling of human exceptionality: nothing that might make us different from other species can

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10 Thomas Malthus, <u>An Essay on the Principle of Population</u>, ed. Geoffrey Gilbert (Oxford: Oxford University Press, [1798] 2008), 14.
    11 Ibid., 12.
    12 Ibid., 13.

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alter these supposed "facts" of biology: "The race of plants and the race of animals shrink under this great restrictive law. And the race of man cannot, by any efforts of reason, escape from it."[13] Thus Malthus limits the power of reason in such a way as to render insufficient any effort towards the permanent remediation of poverty by technological or political means: "No fancied equality, no agrarian regulations in their utmost extent, could remove the pressure of it [food scarcity] even for a single century."[14]

At the same time, Malthus aims at a political intervention: the reform of the poor laws:

> *To remedy the frequent distresses of the common people, the poor laws of England have been instituted; but it is to be feared that, though they may have alleviated a little the intensity of individual misfortune, they have spread the general evil [the poverty that the poor laws are supposed to correct] over a much larger surface.*[15]

This, he claims, is for two reasons, the first of which is that men are induced to "marry" by the knowledge that if they leave their family destitute, the government will provide for them, and thus "they are [...] unjustly tempted to bring unhappiness and dependence upon themselves and their children."[16] The second reason is that

> "[the] quantity of provisions consumed in workhouses upon a part of the society that cannot in general be considered as the most valuable part diminishes the shares that would otherwise belong to more industrious and more worthy members."[17]

The "more worthy members" to whom Malthus refers are those who work for a living, and so produce food. Thus, in addition to causing imprudent "marriages," the poor laws take food away from the people who actually make more of it by feeding it to those who only consume it, diminishing the total supply and leaving less food for the poor as a consequence.

The Essay is aimed at ending support for the poor, and it wilfully ignores the real causes of inequality, but on a deeper level, it is an argument for abandoning the rationalism of the Enlightenment in favour of a political model predicated on the needs and limits of the organism. Malthus was influential, but the politics of the Enlightenment continued to matter, so this is not a question of going from one model to another. Instead, I would say that Malthus introduced us to a new way of thinking,

13 Ibid., 14.
14 Ibid.
15 Ibid., 36.
16 Ibid., 40.
17 Ibid., 39.

one that, as I will now argue, allowed us to consider a possibility we had never considered before: the threat of human extinction. This threat never actually surfaces in Malthus, and one might be tempted to suggest that it does not become intuitive until Darwin. After all, Darwin shows us that species come and go all the time, so why not ours? Moreover, there is something atheistic about the idea that human extinction could result from merely material forces, and Darwin himself was convinced that his theories did lead to atheism.[18] There is, however, an earlier instance, after Malthus and well before Darwin, in which the link from Malthus to human extinction is explicitly drawn, and it occurs in a novel by the daughter of Malthus's interlocutor, Godwin: Mary Shelley's <u>Frankenstein</u> (1818).

At a certain point in the story, Frankenstein's creature persuades him to build him a mate, and does so in an Enlightenment-era way, by making his case with a rhetorical style reminiscent of the Burkean parliament: "My vices are the children of a forced solitude that I abhor; and my virtues will necessarily arise when I live in communion with an equal."[19] At first these words resonate in precisely the right registers, eliciting a response expressed in the language of reason and universal justice: "After a long pause of reflection, I [Frankenstein] concluded, that the justice due both to him and my fellow-creatures demanded of me that I should comply with his request."[20] Continuing in this vein, Frankenstein goes on to offer the creature a contract:

> *Turning to him, therefore, I said—'I consent to your demand, on your solemn oath to quit Europe for ever, and every other place in the neighbourhood of man, as soon as I shall deliver into your hands a female who will accompany you in your exile'.*"[21]

However, Frankenstein breaks his promise, tearing the would-be female to pieces before it has been completed.

To understand why, it helps to think of the promise as a form of social contract. While the promise may not initially appear to be a contract of this type, consider Frankenstein's concern: "He [the creature] had sworn to quit the neighbourhood of man, and hide himself in deserts; but she [the creature's would-be mate] had not; and she, who in all probability was to become a thinking and reasoning animal, might refuse to comply with a compact made before her creation."[22] This sentence parallels an objection to the social contract posed by Godwin, who, like Frankenstein,

18 On Darwin's atheism, see Charles Darwin, "Religious Belief," in <u>Autobiographies</u>, ed. Michael Neve and Sharon Messenger (London: Penguin, [1876] 2002), 49-55. On Darwin's atheism in relation to Darwinism, see Charles Darwin, <u>The Variation of Plants and Animals Under Domestication: Volume II</u> (London: John Murray, [1868] 1885), 425-28.

19 Mary Shelley, <u>Frankenstein</u>, ed. J. Paul Hunter (New York: W.W. Norton and Co., [1818] 1996), 100.

20 Ibid.

21 Ibid.

22 Ibid.,114.

doubts that any contracting parties can "barter away the understanding and independence of all that [come] after them," especially by means of a "contract [one's] father entered into before [one] was born."[23] However, while Godwin meant that we cannot enter into social contracts in the sense that they cannot be justified, Frankenstein's concern is rather that they cannot be enforced. For Godwin, reason nullified the social contract because reason guaranteed a progress that must never be contractually hamstrung. For Frankenstein, reason is simply a tool, and the problem with the social contract is that its political power is nil.

So what happened to that power, a power that Godwin feared and the creature tries to use? Consider Frankenstein's reasoning:

> *Even if they [the creature and his would-be mate] were to leave Europe, and inhabit the deserts of the new world, yet one of the first results of those sympathies for which the daemon thirsted would be children, and a race of devils would be propagated upon the earth, who might make the very existence of the species of man a condition precarious and full of terror.*[24]

As far as I have been able to discover, this is the first time in modern Euro-American history that the peril of species extinction has been imagined in secular terms, in the idea that "the very existence of the species of man" could be rendered "precarious." Moreover, as Maureen N. McLane has observed, Frankenstein uses Malthusian math: limited resources, limitless fecundity, and inevitably dire consequences.[25] Thus "the power of population" delegitimizes the logic of the social contract because the Enlightenment's commitments to rights and the promises associated with sovereignty are rendered less important than the biological threats posed by the principle of population. This is what allows or forces Frankenstein to go back on his word, for which the creature calls him a "slave," meaning, among other things, a person incapable of citizenship.[26] However, in order for Malthusian concerns to trump Enlightenment values like rights, justice, and sovereignty, the novel has to carry Malthus's logic to the point of threatening human extinction. Frankenstein thus exposes something latent in Malthus, revealing a link from the human organism to contemporary understandings of threats to the species, and showing us how the narrative of human extinction can be used to justify biopolitical power.[27]

23 William Godwin, An Enquiry Concerning Political Justice, and its Influence on General Virtue and Happiness (London: G.G.J. and J. Robinson, 1793), 143–144.

24 Shelley, Frankenstein, 114.

25 Maureen N. McLane, "Literate Species: Populations, 'Humanities,' and the Specific Failure of Literature in Frankenstein," in Romanticism and the Human Sciences: Poetry, Population, and the Discourse of Species (Cambridge: Cambridge University Press, 2000), 84–108.

26 Shelley, Frankenstein, 116.

The Logic of Ecosystem Management

If <u>Frankenstein</u>'s Malthusian narrative of human extinction is the stick, the threat driving us to act, then the promise of technological salvation is the carrot, and in the early decades of the nineteenth century that promise took the form of a new discourse of urban public health. Abstracting from the specifics of food scarcity to a broader concern with public health in general, early Victorian work on urban sanitation may have been be the first thoroughgoing theorization of top-down ecosystem management. For this reason, contemporary discussions of solving climate change by seeding the oceans with iron or putting mirrors in space reflect a Victorian tradition of projects for sewage treatment and the modernization of graveyard design. The idea in both eras is to solve our environmental problems technologically, primarily by means of government intervention. To trace this genealogy, I will review the work of the Victorian period's most prominent champion of urban public health, Edwin Chadwick, before returning to contemporary culture.

I noted in the last section that Malthus's <u>Essay</u> had a significant impact on the reform of the poor laws. One of the most profound changes, implemented in the Poor Law Amendment Act of 1834 (or simply the New Poor Law) was an even more prominent role for the workhouse. Redesigned to be harsh enough to discourage applicants, workhouses segregated the poor by gender to reduce population increase and provided a meagre subsistence in exchange for long hours spent breaking rocks, grinding bones, and picking oakum with a metal "spike." Malthus had warned that feeding the unemployed would only exacerbate food scarcity by providing incentives to sexual reproduction and idleness while diminishing the share of food left to active workers, and so the New Poor Law replaced relief with cheap, brutalized labour. I mention this because the next figure in my genealogy was an architect of the New Poor Law, and I want to emphasize his intellectual indebtedness to Malthus. That figure is Edwin Chadwick, and eight years after coauthoring the report that guided poor law reform, he produced the <u>Report on the Sanitary Condition of the Labouring Population and on the Means of its Improvement</u> (1842), the political impact of which was no less profound. This report went on to serve as the basis for the Public Health Act of 1848, which

27 While I have focused on two phenomena that Foucault does not address—the narrative of human extinction and the logic of ecosystem management—this essay is deeply indebted to Foucault's analyses of biopolitics, including <u>Society Must Be Defended: Lectures at the Collège de France, 1975–1976</u>, ed. Michel Senellart, trans. Graham Burchell (New York: Palgrave Macmillan, 2007); <u>The History of Sexuality Volume I: An Introduction</u>, trans. Robert Hurley (New York: Vintage Books, [1976] 1990); <u>Security, Territory, Population: Lectures at the Collège de France, 1977–1978</u>, ed. Michel Senellart, trans. Graham Burchell (New York: Palgrave Macmillan, 2007); and <u>The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979</u>, ed. Michel Senellart, trans. Graham Burchell (New York: Palgrave Macmillan, 2007).

systematically reorganized the management of water, waste, sewage, and paving under a hierarchical bureaucracy of one general, and eventually 721 local boards of health, whose powers only increased over time.

Chadwick's logic, methodology, and choice of objects are all fascinatingly prescient vis-à-vis governance today, and climate change in particular, but I will focus on the detail I take to be most important: the logic of ecosystem management. His stated goal was to investigate "the chief removable circumstances affecting the health of the poorer classes of the population," and he impressively concluded that, "almost all will be found to point to one particular, namely, atmospheric impurity, occasioned by means within the control of legislation."[28] There are two parts to this claim: first, the factors negatively impacting public health are "atmospheric," which is to say environmental, and second, they are "occasioned by means within the control of legislation," which is to say that they can be managed by government policy. Regarding the first point, Chadwick offers us an especially striking instance of "atmospheric impurity" in his <u>Supplementary Report on the Practice of Internment in Towns</u>, published in 1843 at the special request of the Secretary of State of the Home Office. The speaker is identified as Dr. Reed, and he reports as follows:

> *[If] any one should desire to trace the progress of reaction by which the grave-yards are continually tending to free themselves of their contents, a very brief inquiry will give him abundant evidence on this point. My attention was first directed to this matter in London ten years ago, when a glass of water handed to me at an hotel, in another district, presented a peculiar film on its surface, which led me to set it aside; and after numerous inquiries, I was fully satisfied that the appearance which had attracted my attention arose from the coffins in a church-yard immediately adjoining the well where the water had been drawn. Defective as our information is as to the precise qualities of the various products from drains, church-yards, and other similar places, I think I have seen enough to satisfy me that in all such situations the fluids of the living system imbibe materials which, though they do not always produce great severity of disease, speedily induce a morbid condition, which, while it renders the body more prone to attacks of fever, is more especially indicated by the facility*

28 Edwin Chadwick, <u>Report on the Sanitary Condition of the Labouring Population and on the Means of its Improvement</u> (London: May 1842), 1–2, www.deltaomega.org/documents/ChadwickClassic.pdf.

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with which all the fluids pass to a state of putrefaction, and the rapidity with which the slightest wound or cut is apt to pass into a sore.[29]

Thus we "trace the progress of reaction by which [...] grave-yards are continually tending to free themselves of their contents," as the putrefying effluvia of decaying human bodies seep into the local water supply, forming "a peculiar film" on the surface of drinking water at a hotel. Boundary after boundary melts away as putrescence oozes from the rotting poor into the hotel's bourgeois enclave, where it enters the bodies of the living, decaying them in turn and leaving them even more permeable as "all the fluids pass to a state of putrefaction" where "the slightest wound or cut is apt to pass into a sore." This is the logic of the ecosystem: boundaries are never fixed and everything is connected. Toxicity, once introduced, will spread, and class segregation is no more a protection than the multi-coloured halls of The Masque of the Red Death (also published in 1842).

Through this and hundreds of other examples, Chadwick redefined the Victorian city as an interconnected network of sewage and human organisms, displacing whatever might have remained of the logic of neglect with the systematic public health mentality we still employ. Like today, Chadwick insisted on the necessity of government intervention, and offered concrete recommendations for public policy, such as the appointment of boards of health, the reconfiguration of drainage, and the relocation of cemeteries out of urban centres. In this way, Chadwick built his case from the causes of "atmospheric impurity" to the required "control of legislation," and we now use this model to think through global problems ranging from contagious disease to climate change. The logic of ecology dictates that the actions of each affect the welfare of all, whether with regard to sanitary practices, vaccination, or the emission of greenhouse gases, and this logic seems to have made its first practical appearance in Chadwick's reports. Yet, where theorists like Félix Guattari or Bruno Latour have seen ecological networks as non-hierarchical, as they ultimately are, Chadwick saw such interconnectivity as the ultimate justification for government control.[30] It is because disease spreads without regard to social hierarchy that the health of the poor must be maintained, up to and including mandatory vaccination, health-

29 Edwin Chadwick, Report on the Sanitary Condition of the Labouring Population of Great Britain: A Supplementary Report on the Results of a Special Inquiry into the Practice of Internment in Towns (London: W. Clowes and Sons, 1843), 29–30.

code enforcement, and the occasional quarantine. Thus, in public health discourse hierarchy draws its justification from precisely the non-hierarchical quality that characterizes ecology, and the same must be true of climate change to the extent that we rely on government intervention, as perhaps we must.

Of course, we now supplement Victorian liberalism's promise that the government can regulate the solutions to our ecological problems with neoliberalism's promise that the market can innovate them. Further investigation of that development is beyond the scope of this essay, but I do want to emphasize the formal consistency whereby the members of a dominant social class, politically and economically empowered, take it upon themselves to manage ecosystem function. Consider John Gribbin's plan, described in a letter to Nature in 1988, to solve the problem of global warming by seeding the oceans with iron, which would theoretically promote the growth of carbon-sequestering algae.[31] Here, as with Chadwick, the idea is to intervene in the ecological processes of the human environment in order to mitigate danger, only now the human environment is not the city, but the globe. Moreover, lest we believe that the market has completely overtaken the state in formulating such grandiose managerial projects, consider that in 2001 the U.S. President's Climate Change Technology Program put forward a plan to deflect sunlight by installing mirrors in space.[32] The state continues to play an important role, and as a result, global ecosystem management entails a domineering sense of entitlement on the part of whatever state takes on the role of manager, which we have seen as recently as the U.N. Climate Conference on 23 September 2014 in New York, where, according to The Washington Times, President Obama "declared the U.S. will lead the world in the fight against climate change but also served notice to China and other developing countries that they won't be let off the hook."[33] In yet another line of continuity extending from the Victorians to ourselves, echoes of the old-world project of managing the empire are audible in the new-world project of managing the global ecosystem.

Conclusion

I have attempted to begin to trace the genealogy of two interrelated components of climate change discourse: the

30 See Félix Guattari, The Three Ecologies, trans. Ian Pindar and Paul Sutton (London: Continuum, [1989] 2008); and Latour, Reassembling the Social.

31 John Gribbin, "Any Old Iron?" Nature 331, no. 18 (February 1988): 570.

32 "How Earth-Scale Engineering Can Save the Planet," Popular Science 22 June 2005, www.popsci.com/environment/article/2005-06/how-earth-scale-engineering-can-save-planet.

33 Ben Wolfgang, "At U.N., Obama calls out China, India on Carbon Emissions," The Washington Times, 23 September 2014, www.washingtontimes.com/news/2014/sep/23/un-obama-calls-out-china-india-carbon-emissions/?page=all.

logic of ecosystem management, and the narrative of human extinction that ultimately justifies it. These are not the only two components of climate change discourse, and I have not yet done the work of evaluating their relative importance in comparison with other aspects, but I would venture to suggest that they are important. It must also be said that I have no intention of reducing climate change to discourse: climate change discourse exists alongside other facts of climate change, which, as I have said, would exist whether we discursively constructed them or not. I have, however, written on the basis of the concern that in our eagerness to solve the problem, too many of us may have been too quick to accept certain dominant understandings of climate change without taking the time to interrogate their discursive nuances. If I have attempted to add anything new to conversations that are already happening, it would be this: climate change discourse is structured, to a significant extent, by an inherited logic of top-down control.

Where does this leave us? That depends very much on the politics and commitments that one brings to the partial genealogies I have offered. I personally remain skeptical that the hierarchical thinking that got us here will get us out, even as I acknowledge and admire the remarkable accomplishments of public health regulators and the improvements they have made to human life. Nor do I think that the older Enlightenment logic of sovereignty can help: we face problems as a species that affect us as a species: contagions collectivize our bodies, and climate collectivizes our territory. However, the most powerful forms of collective response to which most of us have access are capital and the state, and these have not only failed to mitigate many of our problems, but have often exacerbated or originated them. Thus, if our efforts to overcome or endure climate change must be collective, then the struggle may be to establish a form of collectivity that is not hierarchical. It may be that radical politics already in practice point in the right direction, and that if only we could formulate a technological solution on the basis of non-hierarchical principles, we would know what we have to do.