



From Wilderness to the Toxic Environment: Health in American Environmental Politics, 1945-Present

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*From Wilderness to the Toxic Environment:
Health in American Environmental Politics, 1945-Present*

A dissertation presented

by

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to

The Department of the History of Science

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From Wilderness to the Toxic Environment:
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Abstract

This dissertation joins the history of science and medicine with environmental history to explore the language of health in environmental politics. Today, in government policy briefs and mission statements of environmental non-profits, newspaper editorials and activist journals, claims about the health of the planet and its human and non-human inhabitants abound. Yet despite this rhetorical ubiquity, modern environmental politics are ideologically and organizationally fractured along the themes of whose health is at stake and how that health should be protected. This dissertation traces how these competing conceptions of health came to structure the landscape of American environmental politics.

Beginning in the early 1950s, an expanding network of environmental activists began to think in terms of protecting the health of the planet and its inhabitants from the unprecedented hazards of nuclear energy and chemical proliferation. They did this by appropriating models and metaphors of health developed by postwar ecologists, philosophers, epidemiologists and nuclear physicians. Through this process of appropriation, scientists and philosophers were likewise drawn into environmental activism.

Through five case studies, this dissertation traces the collaborations between scientists, environmental activists, philosophers, and medical doctors which enabled a broad range of articulations of health: the health of the wild, the health of the environment, the health of the planet, and the health of humans within the environment. Each case study attends to the

intersection of political thought and practice, and explores how science and environmental activism were in constant dialogue in the postwar period.

Drawing on archival materials and extensive oral history interviews, this dissertation demonstrates the centrality of health to American environmental politics from the end of World War Two until the present day.

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Introduction

This dissertation began with a political observation. A language of health and disease, of life and death, suffuses present-day American discussions regarding the environment. President Obama claimed in his 2012 State of the Union address that a healthy economy and a healthy environment were one and the same.¹ Dr. James E. Hansen, director of the NASA Goddard Space Institute, argues that reducing global carbon emissions to 350 parts per million is the only way to maintain a healthy environment.² Oceanic and riparian “dead zones” are identified with alarming frequency, as are the carcinogenic and mutagenic repercussions of more than a century of toxic waste disposal and oil, coal, and shale gas extraction.³ Meanwhile, Stonyfield Farms claims that its yogurt promotes healthy people and a healthy planet.⁴

Throughout official political discourse, climate change science, ecology, environmental activism and advertising, claims about the health of ecosystems, the health of the planet, and the health of humans within the environment abound. Yet despite this ubiquity, contemporary environmental discourse is gridlocked over whose health is at stake, and how that health should be protected.

This dissertation traces the intellectual and political history which shaped these competing conceptions of health. As an intellectual history, it documents how after the Second

¹ Barack Obama, “An America Built to Last,” State of the Union Address, January 24, 2012, accessed January 29, 2013, <http://www.whitehouse.gov/state-of-the-union-2012>.

² James Hansen, et al. “The Case for Young People and Nature: A Path to a Healthy, Natural, Prosperous Future,” accessed January 29, 2013, http://www.columbia.edu/~jeh1/mailings/2011/20110505_CaseForYoungPeople.pdf.

³ David Biello, “Oceanic Dead Zones Continue to Spread,” *Scientific American*, August 15, 2008, accessed January 29, 2013, <http://www.scientificamerican.com/article.cfm?id=oceanic-dead-zones-spread>; Merrill Singer, “Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana’s Chemical Corridor,” *Medical Anthropology Quarterly* 25 (2011); Charles W. Schmidt, “Blind Rush?: Shale Gas Boom Proceeds Amid Human Health Questions,” *Environmental Health Perspectives* 119 (2011).

⁴ As the company claims on its website, “We’re committed to healthy food, healthy people, a healthy planet and healthy business”. Accessed January 29, 2013, <http://www.stonyfield.com/about-us/our-mission>.

World War a broad swath of environmental activists appropriated models of health from fields as diverse as ecology, philosophy, and epidemiology, in order to protect the health of the planet and its inhabitants from the unprecedented hazards posed by nuclear energy and chemical proliferation. As a political history, it analyzes how environmentalists' varied use of these models of health created fault lines among large lobbying organizations, local grassroots groups, decentralized collectives of eco-anarchists, and science-based advocacy organizations, fault lines that persist today. Ultimately, it demonstrates how these models of health and their political expressions, which took shape in the context of mid-twentieth century concerns about global environmental contamination from radioactive fallout and indiscriminate pesticide use, have been reshaped in light of present challenges posed by rapidly escalating climate change.

Until recently, scholars of American environmental politics described the postwar period as one of transition from protecting wilderness areas from human intrusion towards defending the health of humans and their standards of living.⁵ By contrast, this dissertation argues that although human health was a defining issue for some postwar environmentalists, this anthropocentric focus was just one way of thinking about the environment, challenged by others' emphases on the health of the biosphere, ecosystems, or the planet. In this broadening of scope, the dissertation agrees with recent studies by historians James Morton Turner, Keith Woodhouse, and Tom Robertson, which illustrate the diversity of concerns animating the budding environmental movement in the twentieth century.⁶ To interpret the historical significance of these divergent interpretations of health by environmental activists, the dissertation approaches

⁵Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington: Island Press, 2005); Samuel P. Hays and Barbara D. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987).

⁶James Morton Turner, *The Promise of Wilderness: American Environmental Politics since 1964* (Seattle: University of Washington Press, 2012); Thomas Robertson, *The Malthusian Moment : Global Population Growth and the Birth of American Environmentalism* (New Brunswick: Rutgers University Press, 2012).

health as a conceptual repository from which activists drew to become culturally intelligible. Increasingly, this dissertation argues, to talk about the environment one needed to talk about health.

There was no clear evidence in the two decades following World War Two that health would become an orienting focus of environmental politics. Wilderness preservation issues were foremost for established organizations like the Sierra Club and the Wilderness Society; however, lands preservation was infused with new concerns about the pressures which unchecked population growth and economic development placed upon wilderness.⁷ Outside of conservationist circles, these postwar decades were suffused with anxiety about humanity's self-induced and dire fate. Bestsellers urging mandatory population control, government panels on looming resource scarcity, grassroots fears of pervasive pesticides and nuclear fallout, and the looming discourse of mutually-assured destruction all spread the message of necessary checks on the rate and purpose of human activity.⁸

By the late 1960s, new activists, with new ideas and social networks, entered environmental politics from the New Left student movement, grassroots anti-nuclear activism, academic philosophy, and environmental law and toxicology.⁹ They brought anarchist and anti-humanist sensibilities, as well as experience with union organizing, psychedelic drugs, communal living and non-violent civil disobedience. The new cohort of environmental activists

⁷ Michael P. Cohen, *The History of the Sierra Club, 1892-1970* (San Francisco: Sierra Club Books, 1988).

⁸ Fairfield Osborn, *Our Plundered Planet* (Boston: Little, Brown, 1950); William Vogt, *Road to Survival* (New York: W. Sloane Associates, 1948); Michael Egan, *Barry Commoner and the Science of Survival: The Remaking of American Environmentalism* (Cambridge, Mass.: MIT, 2007); Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington, D.C.: Island Press, 2005); Linda Lorraine Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Berkeley: University of California Press, 2006); Adam Ward Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (New York: Cambridge University Press, 2001).

⁹ For exploration of some of these connections see Gottlieb, *Forcing the Spring*; Adam Ward Rome, "'Give Earth a Chance': The Environmental Movement and the Sixties," *The Journal of American History* 90 (September 2003), 525-554.

integrated their personal and political backgrounds with the previous two decades' debates over population, resources, nuclear fallout, pollution, and pesticides.

Previously, these debates had been dominated by thinking drawn from occupational health, industrial hygiene, and neo-Malthusianism. These frameworks modeled health in particular ways. Occupational health and industrial hygienists focused on the ways in which specific chemical vectors affected the human body, usually within the workplace. They defined a healthy workplace as one in which toxic substances remained below threshold limits of exposure; a healthy worker remained unaffected by the workplace. Neo-Malthusians used health to describe the balance between human population and the environment. A healthy environment was one in which humans did not exert an excessive, unsustainable demand upon natural resources.¹⁰ From this cross-pollination of old perspectives with new concerns emerged several new conjunctions of health and the environment: a biocentric concern with the health of ecosystems; the environmental justice movement, which saw human health as the measure of historical environmental discrimination; and Gaia theory, which views the Earth as a single living entity.

This dissertation demonstrates that it was through the work of postwar environmental activists that these various uses of health gained traction within public discourse regarding the environment. Environmental activists integrated insights from conservation biology, environmental medicine, nuclear physics, philosophy, and ecology, and sought to make them intelligible and practically applicable through strategies as varied as Congressional lobbying, tree-sits, internet petitions, re-inhabitation initiatives, and logging blockades.

¹⁰ Many neo-Malthusians in the 1940s and 50s integrated earlier discourses of racial hygiene with contemporary anxieties about decolonization. Thomas Robertson, *The Malthusian Moment: Global Population Growth and the Birth of American Environmentalism* (New Brunswick, NJ: Rutgers University Press, 2012), 4-5.

The first Earth Day in April of 1970 was a significant moment in the development of postwar environmental politics. The event, which began as a rather tame plan for a national teach-in, expanded far beyond this initial ambition. Throughout the month of April, culminating on the 22nd, upwards of twenty million people attended events scattered across the country: teach-ins, rallies, occupations, park clean-ups, and performances. Many of these events combined established leftist concerns about racial discrimination and American militarism with a new focus on pollution and toxicity. At the University of Oregon, students held an Earth Day sit-in at the campus ROTC headquarters; and in Washington, D.C., event organizer Denis Hayes described the Vietnam War as an “ecological catastrophe”.¹¹ On the whole, the day’s events were independent of established conservation organizations such as the Sierra Club and the National Wildlife Federation, whose memberships were suspicious of new activists, and felt slighted by the media’s depiction of the event as representative of a “new” political cause.¹²

As Adam Rome has argued, until recently scholars tended to interpret the first Earth Day as a transformative moment for environmental politics: one which marked the transition from an older conservation politics to a broader and more inclusive environmentalist agenda.¹³ To be sure, Earth Day dramatically increased the number of people discussing environmental issues, and it enabled the formation of an environmental lobby.¹⁴ Most significantly, as Rome pointed out, Earth Day demonstrated that “the most basic questions about the environment were far from settled.”¹⁵ Debates ranged over the root causes of environmental degradation and their proper

¹¹ These examples are taken from Gottlieb, *Forcing the Spring*, 109-110.

¹² *Ibid*, 107-108.

¹³ Adam Rome, “The Genius of Earth Day,” *Environmental History* 15 (April 2010).

¹⁴ Explicit lobbying by conservation organizations, most of which had tax deductible status, was illegal. Following Earth Day, many organizations founded separate lobbying branches; newer organizations like Friends of the Earth and Environmental Action forsook tax deductible status in favor of the freedom to lobby; and explicit environmental lobbies, such as the League of Conservation Voters, were founded.

¹⁵ Rome, “The Genius of Earth Day,” 196.

solutions, debates far more ambitious in scope and participation than any which have transpired since.

However, the overwhelming significance accorded to Earth Day has been undermined by newer analyses which demonstrate that concerns about pollution and environmental toxicity predated Earth Day, and that concerns about wilderness continued to matter after April 1970.¹⁶ This dissertation agrees with Rome in arguing that the most significant aspect of Earth Day was not its transformative but its diversifying effect. Beginning in the early 1970s, the philosophical and strategic positions pursued by environmental activists multiplied rapidly. It is a central argument of this dissertation that this expansion and diversification of environmental activism in the post-Earth Day period has much to tell us about the specific political possibilities of the United States in the 1970s.

For many in American and European leftist politics, the student movements in particular, the 1970s came as a closing of horizons: marked by an embrace of individualism, a breakdown of overarching social consensus, and, in some cases, terrorism or political violence.¹⁷ Yet for environmentalists in the United States, the 1970s was a decade of possibility. In all of its manifestations, from Washington, D.C.-based lobbying organizations to small direct action collectives in Oregon's Siskiyou Mountains, from re-inhabitory initiatives on the San Juan Ridge of the Sierra Nevada Mountains to grassroots anti-toxics campaigns in Love Canal, New York,

¹⁶ Rome, *The Bulldozer in the Countryside*; Turner, *The Promise of Wilderness*; Woodhouse, "A Subversive Nature: Radical Environmentalism in Late Twentieth-Century United States" (PhD diss, University of Wisconsin, Madison, 2010).

¹⁷ Dan Berger, *Outlaws of America: The Weather Underground and the Politics of Solidarity* (Oakland, CA: AK Press, 2006); Paul Berman, *A Tale of Two Utopias: The Political Journey of the Generation of 1968* (New York: W.W. Norton & Co, 1996); Thomas Borstelmann, *The 1970s: A New Global History from Civil Rights to Economic Inequality* (Princeton, N.J.: Princeton University Press, 2012); Barbara Epstein, *Political Protest and Cultural Revolution: Nonviolent Direct Action in the 1970s and 1980s* (Berkeley: University of California Press, 1991); Todd Gitlin, *The Sixties: Years of Hope, Days of Rage* (New York: Bantam Books, 1987); Daniel T. Rodgers, *Age of Fracture* (Cambridge, Mass.: Belknap Press of Harvard University Press, 2011); Jeremy Varon, *Bringing the War Home: The Weather Underground, the Red Army Faction, and the Revolutionary Violence in the Sixties and Seventies* (Berkeley: University of California Press, 2004).

environmental activism in the 1970s was suffused with participatory democracy and decentralized decision-making, networking across fields of expertise, a willingness to employ a wide range of tactics, and a high level of interconnection between activists with very different political ideologies.

To a large extent these interconnections and democratic impulses (as well as their demise) came from the 1960s. Many of the activists central to the environmental movement in the 1970s began their political careers in the 1960s, as part of the anti-war, anti-nuclear, or anti-growth movements; the San Francisco counterculture; grassroots efforts to rekindle participatory democracy in Brooklyn Heights, New York; or Abbie Hoffman's Yippies. When these activists embraced environmental politics, they brought these prior commitments with them; moreover, they continued to interact with one another, both professionally and personally, and to move fluidly between organizations. This latter tendency, as we will see, was particularly evident in the cases of the organizations Friends of the Earth and Earth First!.

The energy generated by the broad spectrum of 1960s political activism infused and united all aspects of the environmental movement in the 1970s. Yet this cross-fertilization of ideas, tactics, and participants is one of the most underexplored aspects of environmental politics. Scholars of environmental politics have typically approached the topic by analyzing one particular manifestation of such activism: usually, the actions of large professional organizations such as the Sierra Club.¹⁸ The problem with this approach is that it tends to minimize the remarkable cross-fertilization between "mainstream" and "grassroots" environmentalists prior to Ronald Reagan's election in 1980, and to marginalize the work of the grassroots following his election. The reverse is also true: scholars who focus on grassroots environmental activism have

¹⁸ Cohen, *The History of the Sierra Club*.

tended to overlook the work of established environmental lobbying organizations, particularly in the 1980s.¹⁹

While organizational differences between professional and grassroots environmentalists hardened in the 1980s, this dissertation asserts that they were trivial in the 1970s. Moreover, while the possibility for tactical flexibility and philosophical debate closed off by the early 1980s for *some* environmental activists – most notably the professional environmentalism represented by larger organizations, it flourished for others, most specifically the “new wilderness fundamentalists”, bioregionalists, and environmental justice activists.²⁰

Adam Rome argued a decade ago that historians of the 1960s had largely avoided discussing environmentalism. Charging that most historians of the sixties derived their framework of analysis from the concerns of the New Left, Rome observed that histories of the period were pre-occupied with the concerns of the “decade’s radicals”. Reading a history of the 1960s, according to Rome, would lead one to believe that environmentalism did not emerge until 1969 or 1970, when many New Leftists turned to environmental issues. Rome challenged historians of the 1960s to engage with the cross-fertilization, throughout the decade, of environmental, civil rights, antiwar, and feminist politics.²¹

Rome’s argument bears re-engagement now, as the 1970s receive newfound historical attention as a transformative moment for American and international politics. Despite its dramatic expansion in numbers, its established presence in Washington, D.C., and its internationalization, with the exception of Thomas Borstelmann’s *The 1970s: A New Global*

¹⁹ Elizabeth D. Blum, *Love Canal Revisited: Race, Class, and Gender in Environmental Activism* (Lawrence, Kan.: University Press of Kansas, 2008); James Lewis Longhurst, *Citizen Environmentalists* (Medford, Mass.: Tufts University Press, 2010); Eileen Maura McGurty, *Transforming Environmentalism: Warren County, PCBs, and the Origins of Environmental Justice* (New Brunswick, N.J.: Rutgers University Press, 2007); Susan Zakin, *Coyotes and Town Dogs: Earth First! and the Environmental Movement* (New York, NY: Viking, 1993).

²⁰ “New wilderness fundamentalists” is a phrase coined by James Morton Turner to describe a resurgence of wilderness advocacy in the 1980s and 1990s. Turner, *The Promise of Wilderness*.

²¹ Rome, “Give Earth a Chance,” 525-526.

History from Civil Rights to Economic Inequality (2012), environmentalism figures only briefly in the pages of recent scholarship on the decade. Daniel T. Rodgers discusses “environmentalists” briefly as a unified group with common objectives, and Jeremy Varon, James T. Patterson, and Jefferson Cowie, in finely detailed political histories of the decade, omit environmentalism entirely.²² Even histories of the rise of the political right largely avoid discussion of environmental issues and activists, despite the fact that one of the main foils for conservative politicians was the specter of job-killing, tax-and-spend environmentalists.²³

This dissertation is the integration of environmental activism into the political history of the 1970s.

The orienting question of this dissertation is how health became a central concern of environmental politics. How did environmental activists understand the relationship between health and the environment? Whose health were they interested in? How did they endeavor to protect it? Who influenced their thinking?

In recent years, evidence has mounted regarding the health effects the human species will experience due to climate change: principally, an increase in communicable diseases, as warming temperatures expand the habitat for viruses and their insect vectors.²⁴ In addition, the secondary effects of climate change, particularly the forced migration of humans and animals from newly

²² Borstelmann, *The 1970s*; Jefferson Cowie, *Stayin' Alive: The 1970s and the Last Days of the Working Class* (New York: The New Press, 2010); Patterson, *Restless Giant*; Rodgers, *The Age of Fracture*; Varon, *Bringing the War Home*.

²³ Laura Kalman, *Right Star Rising: A New Politics, 1974-1980* (New York: W.W. Norton & Co., 2010); Kevin M. Kruse, *White Flight: Atlanta and the Making of Modern Conservatism* (Princeton: Princeton University Press, 2005); Lisa McGirr, *Suburban Warriors: The Origins of the New American Right* (Princeton: Princeton University Press, 2001).

²⁴ Kristie L. Ebi and Glenn McGregor, “Climate Change, Tropospheric Ozone and Particulate Matter, and Health Impacts,” *Environmental Health Perspectives* 116 (2008); Paul B. English et al., “Environmental Health Indicators of Climate Change for the United States: Findings from the State Environmental Health Indicator Collaborative,” *Environmental Health Perspectives* 117 (2009).

uninhabitable zones, and the poor living situations which many people are likely to face as a result of this large scale migration, will only improve the reproductive capacity of viruses.²⁵

At the same time, there is a widespread trope, evident in consumer advertising, which equates individual health with planetary health. Examples abound: the Rainforest Alliance Certification program for coffee; Seventh Generation's product claims; or the Oregon Tilth organic certification program. Each of these advertisements and initiatives avers that the health of the planet can be assured through proper consumer choices, choices made based upon protecting the health of the individual. The message is that personal, ostensibly ethical, consumption choices will trickle out to improve the health of the planet from which the products being purchased have been derived.

Although these are its two very recent manifestations, the conceptual and physical connections between the health of humans and the environment have a lengthy history, within professional and lay medical cultures alike. Charles Rosenberg has demonstrated that a concern for environmental factors was pervasive in European and American medicine in the 19th century.²⁶ Public health doctors, faced with repeated epidemics of cholera and other contagious diseases in rapidly growing cities, struggled to justify their prior professional commitment to ensuring health through environmental cleanliness with a newer belief that diseases were spread through micro-organisms. The profession of public health, which had previously viewed urban problems like contaminated water supplies and cramped housing quarters as sanitation problems, began, by the late 19th century, to also see them as vectors of disease transmission. Yet environmental factors never disappeared from the picture. Regarding cholera, for example,

²⁵ R.S. Kovats et al., "Early Effects of Climate Change: Do They Include Changes in Vector-Borne Disease?," *Philosophical Transactions: Biological Sciences* 356 (2001); Nathan Y. Chan, "An Integrated Assessment Framework for Climate Change and Infectious Diseases," *Environmental Health Perspectives* 107 (1999).

²⁶ Charles E. Rosenberg, *Explaining Epidemics and Other Studies in the History of Medicine* (New York: Cambridge University Press, 1992).

many doctors synthesized germ theory and environmental explanations for disease, coming to rest on an etiology that balanced an infectious agent with a susceptible environment.²⁷

The discipline of industrial hygiene emerged in the late 19th century, to assess the threats which the factory posed to its workforce.²⁸ Beginning in the early twentieth century, industrial and occupational health doctors began to address the health effects of factory and farm labor.²⁹ Bacteriologist Alice Hamilton made occupational health research a central function of the state.³⁰ In California in the 1950s, occupational health experts Irma West and Thomas Milby, amongst others, sought to publicize the deleterious effect of pesticides on farm workers.³¹ This history plays a key role in the following pages. As Christopher Sellers posited, this process of enunciating hazards caused by industrial occupations in “ostensibly neutral and objective terms” was what eventually “gave flesh to some of the most sacred values of postwar environmentalism.”³² Industrial and occupational health experts focused on a world of chemical toxicity which lay “beneath the level of the usual clinical gaze”, thereby setting in motion a process that would give clinical identification to a host of “chemically induced maladies”. As Sellers noted, this process did not remain exclusively focused on the worker; as occupational medicine grew in legitimacy, funding, and knowledge, it extended its reach to the health of consumers, documenting how the same processes of production which harmed workers would exert a deleterious effect on consumers.³³ What became known as environmental health science and environmental medicine emerged from the late nineteenth and early twentieth century work done by investigators in factories.

²⁷ Ibid.

²⁸ Christopher C. Sellers, *Hazards of the Job: From Industrial Disease to Environmental Health Science* (Chapel Hill: University of North Carolina Press, 1997).

²⁹ Nash, *Inescapable Ecologies*.

³⁰ Sellers, *Hazards of the Job*, 70.

³¹ Nash, *Inescapable Ecologies*, 141.

³² Sellers, *Hazards of the Job*, 10.

³³ Ibid, 11.

Connecting health with the environment was not exclusive to scientists and doctors. As Conevery Bolton Valencius and Linda Nash have each shown, in nineteenth century America it was common parlance to discuss the health of particular places, and to connect the health of place to the health of its inhabitants. Valencius, in her study of newcomers to the southern borderlands of the United States prior to the Civil War, demonstrated that settlers readily assessed the health of their new country. “Good or bad, harmful or improving, terrain possessed health in the same language and for the same reasons that human beings did.”³⁴ This was not merely a transactional relationship, in which an unhealthy place might come to cause illness in humans. Rather, it was an analogical framework: settlers believed that the same processes of “transformation, release and renewal” directed events in the external world and the human body. This sense of analogy between the land and the human body enabled settlers to diagnose what might be happening in themselves and the surroundings,

Common sense saw in eruptions or oozing, whether from swamp or wound, the same expression of putrescence; in fertility or soil and of family the same often ambivalent blessing; and in radical and challenging changes – in sudden sickness, in the turn of season, in the emergence of green shoots from black soil – a single phenomenon, whether enacted through human bodies or through the fields they tilled.³⁵

Ultimately, Valencius illustrated how settlers’ pre-occupation with the health of the country they inhabited was expressive of a wide range of concerns: most immediately, of course, with the health and fertility of their land and family, but also with the extended economic and social vitality of the region within which their land was located.

Linda Nash, in her study of environmental disease in California’s Central Valley, engaged with how nineteenth century settlers assessed the curative and miasmatic properties of California’s highly variable geographies. She illuminated how settlers perceived vast differences

³⁴ Conevery Bolton Valencius, *The Health of the Country: How American Settlers Understood Themselves and Their Land* (New York: Basic Books, 2002), 3.

³⁵ *Ibid*, 3-4.

in micro-climates, and associated particular diseases with particular locations. According to Nash, settlers' bodies frequently served as the lens through which they understood their environment and its possibilities, "the body, specifically the body's physical well-being, offered a powerful way of understanding local environments".³⁶ Nash demonstrated that the link between health and the environment is not a recent one, but rather, one which has been recently obscured.

In the postwar period, scientists from many different fields of study became politically active in their professional capacity, largely to oppose scientific developments and technology which they deemed harmful to human health and/or the environment. As Donald Worster wrote in the conclusion to his canonical study of ecological ideas, the human health effects of the nuclear era, "the poisoning of the atmosphere with strontium 90, and the threat of irreversible genetic damage", brought ecology to the forefront of public consciousness in a way that previous ecological damages, from dust storms to the death of large scale predators, never had.³⁷ Worster laid blame for the acceleration of environmental damage in the postwar period squarely at the feet of the "scientific enterprise", and noted further that the ultimate paradox of the dawning "Age of Ecology" was its reliance upon one branch of science (ecology) to cure the harm that its other branches had inflicted upon the planet.³⁸ Biologist Barry Commoner, along with other Washington University scientists, formed the Committee for Nuclear Information (CNI) in 1958. The CNI's primary aims were to end the secrecy of the government's atomic testing program, and alert the public as to the dangers of nuclear fallout.³⁹ In 1961, physicians in Boston founded Physicians for Social Responsibility in order to oppose nuclear testing and stockpiling. Marine

³⁶ Nash, *Inescapable Ecologies*, 5.

³⁷ Donald Worster, *Nature's Economy: A History of Ecological Ideas* (New York: Cambridge University Press, 1985), 340.

³⁸ *Ibid*, 343.

³⁹ Egan, *Barry Commoner*, 47.

biologist Rachel Carson published the best-selling *Silent Spring* in 1962, an exposé on the ecological and human health effects of widespread pesticide use. Paul Ehrlich, Stanford population biologist, stepped into the troubled waters of human population growth with his 1968 bestseller *The Population Bomb*. In 1969, nuclear physicians John Gofman and Arthur Tamplin determined that the Atomic Energy Commission was under-estimating the health risks from low-level routine nuclear power plant emissions by a factor of ten. Gofman thereafter quit his job at the Lawrence Livermore National Laboratory to found the Committee for Nuclear Responsibility in 1971.

The 1960s and 1970s witnessed a dramatic increase in both the scale of scientists' political activism and their willingness to espouse radical, systemic critiques of economic growth, social practices, technological developments, and scientific practice itself. Moreover, as this dissertation demonstrates, the 1970s were a time of intense engagement between career scientists and environmental activists. Environmental toxicologists performed independent analyses for grassroots groups; dissident nuclear physicians criticized nuclear power and provided scientific counsel to environmental campaigners; ecologists and conservation biologists published in radical environmental journals and engaged in non-violent civil disobedience; and scientists in general were well-represented at protests, rallies, the advisory boards of environmental organizations, and in environmental strategy sessions.

By examining the collaborations between a broad array of scientists and environmental activists, this dissertation aims to portray the broad range of conceptual and tactical possibilities which were open for environmental activists in the 1970s. To date, the scholarly and scientific tendency has been to focus on the connection between *human* health and the environment. This focus has excluded the rich postwar history of the application of these understandings of health

to the non-human world. What does it mean to be a planetary physician? A land doctor? To diagnose ecological wounds? To assess the health of an ecosystem? This dissertation argues that these applications, although comparatively marginalized within contemporary public discourse and scholarship, matter tremendously, both as expressions of a nexus between science and environmental activism, and as the product of a longer historical trajectory linking health with the environment.

This dissertation consists of five case studies of different facets of postwar environmental activism. To write these case studies, I have combined archival research with extensive oral history interviews. Each case study focuses on individuals and organizations central to the conceptual linkage of health and the environment: Rachel Carson; David Brower and Friends of the Earth; Gary Snyder; the residents of Love Canal, New York; and James Lovelock and Bill McKibben. Each chapter takes the texts and actions of each of these individuals as a window onto a particular set of organizational and epistemic possibilities within environmental politics. These specific actors, a number of whom have been little studied, provide a novel and wide-ranging perspective on how different activists crafted claims about what constituted a healthy environment, and how they put these claims into political action. The balance of sources varies from chapter to chapter. A number of individuals who figure heavily in this dissertation – David Brower, Gary Snyder, James Lovelock, and Bill McKibben – have received limited historical examination. In these chapters, I rely heavily upon oral histories, correspondence with involved individuals, and primary source materials, both published and archival. Taken together, these five individuals, and the philosophies and strategies they represent, illustrate connections within environmental politics that complicate and contradict ideological and organizational fault lines.

Chapter 1 re-engages with the origins and influence of Rachel Carson's seminal book *Silent Spring* (1962). Carson argued that the biological health of humans was inseparable from that of the environment; over the subsequent five decades this argument has continued to motivate different environmental activists. This section of the introduction contextualizes Carson's thought within contemporary trends in environmental medicine, grassroots conceptualizations of healthy environments, anti-nuclear politics, and the possibilities for scientific activism, while also examining why her thought has proved to be an enduring source of inspiration.

Chapter 2 analyzes David Brower, executive director of the Sierra Club (1947-1969) and founder of Friends of the Earth (1969). I argue that Brower and FOE embodied a transition within the politics of large international environmental organizations: from a concern with scenic beauty and recreation to a wide-ranging pollution-prevention, wilderness protection, population control, and anti-nuclear power agenda. This new politics drew a direct connection between economic and demographic growth and environmental degradation, arguing that the only way to protect the health of the environment was to impose sharp limitations on human expansion. The chapter explores how Friends of the Earth spoke of the health of the environment in order to justify a radically different agenda for large environmental lobbying organizations, as well as how its holistic and systemic critiques of the 1970s narrowed, by the early 1980s, into a focus on health as a matter of individual consumer choice.

Chapter 3 examines biocentric activism, which emerged in the early 1970s from the intersection of deep ecological philosophy with conservation biology, disgruntled environmental lobbyists, and hippie communes. Poet Gary Snyder was a key inspiration and facilitator of this intersection. Over the 1970s and growing in numbers and influence in the 1980s, the biocentric

message of Snyder's poetry and his life – the idea that nonhuman nature had moral standing equal to humanity – appealed to many environmental activists, academic philosophers, “back-to-the-land”-ers, and ecologists striving to construct a politics *of* the wild, a politics which did not begin and end with human welfare, but instead attempted to preserve the wild for its own sake. This motley group coalesced in various organizations: the Planet Drum Foundation (1973), the Sea Shepherd Conservation Society (1977), Earth First! (1981), the North American Bioregional Congress (1984), the Society for Conservation Biology (1985), and the Wildlands Project (1991). Chapter 3 explores how these biocentric activists crafted a “land medicine” intended to restore the health of local ecosystems.

Chapter 4 studies the intersection of epidemiology, toxicology, and working class union activism at Love Canal, New York. In 1978, following the discovery of 21,000 tons of buried chemical waste in their neighborhood, residents of Love Canal organized themselves into the Love Canal Homeowners Association (LCHA). The LCHA's clashes with state and federal health agencies, as well as its aggressive pursuit of alliances with dissident epidemiologists and toxicologists, prefigured the acrimonious conflicts between residents and scientists, personal experience and epidemiological certainty which characterize the environmental justice movement today. This chapter asks what knowledge the community drew upon to understand the hazards it faced; why the residents organized themselves in the manner they did; and how, through the emergence of the environmental justice movement in the 1990s, residents' particular understanding of the environment as a conduit for disease helped to shape the broader landscape of environmental politics.

Chapter 5 engages with the influence of physicist James Lovelock's Gaia theory on the climate change politics of the 1990s and 2000s. Lovelock developed the Gaia hypothesis in the

1960s, arguing that the Earth was a single living entity – Gaia - and that human-induced changes in atmospheric composition and planetary biodiversity posed the most pressing threat to her health. Lovelock believed that humans had overstepped the natural boundaries of their ecological niche, and must therefore bear responsibility for restoring balance to Gaia. He advocated for a “planetary medicine” in which humans would treat the planet as a doctor would a sick patient. Bill McKibben, international climate change activist, took up Lovelock’s challenge in the late 1980s, arguing for checks on greenhouse-gas emissions because of the threat they pose to the planet’s ecosystems and biodiversity. This final chapter connects my historical research to the present-day politics of climate change mitigation and adaptation, contending that these politics are animated by an understanding of the planet as a living, breathing, and potentially dying whole.

Chapter I

Rachel Carson, *Silent Spring*, and the Environmental Movement

Most of us walk unseeing through the world, unaware alike of its beauties, its wonders, and the strange and sometimes terrible intensity of the lives that are being lived about us.

- Rachel Carson, 1962⁴⁰

Rachel Carson is frequently portrayed as a point of origin for contemporary understandings of a symbiotic relationship between human and environmental health.⁴¹ Her 1962 book *Silent Spring*, which detailed how the spraying of synthetic pesticides, DDT in particular, impacted all living creatures, has become canonical amongst environmental activists and scholars. Yet the book's legacy is far from certain; as this chapter argues, the myth-making energy that has been invested into defining *Silent Spring's* legacy has obscured and impeded critical analysis of the divergent directions taken by environmental politics in the late twentieth century. This brief opening chapter explores the political and scientific events informing *Silent Spring*; provides a close reading of the themes by which Carson structured the book; and concludes with a historiographic examination of Carson's reception and legacy.

World War II was a turning point in Americans' relationship with their environment.⁴²

Chief among the changes facing the postwar country was a broad array of petro-chemicals

⁴⁰ Carson, *Silent Spring* (New York: Houghton Mifflin, 1962), 249.

⁴¹ Linda Lear, *Rachel Carson: Witness for Nature* (New York: Henry Holt and Company, 1997); Mark Lytle, *The Gentle Subversive: Rachel Carson, Silent Spring, and the Rise of the Environmental Movement* (New York: Oxford University Press, 2007); William Souder, *On a Farther Shore: The Life and Legacy of Rachel Carson* (New York: Crown Publishers, 2012).

⁴² For excellent accounts of these unprecedented changes in the postwar landscape, and the environmental anxieties they produced, see Michael Egan, *Barry Commoner*; Maril Hazlett, "The Story of *Silent Spring* and the Ecological

available for consumer and municipal purposes. Some of these (insecticides and herbicides) had been developed for wartime uses, others for consumer use (phosphate detergents and prescription drugs). This surfeit posed unprecedented challenges to human and environmental health, waste disposal systems, regulatory bureaucracies, and scientific practice. New issues became matters for public debate: the adequacy of federal consumer protections, the opacity of government-funded scientific research programs, the right of individuals to know the substances which they came into contact with on a daily bases, and the extent to which substances in the environment exerted an effect on the human body.

Throughout the 1950s, the United States Department of Agriculture and the Forest Service, in cooperation with state governments, conducted extensive aerial spraying programs of DDT, dieldrin, aldrin, heptachlor, 2-4, D and 2,4,5-T, amongst a wide range of other insecticides and herbicides, to eradicate “pests” such as the gypsy moth, the fire ant, undesirable hardwood trees, sagebrush, and roadside foliage. Virtually no location was untouched by these spraying programs, whose unintended consequences included sickened livestock, deformed foliage, ruined crops, and disappearing bird populations. From their start these pest eradication campaigns attracted concern and criticism. Local gardening clubs, conservation organizations (the Audubon Society and the National Wildlife Federation in particular), and hunting clubs criticized these spraying programs. The specter of aerial spraying, which dovetailed so neatly with the previous decade’s anxieties regarding radioactive fallout, entered into the popular media and informed the political actions of homeowners across the nation, who, as Nancy Langston has described, felt

Turn” (PhD diss., University of Kansas, 2003); Adam Rome, *The Bulldozer in the Countryside*; Edmund Russell, *War and Nature: Fighting Humans and Insects with Chemicals from WWI to Silent Spring* (New York: Cambridge University Press, 2001).

that their “sense of home as a refuge” was under threat.⁴³ Articles criticizing these programs appeared in popular magazines such as *Reader’s Digest*, *Life*, and *Sports Illustrated*. The articles focused on the dangers which aerial spraying posed to human health, as well as the indiscriminate manner in which the poisons were applied.⁴⁴

Grassroots awareness of the changes being wrought upon the natural world by the chemically-enhanced postwar lifestyle arose from well-publicized incidents of livestock poisoning and water and soil contamination and human illness. Yet another crucial element in raising public consciousness about environmental degradation, as well as about the connections between human bodies and the environment, was the lived experience of suburbanites. In the postwar period, a population of mostly white Americans moved in record numbers to the suburbs on the edges of major metropolises. The resulting sprawl produced a wealth of environmental consequences: the migration of industry, large scale highway construction projects, and the application of massive quantities of synthetic chemicals to maintain “clean” and aesthetically pleasing homes.⁴⁵

Having moved to the suburbs with the hope of living a more pastoral life, in actuality new suburbanites found themselves on the frontline of environmental destruction, watching as large areas of their surroundings were given over to further suburban development.⁴⁶ Suburbanites on “quests for more natural surroundings” associated their lifestyles very closely with the nature of the place in which they lived.⁴⁷ The conceit of suburbanization was that inhabitants lived *in nature*; yet, as Adam Rome has documented, “Every year, a territory roughly

⁴³ Nancy Langston, *Toxic Bodies: Hormone Disruptors and the Legacy of DES* (New Haven: Yale University Press, 2011), 89. For more on the cultural and political implications of fears about radioactive fallout and aerial spraying, see Egan, *Barry Commoner*; Russell, *War and Nature*; Spencer R. Weart, *The Rise of Nuclear Fear* (Cambridge: Harvard University Press, 2012).

⁴⁴ Edmund Russell, *War and Nature*, 216.

⁴⁵ Sellers, *Crabgrass Crucible*, 3.

⁴⁶ Rome, *The Bulldozer in the Countryside*, 6.

⁴⁷ Sellers, *Crabgrass Crucible*, 5.

the size of Rhode Island was bulldozed for urban development.”⁴⁸ Suburbanites were further concerned about the presence of phosphate-laden detergent foam in their drinking water supplies, water pollution from improperly maintained septic tanks, air pollution from rapidly expanding automobile ownership, and the effects of DDT and other synthetic pesticides on the wildlife they lived beside.

From a regulatory perspective, it was difficult to recognize, much less begin to tackle, environmentally induced diseases. The Delaney Clause, enacted in 1958 after Congressional hearings regarding the dangers of insecticide residues on food substances, had banned the use in food of any additive shown to cause cancer in animals. However, the clause had limited application: it could not regulate chemicals uninvolved in food production or packaging, it could only be applied to processed foods, it could only regulate substances with carcinogenic potential, and it could only be applied to interstate transactions.⁴⁹

It was not only aerial spray victims and suburbanites who were growing anxious about the deteriorating state of the American environment. The 1950s and 1960s were also a time of heightened scientific activism.⁵⁰ Biologist Barry Commoner was a staunch critic of aboveground nuclear weapons testing in the late 1950s and early 1960s, and after the passage of the Limited Test Ban Treaty in 1963 he became an equally ardent critic of synthetic chemicals.⁵¹ Physicians for Social Responsibility was founded in Boston in 1961 to oppose weapons testing and nuclear

⁴⁸ Rome, *The Bulldozer in the Countryside*, 8.

⁴⁹ Langston, *Toxic Bodies*, 113-115; Russell, *War and Nature*, 217.

⁵⁰ Thomas Wellock has described these scientists as “dissident scientists”, and Thomas Robertson has used the term “politico-scientists”. Each is referring to scientists using their research to make suggestions for public policy and reform. Wellock, *Critical Masses*; Robertson, *The Malthusian Moment*, 181.

⁵¹ Michael Egan, *Barry Commoner and the Science of Survival: The Remaking of American Environmentalism* (Cambridge, Mass.: MIT, 2007).

proliferation. Microbiologist Rene Dubos began to critique established medicine's failure to integrate the social, environmental, and political causes of disease.⁵²

Yet such examples of heightened scientific activism were accompanied by an increasing public suspicion of scientific expertise, in particular, its lack of openness to citizen participation.⁵³ Indeed, many of the scientists who became politicized in the postwar era were highly critical of the "cult" of scientific expertise, the regulatory insufficiencies of the federal government, and the lack of transparency characterizing federally-funded scientific research programs.

Rachel Carson, a marine biologist by training but a science writer by vocation, had been interested in humanity's effect on the environment from the beginning of her career, when she had begun studying naturally occurring arsenics.⁵⁴ Regarding manmade poisons in the environment, in 1945 she had encountered research by wildlife biologists Clarence Cottam and Elmer Higgins for the Fish and Wildlife Service, which demonstrated that DDT threatened fish and other wildlife. As a result of their research, Cottam and Higgins had unsuccessfully requested that DDT not be approved for civilian use until its ecological effects could be fully assessed.⁵⁵ Failing to find a publication willing to print negative reports on the "miracle" pesticide, Carson turned her attentions elsewhere for the following decade.⁵⁶

Carson returned to the subject of DDT and the petrochemical revolution with renewed vigor in the fall and winter of 1957. The idea for the research that would eventually grow into *Silent Spring* was sparked by a letter from her friend, Boston resident Olga Owens Huckins. Huckins' bird sanctuary in Duxbury, Massachusetts, had been sprayed for mosquitoes in the

⁵² Sellers, *Hazards of the Job*, 219.

⁵³ Hazlett, "The Story of *Silent Spring*", 26.

⁵⁴ Lear, *Witness for Nature*, 312.

⁵⁵ Langston, *Toxic Bodies*, 87.

⁵⁶ Lear, *Witness for Nature*, 118-119.

summer of 1957; soon, many of the resident songbirds had died, their habitat contaminated.⁵⁷

Carson was also motivated by the controversy raging over the United States Department of Agriculture's fire ant eradication program. Beginning in 1958, the Department of Agriculture announced its plans to spray dieldrin and heptachlor over 20 to 30 million acres in the South and Southeast. The attendant public uproar prompted the state of Alabama to suspend its participation in the program.⁵⁸ The program continued elsewhere with disastrous results: many scientists agreed that the spraying program had in fact resulted in an increased population of fire ants in the Southeastern states.⁵⁹

Carson was also engaged with the suit filed by several Long Island residents against aerial DDT spraying by the USDA and allied state agencies.⁶⁰ In the spring of 1957, the comparatively wealthy Long Island counties of Nassau and Suffolk began an aerial DDT spraying campaign to eradicate the gypsy moth, the source of Dutch elm disease. The following year, fifteen afflicted residents, including ornithologist Robert Cushman Murphy, Marjorie Spock, and Mary Richards, brought an unsuccessful suit against the state and federal Departments of Agriculture.⁶¹ These residents were outraged by the effect of DDT on the health of themselves and their children, as well as on the local flora and fauna.⁶² As evidence in court they offered anecdotal testimony about the effect of the spraying on land and crops, as well as laboratory data assessing the heightened presence of DDT residues in plants and milk following the spraying.⁶³

⁵⁷ Lear, *Witness for Nature*.

⁵⁸ Russell, *War and Nature*, 214-216.

⁵⁹ Rachel Carson, *Silent Spring*, 172.

⁶⁰ Lear, *Witness for Nature*, 118-119.

⁶¹ For more on the trial see Lear, *Witness for Nature*, 306; Sellers, *Crabgrass Crucible*, 126-132; Christopher Sellers, "Body, Place and the State: The Makings of an "Environmentalism" Imaginary in the Post-World War II U.S." *Radical History Review* 74 (Spring 1999).

⁶² Sellers, *Crabgrass Crucible*, 128.

⁶³ Sellers, "Body, Place and the State," 44.

According to Frank Graham, Carson saw the Long Island case as “a classic example of the citizen’ struggle to keep his environment clean and healthy.”⁶⁴ She followed the plaintiffs’ progress closely, quickly becoming friends with Marjorie Spock, who thenceforth served as “the central point of her original research network.”⁶⁵ Spock sent Carson research articles, a daily transcript of the court proceedings, and connected her with a large network of researchers, including the medical experts who had testified on behalf of the plaintiffs: Mayo Clinic hematologist Malcolm Hargraves, Connecticut family practitioner Morton Biskind, and cancer researcher William Hueper.

All three physicians were interested in the connection between synthetic chemical exposure and human cancer. The case histories which they shared with Carson suggested a strong connection between DDT exposure and cancers of the blood and bone, as well as of the “exquisite responsiveness” of certain individuals to low levels of man-made chemicals in the environment.⁶⁶ In contrast to many of their colleague’s laboratory based methods, these three men relied upon clinical practice and case histories for their conclusions;⁶⁷ these methods would influence Carson’s ultimate argument about the individual as the privileged interpreter of his or her own health. Hargraves in particular was pivotal in helping Carson to understand human health as an ecological issue: to see individual diseases not as pathologies specific to particular bodies, but as indicators of larger environmental crises.⁶⁸ *Silent Spring* was made possible by these multi-faceted concerns and connections.

⁶⁴ Frank Graham, Jr., *Since Silent Spring* (Greenwich, CT: Fawcett Publications, Inc., 1970), 32.

⁶⁵ Lear, *Witness for Nature*, 318.

⁶⁶ Ibid, 357; Nash, *Inescapable Ecologies*, 159-160; Sellers, “Body, Place and the State”, 37.

⁶⁷ Hazlett, “The Story of *Silent Spring*,” 102-104; Nash, *Inescapable Ecologies*, 160.

⁶⁸ Hazlett, “The Story of *Silent Spring*,” 102.

Silent Spring tackled the question of chemical exposure progressively, addressing in turn the damages which their application had done to soil, water, air, birds, and humans. Carson framed the book with an analogy between the petro-chemical revolution and nuclear war, depicting pesticides as a global, totalizing, multi-generational threat,

Along with the possibility of the extinction of mankind by nuclear war, the central problem of our age has therefore become the contamination of man's total environment with such substances of incredible potential for harm – substances that accumulate in the tissues of plants and animals and even penetrate the germ cells to shatter or alter the very material of heredity upon which the shape of the future depends.⁶⁹

This framing analogy allowed Carson to lay out the central themes of her book: humankind's contamination of the global environment; the inter-generational consequences of modern life; and the interconnection of human, animal, and environmental bodies. It was a strategic analogy: by the early 1960s nuclear radiation was a hazard with an "ample body" of associated stories and images.⁷⁰ Moreover, as Thomas Robertson has noted, the analogy with nuclear war evoked the "overriding concern of the era – war and destruction."⁷¹ Carson repeatedly described the application of synthetic pesticides as an "onslaught", a "war against nature".⁷²

Carson structured the book around three binaries: health and sickness, nature and artifice, local and global. Within this structure, health equaled nature, and sickness artifice; moreover, any ultimate distinction between the local and the global disappeared.⁷³ With the help of these dichotomies, the book thoroughly reviewed the present and future consequences of heavy and

⁶⁹ Carson, *Silent Spring*, 8.

⁷⁰ Ursula Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (New York: Oxford University Press, 2008), 160.

⁷¹ Robertson, *The Malthusian Moment*, 144. For extended discussion of the place of apocalyptic narrative within environmental discourse see Lawrence Buell, "Toxic Discourse," *Critical Inquiry* 24 (Spring 1998), 649; Heise, *Sense of Place and Sense of Planet*, 25-26.

⁷² Indeed, *The War Against Nature* and *At War With Nature* were two of the original titles that Carson considered for the book. Lytle, *The Gentle Subversive*, 6.

⁷³ Although it is outside the scope of this analysis, it is important to note that Carson has two natures at work: nature and Nature. Nature acts as a God-like, abstract entity with authority over all that happens in the world, whereas nature is most frequently used to describe day-to-day non-human phenomena. It is worth noting that these two entities are not mutually exclusive, nor does Carson consciously distinguish them.

indiscriminate pesticide use, illustrated the global reach of environmental toxins, and argued throughout that the most effective opposition to the current state of affairs was an informed and engaged citizenry.

Carson opened with a “Fable for Tomorrow” which narrated the story of a town gone silent and dead, a white pesticidal dust the only record of the fate to which it had succumbed. The fable plunged readers into a world of ill health,

A strange *blight* crept over the area and everything began to change. Some *evil spell* had settled on the community: *mysterious maladies* swept the flocks of chickens; the cattle and sheep *sickened and died*. Everywhere was a *shadow of death*.⁷⁴

The sickness (and death) induced by the pesticides applied to the town was mysterious, evil, strange, and external. It crept unbeknownst upon the town’s inhabitants, wreaking havoc without their informed consent.

These qualities of secrecy, subterfuge, and purposeful concealment persisted throughout the book. Carson’s accounts of the health effects of chemical exposure repeatedly called attention to their insidious, hidden, and destructive powers,

The new environmental health problems...cast a shadow that is no less ominous because it is formless and obscure, no less frightening because it is simply impossible to predict the effects of lifetime exposure to chemical and physical agents that are not part of the biological experience of man.⁷⁵

The sickness produced through chemical exposure could not be predicted or anticipated; one might reasonably suppose that it *would* develop, but it was impossible to know when or in what guise it would arrive: whether cancer, death, genetic mutations, or a gradual loss of bodily functions.

Carson equated sickness with artifice, a category comprised of anything which lay outside of the “biological experience” of man. The flood of synthetically produced chemicals in

⁷⁴ Carson, *Silent Spring*, 2. My emphases.

⁷⁵ *Ibid*, 188.

the postwar period exemplified such artifice; along with radioactive materials, such chemicals had “no counterparts in nature” and resided “totally outside the limits of biologic experience”.⁷⁶ These artificial, synthetic intruders into the gradual processes of nature were, in Carson’s words, nonselective, over-simplistic and unprecedented. What is more, they acted in an abrupt time frame. In these attributes they stood in direct opposition to the balanced, inter-generational, gradual, and varied qualities of “Nature”.⁷⁷

Despite their wholly negative effects, in Carson’s account synthetic chemicals had revealed the true nature of Nature as an interconnected web. “Seldom if ever does Nature operate in closed and separate compartments”, she wrote, and “however much he may like to pretend the contrary” man is part of nature.⁷⁸ The proliferation of chemicals in the environment, and their unintended and compounding effects on man, animal, and landscape, had exposed the interconnection of human bodies and the environment, water and soil, this generation and the next, negating modernist fictions of bounded bodies and easily identifiable causal relationships.

There is an ecology of the world within our bodies. In this unseen world minute causes produce mighty effects; the effect, moreover, is often seemingly unrelated to the cause, appearing in a part of the body remote from the area where the original injury was sustained.⁷⁹

Sickness, whether in human, animal or environmental bodies, did not bespeak a single problem that could be measured, neatly encapsulated, and eradicated. Rather, its causes could be multiple, compounding, and invisible. This type of dispersed, inchoate sickness could not be neatly eradicated without causing systemic changes.

⁷⁶ Ibid, 7.

⁷⁷ Although it is outside the scope of this chapter, in *Silent Spring* Carson articulated a familiar critique of modernity as too fast and artificial, and asserted an absolute Nature above and beyond the temporal vagaries and confines of the modern way of life.

⁷⁸ Carson, *Silent Spring*, 42 and 188.

⁷⁹ Ibid, 189.

This revelation, that nature did not operate through the categories imposed upon it by modern society, fundamentally questioned established practices of human governance. Carson decried the scientific and regulatory fiction of “tolerances” used by the Food and Drug Administration to define the maximum permissible limit of particular poisons with which food items could be contaminated. Such tolerances, she argued, were incapable of accounting for the cumulative exposures which regularly occurred in daily life; moreover, the contemporary regulatory apparatus was far too skeletal to enforce even the questionable tolerance system. More significantly, the tolerance system was part and parcel of a larger regime of government secrecy, within which, for example, the state of Michigan had the power to “spray indiscriminately without notifying or gaining permission of individual landowners”.⁸⁰

Carson’s definition of health was a combination of her concerns with proper governance and with the interconnected nature of Nature. The book built to a crescendo of outrage at government secrecy, inefficient and unaccountable bureaucracy, and the absence of consumer protections. An operational path to health grew out of these concerns. For Carson, health meant transparency, knowledge, and a consumer’s “right to know” what they were exposed to. This definition of health as something over which an individual had the right to exercise control borrowed heavily from the argument of organic food activists like Marjorie Spock that knowledge about the substances one was consuming was essential to ensuring and maintaining the purity of the individual body.⁸¹ As Christopher Sellers observed, “A threatened “nature”...remained linked to eroding self-determination, and the “natural” was identified by a deliberate contrast with newly dominant products and markets.”⁸² To the extent that a

⁸⁰ Ibid, 89.

⁸¹ For more on organic “food fights” of the 1950s, see Hazlett, “The Story of *Silent Spring*,” 34-49; Sellers, *Crabgrass Crucible*, 258.

⁸² Sellers, “Body, Place and the State,” 38.

functioning democracy was a transparent one, Carson saw no separation between the health of an individual consumer and the health of democracy. Not only was an individual's health dependent upon the proper functioning of democratic transparency, but the health of a democracy could be measured by the health of its citizens.⁸³

Silent Spring is ultimately a map of interlocking ecologies. For Carson, there were no absolute lines between the human body, its environment, political and economic systems, technological developments, wildlife, air and water, DNA, and chemicals. Rather, such lines were symptomatic of modernity, of ways of life that would eventually backfire with dire consequences for all life-forms on Earth. Although she held fast to an absolute "Nature" which set the ground rules for all developments, the boundaries of that abstracted and idealized entity were not themselves fixed. Health, then, served as an index of the extent to which these interlocking ecologies were recognized and respected, a marker of the deference paid by humans to their place within an ecological system.

Rachel Carson and *Silent Spring* have each been exhaustively analyzed. Linda Lear, Carson's most thorough biographer, documented her intellectual and personal development in minute detail, concluding that Carson's most enduring legacy was to "bear witness" for nature.⁸⁴ Mark Lytle, in *The Gentle Subversive*, examined Carson's life as a writer, elucidating her literary evolution and its connection to her sense of moral conviction.⁸⁵ Robert Gottlieb focused on the long history of Carson's perspective, dissecting its conceptual connection to Progressive Era

⁸³ This connection was not unique to Carson. Maril Hazlett has written extensively regarding how postwar environmental health controversies connected "ecological ideas and a certain vision of democracy." Hazlett, "The Story of *Silent Spring*," 32.

⁸⁴ Lear, *Witness for Nature*.

⁸⁵ Lytle, *The Gentle Subversive*.

industrial medicine and urban reform efforts.⁸⁶ Sarah Thomas interpreted Carson as a champion of an informed and politically active public, who challenged the ideology that science was always pursued in the public's interest.⁸⁷

Despite their divergent interests, all of these studies share the perspective that *Silent Spring* both heralded and fostered a new era in environmental thought and action. While the degree of this belief varies, their collective story holds that the publication of the book served to raise environmental awareness and anxiety amongst a broad spectrum of the American public, and galvanized many people, previously unaware of environmental problems, into action. Relatedly, Carson is commonly associated with a supposed shift in environmental politics from the “traditional” concern with the conservation of wilderness to a “new” focus on human health and welfare. By emphasizing the unprecedented dangers which the synthetic chemical revolution posed to human health - in particular, genetic mutation and cancer – many scholars have asserted that Carson enabled conservation “to evolve into environmentalism.”⁸⁸ Robert Gottlieb has written that Carson “brought to the fore” fundamental questions about the postwar industrial order, and that *Silent Spring* and its attendant controversy helped to launch “a new decade of rebellion and protest in which the idea of nature under stress also began to be seen as a question of the quality of life.”⁸⁹ Ralph Lutts claimed that “*Silent Spring* played a vitally

⁸⁶ Gottlieb, *Forcing the Spring*.

⁸⁷ Sarah L. Thomas, “A Call to Action: *Silent Spring*, Public Disclosure, and the Rise of Modern Environmentalism,” in Michael Egan and Jeff Crane, eds, *Natural Protest: Essays on the History of American Environmentalism* (New York: Routledge, 2009). Thomas’ central argument, that *Silent Spring* was most important for its contribution to debates about the relationship between science and democracy in the 1960s, is echoed by many other scholars.

⁸⁸ Gottlieb, *Forcing the Spring*, 296.

⁸⁹ *Ibid*, 81.

important role in stimulating the contemporary environmental movement.”⁹⁰ John Burnham asserted that *Silent Spring* was a “core document of the environmental movement”.⁹¹

Taking this transformative legacy further, renowned environmental historian Alfred Crosby argued that “Carson transformed environmentalism from an elitist to a popular movement”, continuing on to claim that “Rachel Carson did for environmentalism what Harriet Beecher Stowe had done for abolitionism.”⁹² This comparison between Carson and Harriet Beecher Stowe, originally used by Supreme Court Justice William O. Douglas, is oft-repeated. In his seminal study of American conservation politics, Stephen Fox observed that,

From this controversy [over *Silent Spring*] the burgeoning of man-centered conservation may be dated. *Silent Spring* became one of the seminal volumes in conservation history: the *Uncle Tom’s Cabin* of modern environmentalism.⁹³

With this comparison, Douglas, Fox and Crosby pointed to the fact that one of the most long-lasting effects of *Silent Spring* was moral: galvanizing middle class readers into action by playing upon their deep-seated guilt about class privilege.⁹⁴

For some, Carson’s influence was all-pervasive. According to Mark Lytle, her emphasis on the mysteries of nature appealed to the 1960s counterculture; her critique of science found an audience with political dissenters; and widespread power outages in the late 1960s alerted the public that “cities seemed to have their own ecosystems that now appeared vulnerable to cataclysmic disruption”.⁹⁵ Of the first Earth Day in April 1970, Lytle concluded, “no event

⁹⁰ Ralph H. Lutts, “Chemical Fallout: Rachel Carson’s *Silent Spring*, Radioactive Fallout, and the Environmental Movement,” *Environmental Review* 9 (Autumn 1985), 210.

⁹¹ John C. Burnham, “How the Discovery of Accidental Childhood Poisoning Contributed to the Development of Environmentalism in the United States,” *Environmental History Review* 19 (Autumn 1995), 58.

⁹² Alfred W. Crosby, “The Past and Present of Environmental History,” *The American Historical Review* 100 (October 1995), 1186.

⁹³ Stephen Fox, *The American Conservation Movement: John Muir and His Legacy* (Madison, WI: The University of Wisconsin Press, 1981), 292.

⁹⁴ As we will see in Chapter 5 and the conclusion, these elements of moral guilt and class privilege which sustain the abolitionist comparison persist in environmental politics today, the climate change movement in particular.

⁹⁵ Lytle, *The Gentle Subversive*, 207-208.

could have done more to celebrate the ideals Rachel Carson bequeathed to the environmental movement.”⁹⁶ In the most recent Carson biography, journalist William Souder went so far as to claim that Carson was the “founder” of the environmental movement.⁹⁷ Jennifer Price did not overstate the point when she claimed that the scholarship on Carson is “relentlessly hagiographic”.⁹⁸

There are two problems with such accolades. First, they suggest that people were not aware of environmental degradation before Carson brought their attention to it. Second, they conclude that the connection between *human* health and the environment became the main concern of the emerging environmental movement.

With respect to the first problem, many historians, including Adam Rome, Robert Gottlieb, Christopher Sellers, and Linda Nash have thoroughly documented grassroots awareness of environmental toxicity and degradation prior to the publication of *Silent Spring*.⁹⁹ There is no better proof of this awareness than that found in the letters which Carson received, letters which in aggregate reveal a widespread unease across the country concerning pesticide residues in food, radioactive fallout in the milk supply, and insecticide application by neighbors and county road commissions. Farmer A.O. Hage wrote to Carson in March of 1964 that, “I have been hoping for a long time that someone would write a book about the dangers of the unrestricted spraying of poisons on the crops that is [sic] raised for food.”¹⁰⁰ He recounted the disappearance of birds in his native Red River Valley, from the goose to the small field sparrow, including the bird that

⁹⁶ Ibid, 212. Yet Lytle doesn’t actually *show* how Carson’s work was received by particular environmental activists; instead his work is speculative and correlative, emphasizing the areas of overlap and commonality.

⁹⁷ Souder, *On a Farther Shore*.

⁹⁸ Jennifer Price, “Stop Saving the Planet! – and Other Tips Via Rachel Carson for 21st Century Environmentalists,” Keynote Address, American Society for Environmental History, Madison, WI, March 29, 2012.

⁹⁹ Gottlieb, *Forcing the Spring*; Nash, *Inescapable Ecologies*; Rome, *The Bulldozer in the Countryside*; Sellers, *Crabgrass Crucible*.

¹⁰⁰ A.O. Hage to Rachel Carson, March 19, 1964. Yale Beinecke Library, Rachel Carson papers.

prior to the spraying, used to eat the dreaded Colorado potato beetle, concluding that, “Nature can take care of itself if let alone, but if man is going to depend on poison instead of Nature, it may be a different story.”¹⁰¹

She was contacted by local conservation groups, gardening and birding clubs in particular, who had been waging their own campaigns against aerial insecticide spraying. Mrs. B. Snowden Boyle wrote from Memphis about her Garden’s Club’s campaign against the Tennessee Agricultural Department’s spraying of dieldrin. Noting that the Department had finally ceased its spraying program, she observed wryly that, “The Agricultural Department issued a statement that they had run out of dieldrin but we believe that they ran out of places to put it.”¹⁰²

Carson’s mailbox was also filled with letters from medical doctors. Harry Lillie wrote from Scotland of how, “we have got to the stage when if a patient complains of pains anywhere, the first thing is to find out what insecticide or weed killing sprays he has been using in the house or garden or farm land, or what airools [sic] a woman has been messing around with.”¹⁰³ Henry F. Lee, pediatrician from Philadelphia, wrote to *The New Yorker* that Carson had “accomplished as real a service as any physician who devotes a lifetime to patients and she will have reached a “practice” encompassing everyone!”¹⁰⁴

The second, and to date far less explored problem, is what happened to environmental health after the publication of *Silent Spring*. The significance of *Silent Spring* to the environmental movement has, at this point, become axiomatic. But what were its effects upon conceptions of health? What paths did it travel? Did the emerging environmental movement

¹⁰¹ Ibid.

¹⁰² Mrs. B Snowden Boyle to Rachel Carson, August 18, 1959. Yale Beinecke Library, Rachel Carson papers.

¹⁰³ Harry Lillie to Rachel Carson, October 18, 1962. Yale Beinecke Library, Rachel Carson papers.

¹⁰⁴ Henry F. Lee to *The New Yorker*, August 1, 1962. Yale Beinecke Library, Rachel Carson papers.

adopt Carson's message wholeheartedly? Did health carry other meanings and enable different political projects?

Some conservationists were excited by her message.¹⁰⁵ Sierra Club Executive Director David Brower proclaimed that, "She removed a veil that had concealed from me, before that, what the life force consists of, and how interrelated are all of us who share in it", and invited Carson to speak at the Club's 1964 Wilderness Conference. Yet others were either skeptical or uninterested. Several members of the Sierra Club, employed by the agricultural chemicals industry, complained about a favorable review of *Silent Spring* that had been published in the Club's *Bulletin*. Leaders of the Audubon Club – a bird protection organization of which Carson was a long-standing member - had failed to speak out in favor of the book, despite an increasingly vocal membership demanding legislative action on pesticides.¹⁰⁶

While strongly concerned with the deleterious effects of pesticides on other species, Carson's argument was ultimately anthropocentric, concerned with how to "manage" insects while preserving human health and the larger "fabric" of life upon which it so delicately depended.

Only by taking account of such life forces and by cautiously seeking to guide them into channels favorable to ourselves can we hope to achieve a reasonable accommodation between the insect hordes and ourselves.¹⁰⁷

This anthropocentrism was not lost on subsequent generations of activists. Dave Foreman, one of the founders of direct action organization Earth First!, noted in 1991 that the "ironic" effect of Carson's ecological perspective was to make traditional conservation politics more

¹⁰⁵ Carson herself was a member of the Audubon Society and the Wilderness Society, serving two terms on the board of the former. She was intensely engaged in lands and wildlife preservation campaigns, as well as an avid naturalist.

¹⁰⁶ The National Audubon Society had also refused to back the 1958 lawsuit against DDT on Long Island. Sellers, "Body, Place and the State," 43.

¹⁰⁷ Carson, *Silent Spring*, 296.

anthropocentric.¹⁰⁸ As this dissertation demonstrates, human health was by no means the only form of health to interest environmental activists.

In a history of environmental health in California's Central Valley, Linda Nash wrote that although *Silent Spring* is often remembered as a book about the deleterious effects of pesticides on wildlife, it was actually a book about the "unacknowledged connections" between human health and the environment.

Silent Spring cast issues of health and environment in new terms for many people. Or perhaps these were not new understandings but existing understandings to which Carson gave new sanction and powerful articulation.¹⁰⁹

Nash argued that Carson articulated and popularized an understanding of environmental health that stood in marked contrast to the laboratory-based, abstracted discourse of health then defining the work of the U.S. Public Health Service. *Silent Spring* gave voice to an understanding of the inter-connection of the land, air, animals, water, and people that was understandable and accessible to a broad audience; and moreover, that was borne out by scientific research in multiple disciplines. It also recognized individuals as legitimate reporters of their own health experiences and environmental observations.

Christopher Sellers has provided the most extensive analysis of these "existing understandings". Sellers has recently argued at length that modern environmentalism arose from the alienation produced by the post-WWII suburban lifestyle, an alienation which arose from the home rather than the workplace. The irony of the 1950s suburb, as we have seen, was that it promised a more natural lifestyle, yet itself depended upon the destruction and exploitation of the natural world. Sellers argued that *Silent Spring* found such a wide readership because it gave

¹⁰⁸ Foreman, *Confessions of an Eco-Warrior* (New York: Harmony Books, 1991), 196.

¹⁰⁹ Nash, *Inescapable Ecologies*, 156.

expression to the experiences of these communities on the front lines of environmental degradation.

Silent Spring was thus the record of a conflicting set of interests and experiences. Carson's network of correspondents and peers attests to the breadth of her influences: physicians, wildlife biologists, organic gardeners, and bird conservationists, amongst many others, each of whom had a particular window onto the intersection of human and ecological bodies. Yet while Carson successfully wove together these various perspectives, she ultimately approached the question of pesticide and chemical exposure through a suburban, middle class lens. She focused on cancer and chronic disease rather than infectious disease; she frequently wrote explicitly of the interests taken by suburbanites in the "pleasures" of their pastoral abode; and she made little mention of the hazards posed by factory work.¹¹⁰

Carson and *Silent Spring* only represented a fraction of contemporary thinking about the environment. Written too early to embrace the budding politics of the student, civil rights, and women's movements that flourished in the late 1960s, *Silent Spring* also eschewed earlier traditions of American radicalism. Rather, the book expressed a fundamentally middle-class and reformist perspective, one certainly concerned with the planet as a whole, but also committed to the preservation of private property rights. Carson cast health as a matter of personal choice and personal boundaries, and argued strenuously for the consumer's "right-to-know" what they were eating and using in their homes. This emphasis on the consumer goes a long way towards explaining *Silent Spring*'s lasting popularity; Carson's message has translated well into the politics of the late twentieth and early twenty-first century.

Although *Silent Spring* helped transform the consciousness of many Americans, and to give some reasonable cause to take political action, it was not the epochal volume which many of

¹¹⁰ Sellers, *Crabgrass Crucible*, 256-257.

its commentators have made it into. Rather, the book mattered more on a structural level than for what it focused on or the solutions it provided. By developing an ecological and anecdotal discourse of health and the environment, and applying this holistic and integrative discourse to a problem already troubling a broad segment of the population, the book facilitated a broader politics of health, one in which health could be applied to nonhuman aspects of the environment. As this dissertation demonstrates, the health of humans was by no means the only form of health to interest environmental activists.

Chapter II

Friends of the Earth and the Health of the Environment, 1969-1984

“She removed a veil that had concealed from me, before that, what the life force consists of, and how interrelated are all of us who share in it. For the first time I began to understand that some of the essential building blocks of life were the same in people as they were in the lesser creatures people decided to kill with poison.”¹¹¹

- David Brower on Rachel Carson

In 1971, Friends of the Earth (FOE), along with the Sierra Club and Environmental Action, wrote a joint letter to Senator Warren Magnuson, then-Chairman of the Senate Subcommittee on Labor, Health, Education and Welfare. The letter urged the Subcommittee to approve full funding of a program for the early detection and treatment of children’s poisoning from lead-based paint. The organizations explained their intervention on this question of public health,

As conservation organizations we have decried the damage being done to the environment by lead pollution of our air, soil, water, and food supplies, but there is another, equally as serious, form of lead pollution which is directly affecting thousands of children. The environment in this case is the ghetto and the pollution source is lead-based paint.¹¹²

The letter drew on a century of reform efforts aimed at the threats posed to human health by pollution in high density urban areas and occupational hazards posed by factory and farm labor. From the Progressive Era reformism of Jane Addams and Alice Hamilton to the mid-century activism of the Oil, Chemical and Atomic Workers and the United Farm Workers,

¹¹¹David Ross Brower, *For Earth’s Sake: The Life and Times of David Brower* (Gibbs Smith, 1990), 214.

¹¹² Friends of the Earth et al, to Warren Magnuson, July 9, 1971. Carton 35, Folder 23, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

middle class professionals and labor unions alike fought to protect the health of socio-economically vulnerable human populations from hazards in the environment.¹¹³ The letter was also informed by post-WWII grassroots attempts to counter the environmental effects of suburbanization: smog, the destruction of open space, and groundwater pollution caused by phosphate detergents.¹¹⁴

Equally, the letter embodied the different set of possibilities for environmental politics which emerged in the wake of the first Earth Day. On April 22, 1970, upwards of twenty million Americans participated in a wide range of environmental events: university teach-ins, rallies in front of government buildings and corporate headquarters, and acts of ecotage.¹¹⁵ Although the enormity of the event diluted its message in some quarters, by and large the message was revolutionary. Speakers across the nation argued for a fundamental revolution in consciousness towards the environment, and indicted capitalism for the degradation of humans and their planet. In contrast to the rights and identity-based discourse of much 1960s leftist politics, Earth Day rhetoric was more holistic, connecting the protection of the whole planet with that of human society.¹¹⁶

Although monumental in scale, Earth Day was neither the birth of a new movement nor, as has frequently been claimed, the replacement of an older concern with wilderness protection

¹¹³ Scott Hamilton Dewey, "Working for the Environment: Organized Labor and the Origins of Environmentalism in the United States, 1948-1970," *Environmental History* 3 (1998); Chad Montrie, "Expedient Environmentalism: Opposition to Coal Surface Mining in Appalachia and the United Mine Workers of America, 1945-1977," *Environmental History* 5 (January 2000); Sellers, *Hazards of the Job*.

¹¹⁴ Scott Hamilton Dewey, *Don't Breathe the Air: Air Pollution and U.S. Environmental Politics, 1945-1970* (College Station, TX: Texas A&M University Press, 2000); Rome, *The Bulldozer in the Countryside*.

¹¹⁵ A neologism combining "ecological" and "sabotage", ecotage refers to deliberate acts of property destruction performed against perpetrators of environmental harm. One example of ecotage is pouring sugar into the gasoline tank of a bulldozer being used for deforestation.

¹¹⁶ For more on the rights versus holism aspect of Earth Day, see Adam Rome, "'Give Earth A Chance': The Environmental Movement and the Sixties," *The Journal of American History* 90 (2003), and Turner. *The Promise of Wilderness*, 97.

with “new” human health and welfare issues.¹¹⁷ In the first instance, too many people, with fundamentally divergent political convictions and lifestyles, were engaged in the event for anything but a bland “save the environment” consensus to have emerged. In the second case, the 1970s and 1980s witnessed a resurgence of wilderness protection campaigns, within both established conservation organizations and newer wilderness “fundamentalists” like Earth First!.¹¹⁸ Moreover, the linkage of human health with environmental degradation was not new: Progressive Era social reformers, labor unions, and suburban housewife activists had politicized that connection well before April 22, 1970.¹¹⁹

Earth Day was significant for other reasons. First, it marked the first explicit articulation of an environmental “movement” by the participants themselves.¹²⁰ Second, this self-identification generated momentum for lobbying programs within established and new organizations alike. Friends of the Earth, the Wilderness Society, Environmental Action, Sierra Club, and others sent lobbyists, many of whom had never been to Washington, D.C., into the halls of Congress. These lobbyists met regularly with one another, often in the FOE office, to coordinate strategy; this coordination paid off repeatedly, from the passage of the Clean Air Act in 1970 to the defeat of the SST in 1971. Moreover, it fostered solidarity amongst organizations in the Capitol; as Doug Scott, Earth Day organizer and subsequent lobbyist for the Wilderness Society remembered, D.C. was “a pretty small universe, and a huge amount of how we worked together was in small close fought battles on Capitol Hill where we had our backs to the wall. We built really strong comradeship out of that.”¹²¹ Third, and most significantly for this

¹¹⁷ For differing interpretations on the significance of Earth Day for American environmental politics, see Robert Gottlieb, “Beyond NEPA and Earth Day: Reconstructing the Past and Envisioning a Future for Environmentalism”, *Environmental History Review* 19 (1995); Rome, “Give Earth A Chance”; Turner, *The Promise of Wilderness*.

¹¹⁸ Turner, *The Promise of Wilderness*.

¹¹⁹ Gottlieb, *Forcing the Spring*.

¹²⁰ Rome, “Give Earth A Chance”, 550.

¹²¹ Rome, “The Genius of Earth Day,” 200. Telephone interview with Doug Scott, February 8, 2012.

dissertation, Earth Day was the platform and the inspiration for the articulation of a planetary-scale imagination of health (and disease). Earth Day drew together the concerns of the previous decades with how to ensure the physical and moral survival of humanity in the face of atomic warfare and the American military-industrial complex with a *Silent Spring*-inspired understanding of the inter-connection of all life forms. The environmental discourse that emerged employed holistic, life-based, and planetary terms, linked participatory democracy with ecology, and ultimately relied upon health as a metaphor for assessing the success of this linkage.

The letter to Magnuson drew upon the history of public health reform and labor organizing, as well as the energy and rhetoric of Earth Day, to voice an expansive perspective on the relationship between human bodies and their environment. Deeply indebted to Rachel Carson, this perspective framed the relationship between human populations and their environment symbiotically. One part might evidence harm and require remediation more immediately; however, harm to one part meant harm to the entire system. It redefined “environment” to include cities, and in particular, their poor and marginalized communities; it laid claim to issues, such as lead poisoning and its remediation, formerly the province of public health, occupational health, and city planning; and it framed these questions as matters of economics, asking the state to compare the long-term consequences of continued poisoning versus immediate remediation. Unlike Carson, however, the organizations’ approach was pragmatic rather than moral, framing disproportionate health impacts as an economic issue, not one of rights or ethical responsibilities.

The most significant aspect of their appeal lay in the letter’s conclusion. “The ultimate result of any form of pollution is that it has a debilitating and even lethal effect on a life-support

system, and the earth's environment, all of it, is our life-support system." This idea of earth as a life-support system cast the dependency of humans on the ecosphere into relief. Although lead poisoning took its most visible toll in the lives of children, it just as profoundly affected the firmament which made all life, human or otherwise, possible. The letter to Magnuson made an assertive case for why a problem seemingly under the purview of public health should properly be seen as environmental.

Eleven years later, one year in to Ronald Reagan's first term as president, FOE published a full page ad in *Not Man Apart*, its bi-monthly journal. The ad opened provocatively: "Our President is taking apart nearly every institution that protects planetary and human health." It surveyed Reagan's appointees: former employees of the steel and mining industries, Louisiana Pacific Railroad Company, and lobbying corporations. It blamed Reagan for dismantling institutions that "had promise for preserving the health of the planet, of human beings, of future generations, and of the land, air, and water," and urged readers to inform Reagan that "he may *not* trade away America's future."¹²²

By 1982, the conceptual framework of the Magnuson letter had reached fruition. Rhetorically, at least, FOE saw no effective difference between the health of the planet and its present and future inhabitants. An insult to one was an insult to all others.

Friends of the Earth has received little scholarly attention. Apart from brief sections in longer manuscripts on the Sierra Club or the environmental movement,¹²³ FOE has largely been

¹²² Friends of the Earth, "Ronald Reagan, the Health of Humans & the Natural World", *Not Man Apart*, April 1982, 16-17.

¹²³ Gottlieb, *Forcing the Spring*, 144-48; Thomas Raymond Wellock. *Critical Masses: Opposition to Nuclear Power in California, 1958-1978* (Madison: University of Wisconsin Press, 1998).

considered a bit player in the history of mainstream, “professional” environmental politics. This assumption is incorrect.

FOE has several crucial things to tell us about American environmental politics in the late twentieth century. First, as Chapter 3 will make clear, the organization served as a bridge, both philosophically and organizationally, between the conservation politics of the Sierra Club and the wilderness fundamentalism of Earth First! (1981). Second, through its widely read journal *Not Man Apart*, FOE served as clearinghouse and sounding board for a broad swath of environmental ideas that did not receive sustained attention elsewhere. Third, an analysis of its lobbying programs demonstrates that despite increasing corporatization and professionalization within the large D.C.-based environmental organizations as the 1970s ended, the sustaining energy and ultimate successes within environmental politics occurred at the grassroots level. Fourth, the evolution of FOE founder David Brower’s environmental philosophy illustrates how one contemporary environmental discourse can equate the health of the person with that of the planet, by arguing that the health of the planet can be achieved through individual consumer choices.

In its long first decade, from 1969 to 1984, Friends of the Earth was an organization that had a hand in everything. For that reason, this chapter does not provide a comprehensive history of the organization and all of its campaigns, but rather examines its remarkable fluidity and openness, its collaboration with a broad and shifting coalition of other activists, and how through these coalitions a holistic language of health heavily indebted to Rachel Carson was given political expression. The chapter traces the cross-fertilization between physicists, philosophers, ecologists, and activists that occurred through FOE in the 1970s, and gave shape to a particular vision of health, a vision that would allow FOE, by 1982, to speak so easily about

the “health of the planet”. The chapter also examines a fundamental instability within FOE’s ideology, an instability which, by the end of the 1970s, both created a vision of the “health of the planet” and encouraged its pursuit through individual consumer choices. FOE illuminates how the 1970s were formative and transformative years for mainstream environmental politics, an era that would be closed off as each of the major environmental organizations were re-organized into “staff-based, policy-system oriented organizations” in the early 80s.¹²⁴

The Sierra Club, Health and the Wilderness

The story of Friends of the Earth begins with the Sierra Club. Founded in California in 1892 by naturalist John Muir, the Club fused Muir’s campaign to establish a Yosemite National Park with the mountaineering pursuits of many of its first members.¹²⁵ Uniting these divergent missions was Muir’s heady, romantic vision of the wilderness as, “... a pristine and unpeopled landscape that captured what was most sacred in this world.”¹²⁶ Yet as historian Michael Cohen has documented, Muir and his Club dreamt of a bifurcated California landscape: half wild, half developed. While committed to the continued economic and cultural development of California, they were also interested in preserving much of the natural landscape, the Sierra Nevada mountain range in particular, from this onslaught.¹²⁷ They were most concerned with the booming logging and mining industries that had already taken a profound toll on the Sierra foothills at the turn of the twentieth century.

¹²⁴ Gottlieb, “Beyond NEPA and Earth Day,” 10. For a thorough account of this process of professionalization and the resulting “Gang of Ten”, see Gottlieb, *Forcing the Spring*, 117-161.

¹²⁵ For thorough accounts of Muir’s philosophy and legacy, see Cohen, *The History of the Sierra Club*; Fox, *John Muir and His Legacy*.

¹²⁶ James Morton Turner, “The Promise of Wilderness: A History of American Environmental Politics, 1964 – 1994” (PhD diss., Princeton University, 2004), 19.

¹²⁷ Cohen, *History of the Sierra Club*, 12.

For the members of the Sierra Club, as well as for many other turn of the century professionals, wilderness was a place to retreat from the ill health and dis-ease brought on by the city. As Cohen has observed, “Most active members of the Club had joined...because they were drawn to the healthful aspects of recreation.”¹²⁸ These men saw wilderness as a place that restored health, both physically and spiritually; a necessary antidote to the pressures of increasing industrialization. In 1918, the Club’s monthly *Bulletin* argued that the national parks be set apart for the “use, observation, health, and pleasure of the people.”¹²⁹

By the early twentieth century, Americans were entering the wilderness in increasing numbers, as the affordability of Henry Ford’s Model T made the weekend motoring trip a reality. Historian James Morton Turner argued that a common sentiment motivated this return to the outdoors; namely, a desire to embrace the “rejuvenating power of the mountains”, and a “suspicion of the ill-health pervading the growing metropolises.”¹³⁰ Industrialization went hand in hand with this popular egress into the wild. As an expanding urban economy afforded a growing sector of the population the means and leisure time to retreat into the wilderness, so did the smoke, pollution, and crowding linked to this economic expansion seem to these men and women precisely the ills from which an escape was needed.

This complicated relationship between urbanization, industrialization, wilderness and recreation informed the Sierra Club’s activities over its first half century. The Club’s iconic and unsuccessful battle against the construction of the Hetch Hetchy Dam in Yosemite Park in 1913, the formation of the Save the Redwoods League in 1920: these activities and others evidenced the ongoing encounter between those who would preserve the California wilderness apart from

¹²⁸ Ibid, 19.

¹²⁹ Ibid, 45.

¹³⁰ James Morton Turner, “‘Woodcraft to Leave No Trace:’ Wilderness, Consumerism, and Environmentalism in Twentieth Century America,” *Environmental History* 7 (2002), 464.

man; those who advocated that the best way to protect wilderness was to welcome man into it as frequently and thoroughly as possible; and those who felt that wilderness was best put under the economic management of the federal government.

David Brower, a Berkeley native, joined the Sierra Club in 1933, and soon became an active member, joining the editorial board of the *Sierra Club Bulletin* in 1935, and the Board of Directors in 1941. The first volume of his autobiography, *For Earth's Sake: The Life and Times of David Brower* (1990), dedicated significant time to chronicling Brower's hiking and mountaineering adventures with the Club. Recounting a particularly memorable summer in the Sierra Nevada Mountains, Brower wrote,

Months before, while deep in the plans for this summer of Sierra knap-sacking, we had asked ourselves how long we might climb before the sport would pall on us... Was ten weeks, then, the limit? Could the Sierra offer only a transitory enjoyment, merely a temporary escape?... The final answer must be an individual one... as I rode down, down, and out into the hot valley, my individual answer took form with pangs of regret. By the time I reached Berkeley the answer was certain: This person was not coming home – he had just left it!¹³¹

Brower's chronicles of his Club mountaineering days are strikingly resonant with Muir's depictions of his time in the wilderness: fusing a desire to define the self through the extremity and purity of wilderness encounters with a Romantic sense of belonging in the wild.

Brower decried the onslaught of industrial civilization as the principal reason for the disappearance and desecration of the California landscape. By 1947 he had begun to develop a language of irreversible destruction, self-restraint, and intergenerational debt and responsibility that would resound throughout his entire career. In the forward to the 1947 edition of the *Sierra Club Member's Handbook*, Brower took a survey of humanity's toll upon the earth, concluding that "we can see that people of one generation's time... have "developed" (that is, have used up)

¹³¹ David Brower, *For Earth's Sake: The Life and Times of David Brower* (Salt Lake City: Peregrine Smith Books, 1990), 39.

more of the earth's resources than all preceding generations of all known civilizations...a debt to the past becomes a debt to the future."¹³² In the coming years, Brower began to portray the preservation of wilderness as a marker of the personal existential integrity of his audience, "The conservationist force, I submit, is not a pressure group. It merely demonstrates the pressure of conscience, of innate knowledge that there are certain things we may not ethically do to the only world we will ever have, and to the strictly rationed resource of natural beauty which still exists in the world."¹³³

In a significant organizational move, the Club appointed Brower to be its first executive director in 1952. Heretofore, the Club had been an entirely volunteer organization. Brower's new duties included implementing Board directives, building an educated membership, liaising with other conservation organizations, and speaking on a national platform for Club policy. The move was seen as the best way to confront the incoming Eisenhower administration, which the Club viewed as particularly threatening to parks and wilderness.¹³⁴ Following this new mission, the Club launched itself into park and wilderness issues of national scope, such as the construction of a dam in Colorado's Dinosaur National Monument (1953). In these campaigns, largely helmed by Brower, the Club reframed itself as a crusading, "wilderness at all costs" organization.

Brower's ascent to executive director coincided with a resurgence of Malthusianism in popular and academic writing. Bestselling books such as Franklin Osborn's *Our Plundered Planet* (1948) and William Vogt's *Road to Survival* (1948) revived Malthusian concerns to argue for mandatory population control. Both Osborn and Vogt argued that unchecked population growth would exert irreversible damage on the ecological limits of the planet. This neo-

¹³² David Brower, "Forward", reprinted in Brower, *For Earth's Sake*, 253-255.

¹³³ David Brower, "Wildlands in Our Civilization," *Sierra Club Bulletin* (1957).

¹³⁴ Cohen, *History of the Sierra Club*, 151.

Malthusianism resonated with Brower's politics - in particular, his increasing preoccupation with limits to economic and demographic growth - and he endeavored to introduce these thinkers to the Club through its biennial Wilderness Conferences.¹³⁵ The sixth Conference, in 1959, included presentations by ecologist Raymond Cowles on "Population Pressure and Natural Resources", in which he referred to areas free of mankind as "uninfected areas", and biochemist Daniel Luten on "How Dense Can People Be?" To a large extent, these ideas about the necessity of curbing population growth and economic expansion found a willing audience in the Sierra Club of the late 1950s, many of whose members believed that California's rapidly growing population was placing inordinate pressure on its wilderness areas.¹³⁶ Immediately following the Conference, the Club passed a resolution warning of the threat of overpopulation, and urging the government to give it immediate attention.¹³⁷

In a 1957 speech before the Izaak Walton League¹³⁸ entitled "Conservation in the Space Age: The Public's Stake in the Public Lands", Brower brought together his concerns with population growth and the limits of natural resources with an intense skepticism about the potential for the scientist to solve these problems. For Brower, the exploration of space, believed by many to represent the expansion of humanity's horizons and possibilities, necessitated renewed attention to the precarious state of the "inner space" of America's wilderness. Space exploration did not represent an expansion of earthly resources, but rather a sad reflection of their disappearance. Brower championed instead the ideal of prudent management, the "husbanding", of limited resources, as well as the need for "self-restraint". "I submit that the

¹³⁵ The Sierra Club Biennial Wilderness Conferences began in April of 1949. The Conference was intended to bring Club members together with parks and wilderness agency representatives, industry, and academics, to discuss the present and future usage of California's wilderness.

¹³⁶ Thomas Wellock, "The Battle for Bodega Bay: The Sierra Club and Nuclear Power, 1958 - 1964," *California History* 71 (1992), 196.

¹³⁷ Robertson, *The Malthusian Moment*, 122.

¹³⁸ Founded in 1922, the Izaak Walton League is one of the United States' earliest conservation organizations. Many of its first members were avid hunters and fishers.

major question of conservation and survival is this: How long can we keep worshipping Growth?”¹³⁹ Developing a theme that would remain constant throughout his career, he emphasized the burden that his generation’s decisions placed on the next. Ultimately, however, for Brower the preservation of public lands functioned as an indication of America’s character: “We do need our public lands as a measure of our restraint, our self-control.” Wilderness showed man a part of himself that he had not yet reckoned with; namely, “the chromosome and its genes”. He concluded with the warning, “We had better not cut ourselves off from the evolutionary force that put us on this planet. For all our dreams of the space age, man has not yet served the evolutionary apprenticeship that could keep him on Mars.”

Brower’s environmental philosophy began from the premise that each individual creature, whether human, caterpillar, or tree, was connected to all others through a shared genetic code. This connection was equal parts historical and mystical: the “evolutionary force that put us on this planet” was a force to which humans should properly “apprentice” themselves. Brower indicted reckless economic and population growth for destroying the environment, as well as for severing human consciousness of our species’ connection with all others. Ultimately, however, he placed the responsibility for action on the conscience of individuals. Instead of calling for systemic reform or revolution, as did other American critics of the capitalist status quo in the 1950s and 60s, Brower placed the burden of humanity’s history squarely on the individual. This tension in his thought, between blaming systematic forces for environmental destruction and citing individual action as the solution, evidenced a philosophical slippage, in which the individual human stood in for the whole species. By the close of the 1970s, as we will see, this

¹³⁹ David Brower, “Conservation in the Space Age”, May 14, 1957, Carton 9, Folder 16, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

slippage expand in scale, enabling the health of the individual to stand in for, and indeed be a litmus test for, the health of the planet as a whole.

Brower felt the weight of humanity's presence on earth intimately, romantically, and ultimately, spiritually. In speaking of man's "evolutionary apprenticeship", he evoked a biological history in the making, a history which had not yet revealed itself. He leaned heavily on the words of poets, Robinson Jeffers in particular, and those whom he thought of as poets, such as anthropologist Loren Eiseley. In his writings and public talks, he cultivated an aesthetic of immediacy and mourning which placed his audience in a position of moral responsibility for the ills perpetuated by the human species and the necessity of acting immediately to halt further ills. "Malthus was not wrong, not was his timing; he erred only in failing to foresee that humanity would be perfectly willing to mine its renewable resources as well as those that were not renewable in order to feed itself."¹⁴⁰ For Brower, the purity of nature had already been lost; its vestiges, while demanding preservation and reverence, occasioned in him a deep sadness and regret.

Brower was much more at home amongst the poets and philosophers than with scientists and politicians; as a former FOE staffer phrased it, Brower "became an aesthetic philosopher about nature."¹⁴¹ He professed a deep and growing distrust of science that he linked to the chemical industry's response to *Silent Spring*, and of government that he connected to Eisenhower's denial of his U-2 spy missions over the Soviet Union.¹⁴² Despite this mistrust of science *Silent Spring* "made a tremendous impression" on Brower.¹⁴³ As he later wrote,

She removed a veil that had concealed from me, before that, what the life force consists of, and how interrelated are all of us who share in it. For the first time I began to

¹⁴⁰ Brower, *For Earth's Sake*, 274.

¹⁴¹ Correspondence with Joseph Browder, February 2, 2012.

¹⁴² Brower, *For Earth's Sake*, 214.

¹⁴³ Sierra Club member Alex Hildebrand as quoted in Cohen, *History of the Sierra Club*, 287.

understand that some of the essential building blocks of life were the same in people as they were in the lesser creatures people decided to kill with poison.¹⁴⁴

He was sufficiently impressed to invite Carson to present at the Club's 1963 Wilderness Conference.¹⁴⁵

It took nuclear fission to split Brower from the Club. In 1963, California's Pacific Gas and Electric Company (PG&E) purchased land in the Nipomo Dunes for its proposed Diablo Canyon nuclear plant.¹⁴⁶ The Sierra Club was split on this proposition. Certain elements of the membership were in favor of quietly negotiating with the utility, whereas others, including Brower, were adamantly opposed to constructing a power plant in an area of recreational and scenic value. The next five years in the Club were fraught with argument over economic development versus preservation, what constituted scenic beauty, and whether the Club was an organization that fought publicly or behind closed doors.

In the 1950s, Brower had been in favor of nuclear power, seeing it as an environmentally safe alternative to dams and fossil fuel power plants. Yet over the course of the Club's battle with PG&E, he came to decry the thermal pollution released by reactors, as well as the spur to growth engendered by the construction of new power plants. In all of these arguments, he was late to the antinuclear table. Throughout the 1950s, scientists and local communities alike rallied against the threat of radioactive fallout from nuclear weapons testing. Countering the repeated claims of the Atomic Energy Commission to the contrary, scientists in the early 1950s had demonstrated that strontium-90 and iodine-131, byproducts of above-ground weapons testing,

¹⁴⁴Brower, *For Earth's Sake*, 214.

¹⁴⁵ Due to her advanced illness, Carson's editor Paul Brooks spoke in her stead, on "Wilderness in Western Culture."

¹⁴⁶ My account here will be short. For a full and comprehensive history of the Sierra Club and Brower's ouster, please see Cohen, *History of the Sierra Club* and Wellock, *Critical Masses*.

were being absorbed in alarming amounts, particularly by children, through the food supply.¹⁴⁷ Protest came from scientists (Barry Commoner), politicians (Adlai Stevenson), and mothers (Women Strike for Peace). Above-ground nuclear testing was banned in 1963, with passage of the Nuclear Atmospheric Test Ban Treaty.

Yet development of the “peaceful atom” proceeded apace through the 1960s. The cost of nuclear power dropped significantly; the Fermi fast breeder was developed; and Project Plowshare spread the atomic gospel internationally.¹⁴⁸ Within the U.S., community groups opposed nuclear plants on several grounds, most prominently thermal pollution, low-level radiation emissions, and poor plant safety records.¹⁴⁹ Nuclear opponents emphasized the intense secrecy and curtailment of civil liberties which the nuclear bureaucracy entailed. By Brower’s entrance into the anti-nuclear fray, there was a wide range of strategies and arguments that he could draw upon to oppose Diablo Canyon.

In leading the anti-Diablo faction within the Club, Brower took ever more extreme positions, including a full-page ad in the *New York Times* entitled “Earth National Park”, in which he declared the start of a new international publishing program dedicated to advancing the message that “the entire planet must be viewed as a kind of conservation district within the Universe.”¹⁵⁰ The ad moved seamlessly from the local (Diablo Canyon) to the planetary. It framed an environmental problem of seemingly specific scope as symptomatic of a broader global problem.

¹⁴⁷ Egan, *Barry Commoner*, 51.

¹⁴⁸ Project Plowshare was a joint program between the Atomic Energy Commission and the Lawrence Livermore National Laboratory. Plowshare, begun in 1953, was intended to develop peaceful uses for the atom bomb: for example, excavating canals, generating heat for electricity, and stimulating oil and gas production. Scott Kaufman, *Project Plowshare: The Peaceful Use of Nuclear Explosives in Cold War America* (Ithaca: Cornell University Press, 2013).

¹⁴⁹ Gottlieb, *Forcing the Spring*, 177.

¹⁵⁰ David Brower, “Earth National Park,” *New York Times*, January 14, 1969.

Brower's actions resulted in his purge from the Club, in a forced resignation at an emotional Board of Directors meeting in May 1969. Yet, as historian Thomas Wellock noted, the fireworks surrounding Brower's departure obscured the emergence, for Brower as well as many in the Sierra Club, of a radically new perspective on the state of nature, one which infused an ecological sensibility with ethical imperatives. As Wellock argued,

Where previously non-materialist values and the search for a better quality-of-life centered on scenic and outdoor amenities, after Diablo Canyon protecting the ecosphere and human life from the depredations of modern society was paramount... The battle over Diablo Canyon symbolized the fusing of two distinct traditions – wilderness preservation and public health movements seeking to improve urban industrial life under one broad environmental perspective.¹⁵¹

Not only had aesthetics and recreation dropped aside as antiquated and one-dimensional arguments for protecting and preserving wilderness. For the Sierra Club, the Diablo Canyon fight laid bare Carson's vision of the interconnection of humans with the planet, and encouraged the conviction that unbridled growth generated pollution that put both at risk. From this ethical and intellectual grounding, strikingly coincident with Earth Day, sprang the Friends of the Earth.

¹⁵¹ Wellock, *Critical Masses*, 69.

Friends of the Earth

In his resignation speech, Brower announced the formation of a new organization, one which, he proclaimed, would be international, aggressive, non-compromising, and publication-driven.¹⁵² Rarely subtle, he spoke of how “we have to develop, and soon, a deeper devotion to conservation as an ethic and conscience in everything we do...we cannot go on fiddling while the earth’s wild places burn in the fires of our undisciplined technology.” The time was imperative for saving the last remaining vestiges of wilderness, home to the planet’s “life force”. Ever dramatic, he set the stakes for FOE’s tactics, “Nice Nelly will never make it.”¹⁵³

While at the Sierra Club, Brower had attempted to internationalize the organization by opening a branch office in London in 1969. The office was quickly closed down, and cited as one of the many fiscal “irregularities” necessitating Brower’s departure. Although FOE would not open an overseas office until the following year, Brower’s language in his resignation speech was a pointed rejoinder to those who had deprecated his initial internationalist impulse. More importantly, making FOE international gave Brower the justification to frame environmental issues in a planetary context.

Over the next few months, a small group of Brower’s friends and colleagues, many of whom had also left the Sierra Club, met to sketch out the contours of this new organization.¹⁵⁴ Friends of the Earth was officially incorporated in New York City on July 11, 1969, in the law offices of former Sierra Club member David Sive. FOE opened its headquarters in the San Francisco office of the Gossage ad agency, with executive director Gary A. Soucie, previously

¹⁵² Thomas Turner, “Friends of the Earth: The First Sixteen Years.” (San Francisco: Earth Island Institute, 1986), 1.

¹⁵³ Brower resignation speech, reprinted in Turner, “The First Sixteen Years”.

¹⁵⁴ Brower took much of the club’s experienced senior staff with him, including eastern representative Gary Soucie, George Alderson, Fred Eissler, Martin Litton, Daniel Luten, and David Pesonen.

the Sierra Club's eastern representative, legislative director George Alderson, Tom Turner and Hugh Nash, Brower's administrative assistants from the Sierra Club, and, of course, Brower as president.¹⁵⁵

That September, Brower, along with Max Linn, an information officer for the Sandia Corporation,¹⁵⁶ held a press conference to announce the birth of not one, but three organizations: Friends of the Earth, the John Muir Institute for Environmental Studies and the League of Conservation Voters (LCV). As Brower stated the matter, "The earth needs a number of organizations to fight the disease that now threatens the planet: 'Cirrhosis of the environment.'"¹⁵⁷ The Institute, to be run by Linn, was a research and education arm for environmental activists. According to Turner, "Linn felt that environmental activists needed better data to back up their arguments."¹⁵⁸ For primarily interpersonal reasons between Linn and Brower, the Institute was to be short-lived. The LCV, however, was not.

The League was the brainchild of Marion Edey, who, as a legislative assistant for Congressman Lester Wolff (D – NY), wrote Brower in May of 1969 with a novel idea "for making conservationists more effective." She suggested that "conservationists start a frankly political organization that is in some ways analogous to a political party, although it does not run its own candidates for office." She felt that conservation organizations spent too much time trying to influence people already in office, rather than capitalizing on public opinion to "help certain people stay in office and get other people out." Because of this mis-spent energy, Edey argued, conservationists could not influence Congresspeople who were not already receptive to

¹⁵⁵ Howard Gossage was a close friend of Brower. Jerry Mander, a partner in the firm, had collaborated with Brower on many of the Sierra Club's full-page ads including "Earth National Park". He would continue to help FOE in this capacity for the next decade.

¹⁵⁶ The Sandia Corporation operates Sandia National Laboratories, which began in 1945 as a design and testing facility for nuclear weapons.

¹⁵⁷ Brower as quoted in Lawrence E. Davies, "Naturalists Get a Political Arm," *New York Times*, September 17, 1969, 21.

¹⁵⁸ Turner, "The First Sixteen Years", 1.

their message. Edey conceived of an organization that would actively raise money and lobby across party lines. Its strength would come from gathering the resources of conservationists across the country to support regional battles where they might otherwise lack sufficient resources.¹⁵⁹

Shortly thereafter Alderson returned to D.C. to register as a lobbyist. From his apartment on Capitol Hill, he ran FOE's lobbying operations and Edey began the LCV.¹⁶⁰ Gary Soucie moved to New York City to open FOE's first branch office. The San Francisco office began hiring staff and pursuing an aggressive publications program, including *Not Man Apart*. These three offices, with their fairly distinct duties, would remain the foci of FOE in the United States until the organization's dramatic makeover in 1984.

To construct its agenda, FOE looked to the policies of established conservation organizations. As Soucie had argued to Brower in the summer of 1969,

Because FOE is to be an action organization, it will be constantly beset with inquiries about "how it stands" on this or that...I would suggest that, even prior to making many waves and attracting too much attention to itself, FOE establish a number of small, very select policy committees to draft position papers on a number of conservation issues.¹⁶¹

He suggested a thorough list of "conservation policy" issues, ranging from population and pollution to recreation and transportation, on which FOE should solicit the help of the "right people" in creating "policy from scratch." Attached to his letter were the Sierra Club's Wildlife and Roads and Freeways policies.

¹⁵⁹ Marion Edey to David Brower, May 7, 1969. Received from George Alderson. Because of the Corrupt Practices Act, which prohibited corporations from endorsing candidates for public office, the League was severed from FOE soon after its founding.

¹⁶⁰ The LCV shared space with FOE even after their formal severance. For an excellent, and to my knowledge, the only available account of the LCV's first years, see Gottlieb, *Forcing the Spring*, 146-147.

¹⁶¹ Gary Soucie to David Brower, "RE: Friends of the Earth", July 9, 1969. Carton 68, Folder 45, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

In addition to the Sierra Club, FOE solicited the National Wildlife Federation for its policies on wildlife and wilderness, pollution, pesticides, population, endangered species, “energy-transportation-oils-minerals-mining”, and education. It also reached out to the Environmental Clearinghouse for help in navigating pesticides.¹⁶²

However, FOE’s proposed policy position committees far surpassed the agendas of existing environmental lobbying organizations. This breadth was consistent with FOE’s mission, as Alderson described it, “to do something that was not being done by the existing organizations towards promoting a broad view of human beings in the context of land, water, air and other organisms.”¹⁶³ FOE aspired to be a “big picture organization”, capable of translating this “broad view” of human beings in their environment into law and policy in the U.S. and other countries. This big picture was captured in FOE’s motto, “Committed to the preservation, restoration, and rational use of the ecosphere.” According to Alderson, the conservation movement in the United States had, prior to the first Earth Day in April 1970, addressed individual problems of destruction of the land and different forms of pollution on a piecemeal basis, rather than attending to “the problem of the earth as a whole and the accumulation of these different problems”.

Alderson saw FOE’s purpose as filling in the gaps, rather than duplicating, the work of other organizations. To this end, FOE solicited the help of a broad array of scientific, legal, and philosophical experts, mainly men with professional pedigrees, many of whom also had been involved in the Sierra Club under Brower’s executive directorship.¹⁶⁴ The top two committees,

¹⁶² Joan McIntyre to National Wildlife Federation, 1969, Carton 68, Folder 45, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley. Environmental Clearinghouse Memorandum on pesticides, July 1969. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

¹⁶³ Telephone interview with George Alderson, February 3, 2012.

¹⁶⁴ Friends of the Earth, “Suggested Policy Position Committees and Members”, Carton 68, Folder 45, David Ross Brower Papers, BANC MSS 79/9c, The Bancroft Library, University of California, Berkeley.

population and pesticides, are illustrative in this respect: they reached out to biologist Paul R. Ehrlich, author of *The Population Bomb* (1968), ecologist Garrett Hardin, author of *The Tragedy of the Commons* (1968), Stewart Ogilvy, former editor of *Fortune* magazine and a founding member of Zero Population Growth, English professor Frederick Eissler, biologist Charles Wurster, co-founder of the Environmental Defense Fund, and Robert Reisborough, an expert on the effects of pesticides on wildlife.

Once day-to-day operations began, these outside experts were largely relegated to the advisory committee,¹⁶⁵ while a small group of staff hammered out the organization's legislative and lobbying agenda and strategies. Reflecting several years later on how the organization's initial emphasis was decided, Brower remarked that,

The first years were simply I guess an extension of what I'd been doing. The people who wished to serve on the board wished to support what I'd been doing in the Sierra Club already, so that it was a strange situation, where we didn't need to determine policy at that point. It was, if I may put it that way, my policy. What I wanted to do was what our policy was.¹⁶⁶

While Brower's reminiscence may have held true for the composition of the board and advisory committee, it was belied by the events in the D.C. office. As Joseph Browder, who was hired as FOE's conservation director in 1970, described the process, "FOE's initial campaigns and priorities were designed under the direction of Gary Soucie."¹⁶⁷ Browder, formerly a staffer at the National Audubon Society, had met Soucie during his fight in 1968 and 1969 to stop the construction of a jetport in the Florida Everglades. According to Browder, it was Soucie who

¹⁶⁵ FOE's initial advisory council was a blend of the academic and aesthetic, the world renowned and the well connected: Harrison Brown, Charles Callison, Barry Commoner, Norman Cousins, General William H. Draper, Duke Ellington, Paul Ehrlich, Arthur Godfrey, Arlo Guthrie, psychologist Konrad Lorenz, Stephanie Mills, George Plimpton, Eliot Porter, Pete Seeger, C.P. Snow, Gary Snyder, Elvis J. Stahr, Mark Van Doren, Harriet Can Horne, and George Wald. However, there is no record of how long these individuals remained on the board, or what their exact level of involvement was. Indeed, it seems likely that the advisory council was largely a publicity measure in the pages of NMA.

¹⁶⁶Susan Schrepfer, "Environmental activist, publicist, and prophet. Oral History of David R. Brower," (Berkeley: Regional Oral History Office, 1980) 263.

¹⁶⁷ Telephone interview with Joseph Browder, February 6, 2012.

had conceived of FOE's first big campaign, to ban Congressional subsidization of a fleet of 200 commercial supersonic transports.

The fight against the SST was FOE's highest lobbying and legislative priority from 1970 until the transport's Congressional defeat in 1971. The battle had lasting significance for a number of reasons. First, it was successful. Second, it was the "first environmental campaign to oppose a technology application on the basis of concerns about climate impacts and energy efficiency."¹⁶⁸ Congressional opposition to the SST had crossed party lines, largely, as Alderson and Browder recalled, because FOE had managed to highlight the economic implications of environmental issues. Specifically, FOE had emphasized the future economic costs of present-day damage to the stratosphere. Third, it taught FOE how to draw upon the expertise of scientists and economists to make arguments that would appeal to constituencies outside of the environmental community, thereby establishing FOE's reputation as a group willing to reach outside the established confines of environmental arguments and alliances, much like the Environmental Defense Fund and the National Resources Defense Council.

Once the SST campaign was over, the staff wanted to focus on other "cross-interest" issues, which would illustrate how, as Browder phrased it, energy usage intersected with environmental values.¹⁶⁹ Campaigns were begun on nuclear, coal, off-shore oil, energy efficiency and renewable energy. At the same time, the organization became international, with the establishment of Les Amis de la Terre in Paris and FOE UK in London.

To many outside the organization, FOE staff and volunteers typified the "new environmentalist" of the post-Earth Day era. A 1971 profile on Joseph Browder proclaimed,

¹⁶⁸ Ibid

¹⁶⁹ Interview with Browder.

“Browder is a member of a whole new breed, the environmentalists who are replacing the old-line conservationists...the new environmentalists are young, hardnosed, and undiplomatic. They make up in concern for what they lack in scientific training.”¹⁷⁰ When asked to describe the character of the FOE staff, Tom Turner stated, “At its best it is a mix of fairly professional competence with a great deal of idealistic enthusiasm...the thing that binds it all together is various versions of the Brower vision of the earth and the need to say that the way that twentieth century civilized man is going through resources can’t continue.”¹⁷¹

From the Board of Directors to Brower to the volunteers in each branch office, there was a pervasive culture of decentralization and autonomy. Despite its rapidly growing membership and renown, FOE was perpetually under-staffed. As a result, the majority of campaigns were run by individual staffers. Many of the staff embraced this decentralization. As Lorna Salzman, mid-Atlantic field representative from 1975-1984, recalled, “everyone did what they pleased”.¹⁷² As Brower explained it, there was little to no board oversight of the organization’s direction. Rather, he described FOE as a firefighter. “...we aren’t in the driver’s seat. Our problems are made by other people, not by us. We are, in large part, firemen. When the bell rings, whatever’s burning, we’ve got to go and put the fire out as well we can.”¹⁷³

Much like Brower’s environmental philosophy, FOE’s organizational culture of decentralization put a high priority on individual morality and personal commitment. With few stable job opportunities, marginal salaries, and neither substantive nor guaranteed organizational support for specific campaigns, work with FOE was largely sustained by an individual’s commitment to their chosen cause. Tom Turner observed, “Personal conversion became a

¹⁷⁰ Charles Stafford, “Joe Browder: A Political Animal who’s At Home in the Swamp.” *Floridian*, August 22, 1971.

¹⁷¹ Tom Turner, “A Perspective on David Brower and the Sierra Club, 1968-1969,” in *The Sierra Club Nationwide II* (Berkeley: Regional Oral History Office, 1984), 24.

¹⁷² Interview with Lorna Salzman, January 18, 2012. Brooklyn Heights, New York.

¹⁷³ Schrepfer, “Environmental Activist, Publicist, and Prophet”, 265–266.

trademark of FOE's approach."¹⁷⁴ In reality, this meant that many of these individuals, who had spent their time at FOE fundraising, publicizing, and lobbying particular campaigns, left the organization to begin their own ventures.¹⁷⁵

Brower believed that this decentralization and autonomy should continue to characterize the organization as a whole. "In the Washington office, the people who run that office, for the most part, make the policy that Friends of the Earth is going to have as it goes about the various legislative programs there."¹⁷⁶ The D.C. office disagreed. One year in, there was significant internal friction regarding FOE's organization and operation. In a lengthy memo to Soucie in July 1970, Alderson argued that FOE should concentrate on "national matters with international implications", such as "rampant technology, the oceans, and the fur trade."¹⁷⁷ Domestically, he suggested that FOE target regional issues, "where we have the ulterior motive of getting on good terms with local groups that exert political power we want on other, bigger issues." He sketched out an organizational plan of regional field offices staffed by full time experienced field representatives, all of whom would be responsive to the dictates of the executive director.

The field men will undoubtedly have trouble resisting the impulse to get into all the local issues, but if my experience here is any guide, the cooperating groups come to realize that they can't call on me to testify at every hearing in Maryland, and they reserve their requests for the big ones. FOE is going to have to steer a somewhat different course from all the other groups; an essential part of it is not to be swamped by the little waves.¹⁷⁸

For Alderson there was a necessary split between San Francisco and Washington. San Francisco was responsible for administration and publishing; D.C. with lobbying. Alderson demanded sovereignty over lobbying strategy, and expressed frustration with several moments that the San

¹⁷⁴Turner, "A Perspective," 92-93.

¹⁷⁵ For example, Joan McIntyre, an animal rights activist in the San Francisco office, left in late 1971 to start Project Jonah.

¹⁷⁶Schrepfer, "Environmental Activist, Publicist, and Prophet," 265.

¹⁷⁷ Alderson to Soucie, "Project Planning and Long-Range Goals", July 23, 1970. Carton 78, Folder 30, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

¹⁷⁸Ibid, 2.

Francisco office (i.e., Brower) had over-ridden this sovereignty. Arguing that his job was to find “the pressure points for influence” and to “convert the national outcry” that FOE could stimulate into “specific, concrete results”, Alderson stated his terms bluntly: “If FOE’s Washington representation is going to be done from San Francisco, I want out.”¹⁷⁹

He concluded by demanding autonomy for the D.C. office. “Because of the special nature of the Washington office, we can’t operate under central control, aside from the setting of legislative and agency-oriented priorities.”¹⁸⁰ He called for a fully professionalized, hierarchical organization, within which each component had clearly defined responsibilities and chain of command. He had no patience for volunteers, “part-time people”, and “‘good guys’ who automatically know what stand FOE should take.”¹⁸¹

These tensions between local, national, and international priorities would continue to shake the organization over the following decade. Staff in various offices tended to concentrate on their personal causes, which ranged from international save the whale campaigns to local nuclear power struggles. There were numerous quarrels with Brower as well. Many staff, particularly in the D.C. office, took umbrage with the cult of personality which had developed around Brower, his insistence on maintaining an expensive publishing program, and with his leadership demands.¹⁸² By early 1972, these tensions had resulted in the departure of eight key staff members, including Joseph Browder, Louise Dunlap, Brent Blackwelder, and Gary Soucie, and the formation of the Environmental Policy Center (EPC), a lobby, litigation, and research group. Browder was also keen to develop a legislative program based on expertise, a move

¹⁷⁹ Ibid

¹⁸⁰ Ibid, 3.

¹⁸¹ Ibid

¹⁸² James R. Wagner, “Friends of the Earth Staff Members Organize New Environmental Lobby,” *National Journal*, February 5, 1972, Carton 78, Folder 48, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley. Interviews with Joseph Browder and George Alderson.

which Brower felt was too D.C.-centered.¹⁸³ Marion Edey, who was married to Browder at the time, took the LCV with her and placed it under the umbrella of the EPC.¹⁸⁴

Historian Robert Gottlieb has argued that, “FOE never fully resolved the tension between its organizational emphasis and its activist inclinations.”¹⁸⁵ Individual staffers, who believed themselves to be on the ethical and strategic forefront of environmental activism, never fully came to terms with the priorities of the organization as a whole, which funneled the bulk of its financial resources towards publishing and lobbying. Throughout the 1970s, the organization swayed on a national level between Brower’s charismatic management style and a staff-based bureaucratic structure, and on a regional level between iconoclastic campaign leaders and an increasingly demanding D.C. office.

The second half of this chapter turns to FOE’s anti-nuclear and chemical proliferation programs. It examines how, through these campaigns, the organization developed a language to describe the “health of the planet”, and traces the tensions between local and international, individual and planet, which shaped this language and its political expression. For FOE, chemical and nuclear proliferation represented a totalizing threat, a threat that catalyzed the organization to draw upon a global frame of reference. Yet this global frame of reference would remain largely rhetorical and metaphorical, confined to an indictment of the United States as a global aggressor, while the organization’s day-to-day operations drew the greatest momentum from engaging with local and regional politics. Largely the work of individual staff members in the three main offices, these campaigns illustrate the complex dance between decentralization

¹⁸³ Gottlieb, *Forcing the Spring*, 144, based on author’s interviews with Browder.

¹⁸⁴ Schrepfer, "Environmental Activist, Publicist, and Prophet," 261.

¹⁸⁵ Gottlieb, *Forcing the Spring*, 147.

and bureaucracy, grassroots activism and scientific expertise, through which FOE developed its ideas about the earth as a life support system, and its concern with the health of the planet.

Nuclear Power: The Fight on the East Coast

“That is one of the things that I think is the dominant threat to the environment, to the earth, right now – the United States’ posture on nuclear....The thing to do is to stop it....There’ll be no environment if we don’t.”¹⁸⁶

- David Brower, 1974

In 1977, “Nuclear Man” appeared in the pages of *Not Man Apart*. The full-page graphic of a skinless adult male, modeled on Leonardo Da Vinci’s iconic *Vitruvian Man*, illustrated where the strontium-90, plutonium-238, and cadmium-137 released by the routine and accidental emissions of nuclear power plants embed themselves in the human body. The caption described the carcinogenic threat which these elements posed to present and future generations, “if the half life of the element is longer than the human life, the radioactive elements could cause cancer in someone else when the first host body returns to dust.”¹⁸⁷ The graphic illuminated just how individual bodily circulation was connected to planetary circulation. “Nuclear Man” played upon themes of intergenerational debt and consequences: even in death, modern man threatened unborn generations. In so doing, it echoed a central theme of the anti-nuclear movement: that radioactive fallout produced in one place could exert disastrous and long-lasting effects in places far removed.

¹⁸⁶ Schrepfer, "Environmental Activist, Publicist, and Prophet," 289.

¹⁸⁷ Ariel Parkinson, “Nuclear Man,” *Not Man Apart*, June 1977.

At the time of its founding, Friends of the Earth was the only large environmental organization to completely oppose nuclear power.¹⁸⁸ It fought fission on three scales. Regionally, it joined with grassroots groups waging their own battles against the licensing and construction of specific reactors. With consumer activist Ralph Nader, it co-sponsored the D.C.-based Critical Mass conferences in 1974, 1975, and 1977 that brought these local activists together with a varied group of nuclear physicians, physicists, and engineers opposed to nuclear power. Nationally, FOE brought repeated suit against the nuclear power industry, the Atomic Energy Commission, and its successor, the Nuclear Regulatory Commission, in federal court, and attempted – albeit fairly unsuccessfully – to forge alliances with non-environmental organizations. Internationally, the federation of FOE affiliates passed a resolution at its 1971 meeting on energy that called for an immediate moratorium on the location, construction, and operation of nuclear plants, “until it can be proved that reactors do not present any mutagenic or other environmental risks.”¹⁸⁹

Although FOE’s opposition to nuclear power worked on these three geographic scales, the organization derived the most energy and impetus from its regional engagements with local grassroots struggles, and the work of scientists who began speaking out against nuclear power and the AEC/NRC. The story of FOE’s opposition to nuclear illustrates the limitations of Washington D.C.-based coalition building and the successes of regional, grassroots activism. Moreover, it speaks to the relative weakness of the organization’s international anti-nuclear program.

¹⁸⁸ The Sierra Club passed a moratorium on the construction of nuclear power plants in 1974.

¹⁸⁹ Turner, “The First Sixteen Years,” 9.

From its birth, FOE based its resolute stand against nuclear power on reactors' combined health and environmental risks. The organization immediately began pursuing legal channels for disrupting the proliferation of reactors. Along with the Sierra Club, the Wilderness Society, and the Society Against Nuclear Explosions (SANE), FOE filed suit against the AEC's proposed 1971 underground nuclear explosion on Alaska's Amchitka island, arguing that the Commission had not met standards set by the National Environmental Policy Act.¹⁹⁰ In 1973, FOE joined with Ralph Nader to petition a federal court to close twenty nuclear plants in the northeast on the grounds that they "threatened life". The plaintiffs specifically challenged the safety of the proposed emergency core cooling system.¹⁹¹

Another major issue for FOE was the lack of transparency, both in industry and government, regarding reactor safety. Echoing a central concern of the grassroots anti-nuclear movement,¹⁹² FOE described the secrecy and elaborate bureaucracy associated with nuclear power as "unhealthy" for democracy. To remedy this secrecy, during the 1972-3 AEC hearings on the proposed Emergency Core Cooling System (ECCS), FOE published *ECO*, a daily roundup of the proceedings intended for an audience of journalists. For its membership, it printed the full proceedings of the hearings in *Not Man Apart*.

FOE was not acting in a bubble. Although the moral conviction underlying its opposition to nuclear stemmed from the institutional memory of those who had been involved in the Diablo Canyon fight, during the 1970s it came into increasing contact with a growing group of scientists critical of the nuclear establishment. In 1969, the AEC had commissioned John Gofman and Arthur Tamplin, then nuclear physicians with the Lawrence Livermore National Laboratory in

¹⁹⁰ "Court Backs Plea on Nuclear Blast", *New York Times*, October 6, 1971, 50.

¹⁹¹ Edward Cowan, "Shutdown of 20 Nuclear Plants as Threat to Life Asked in Suit," *New York Times*, June 1, 1973, 70.

¹⁹² Gottlieb, *Forcing the Spring*, 178.

Livermore, California, to assess the health risks from nuclear power facilities. The two concluded that the AEC had underestimated the cancer risk posed by reactors by a factor of ten. The scientists' subsequent harassment by the AEC and the laboratory alike encouraged their cult status amongst the nuclear opposition, and demonstrated material proof that the nuclear power industry was colluding with the government. Gofman became a particularly vocal opponent of nuclear power. He founded the Committee for Nuclear Responsibility in 1971; with his assistant, Egan O'Connor, he worked until his death in 2008 to spread scientific data about the health hazards of nuclear power and low-level radiation.

Gofman was part of a sizable group of what historian Thomas Wellock has termed "dissident scientists": scientists once part of or affiliated with the nuclear establishment who came to publicly fault the industry's claims and safety record.¹⁹³ Other notable dissidents included the Union of Concerned Scientists (UCS), founded at the Massachusetts Institute of Technology in 1969, which was pivotal in the AEC hearings, and in organizing opposition to the Pilgrim nuclear power plant in Plymouth, Massachusetts;¹⁹⁴ as well as Physicians for Social Responsibility (PSR), founded in Boston 1961 and dedicated to ending atmospheric testing of nuclear weapons.

Local citizen opposition to nuclear power plants went hand in hand with their construction, from the successful fight in 1962 against Consolidated Edison's proposed reactor in Ravenswood, Queens, to the 1966 citizen's referendum against a reactor in Eugene, Oregon.¹⁹⁵ However, local groups began to proliferate most rapidly in the late 1960s. Local associations sprang up across the country, with vivid acronyms: NOPE (Nuclear Objectors for a Pure

¹⁹³ Wellock, *Critical Masses*, 105.

¹⁹⁴ *Ibid*, 101.

¹⁹⁵ For a thorough history of grassroots opposition to nuclear power in the United States, see Anna Gyorgy and friends, *No Nukes: Everyone's Guide to Nuclear Power* (Boston: South End Press, 1979).

Environment), LAND (League Against Nuclear Dangers), and AEC (Alternative Energy Coalition). These groups pursued a broad range of strategies, from legal intervention in the AEC's regulatory proceedings to ballot initiatives, focusing on two issues in particular: the dangers posed by low-level radiation emissions to human health, and the likelihood of plant accidents and meltdowns.

In February 1974, Sam Lovejoy, a farmer in Western Massachusetts, toppled the weather monitoring tower erected by Northeast Utilities at its proposed nuclear site in Montague. His trial and subsequent acquittal expanded the popular definition of nonviolent protest, proving inspirational to other antinuclear activists around the country.¹⁹⁶ In the summer of 1976, the newly formed Clamshell Alliance began a series of occupations of the Seabrook plant on the New Hampshire coast, which would escalate to the 24-hour occupation of the plant by 2000 activists in May of the following year, and an 18,000 person rally that summer. As has been argued by historian Robert Gottlieb, as well as by antinuclear activists Pamela Lippe and Anna Gyorgy, these direct actions and others around the country were most responsible for re-energizing and re-directing the nuclear movement towards a more interventionist, direct action-based approach.¹⁹⁷ Around the country, nuclear plant occupations and sit-ins became an increasingly regular tool of protest.¹⁹⁸

These extra-legal strategies were not characteristic of the environmental movement as a whole in the 1970s; rather, occupations and sit-ins were the province of the civil rights and student movements of the 1960s, as well as organized labor. While there are iconic stories of

¹⁹⁶ For more on the Lovejoy case see Gyorgy, *No Nukes*.

¹⁹⁷ Gottlieb, *Forcing the Spring*, 179; Gyorgy, *No Nukes*; Interview with Pamela Lippe, New York City, January 17, 2012.

¹⁹⁸ For more information on these sit-ins and protests, see Gyorgy, *No Nukes*; Wellock, *Critical Masses*; and Barbara Epstein, *Political Protest and Cultural Revolution: Nonviolent Direct Action in the 1970s and 1980s* (Berkeley: University of California Press, 1991).

“ecotage” by the “Fox” in Chicago and the “Billboard Bandits” in Michigan,¹⁹⁹ during the 1960s non-violent direct action (NVDA) was infrequently practiced by environmental activists. During the 1970s, environmentalists began to incorporate NVDA: anti-nuclear, anti-pesticides and wilderness defense advocates began to employ a host of techniques, including blockades, occupations, sit-ins, die-ins, and general monkey-wrenching.²⁰⁰ Professional organizations occasionally voiced support for these actions, but strategically kept their distance. Thus whereas Lorna Salzman and Pamela Lippe, FOE’s east coast anti-nuclear staffers, freely participated in protests and marches, FOE as an organization steered clear of employing such tactics, preferring instead to communicate through the press and lobbying on Capitol Hill.

The two Ralph Nader-sponsored Critical Mass conferences were crucial to the intersection of grassroots activism and scientific opposition to nuclear power on the East Coast. The first of these conferences, co-sponsored by FOE and UCS, was held in Washington, D.C., in 1974. The conference brought together the various elements of the anti-nuclear movement and provided a forum for disparate groups to pool tactical and scientific information. After the second conference the following year, the Critical Mass organization was formed as an umbrella organization for local grassroots anti-nuclear groups. As sociologist Robert Cameron Mitchell argued, the “fiction” that the disparate citizens’ groups could be coordinated from a headquarters

¹⁹⁹ Sam Love and David Obst, eds., *Environmental Action Says: Ecotage! (It might just work)* (Ontario, Canada: Simon and Schuster of Canada, 1972), 13.

²⁰⁰ Monkey-wrenching, popularized by Earth First! in the early 1980s, but practiced well before the group’s founding, describes non-violent acts of sabotage against the machines and infrastructure involved in environmentally destructive practices. Night-time activities such as pouring sugar in the gas tank of a bulldozer, removing survey stakes, or placing metal spikes in logging roads are all examples of the practice. For more, see Dave Foreman and Bill Haywood, eds., *Ecodefense: A Field Guide to Monkeywrenching* (Tucson, Arizona: Ned Ludd Books, 1987). Chapter 3 of this dissertation will discuss monkeywrenching at length.

on the Eastern seaboard was quickly dissolved.²⁰¹ Local groups faced such disparate regulatory and safety hazards that national coordination was counterproductive.

The language with which Friends of the Earth spoke about nuclear power on a national level arose from the intersection of grassroots and scientific activism, and was reflected in its correspondence with a wide range of supporters and interested parties regarding the probability of leakage and accidents, the false promise of the emergency core cooling system, lack of transparency and communication at the AEC, and the insufficiency of evacuation procedures. FOE had two nuclear representatives on the East Coast – Lorna Salzman in New York City, and Pamela Lippe in Washington, D.C. – each of whom focused on these issues in divergent ways. Their stories illuminate much about the possibilities and limitations of the opposition to nuclear power in the 1970s.²⁰²

Lorna Salzman

Lorna Salzman began her political career as a “radical decentralist” in the tradition of eco-anarchist Murray Bookchin. With her husband, composer Eric Salzman, she organized Citizens for Local Democracy, a “Jeffersonian democratic organization” in the New York City borough of Brooklyn Heights. As she recalled, “I was very much in that notion of self-government and self-determination and so forth.”²⁰³

At the beginning of the 1970s, Salzman began to see a connection between local democratic politics and ecology. As “a novice, [who] knew nothing about environmentalism,”

²⁰¹ Robert Cameron Mitchell, "From Elite Quarrel to Mass Movement (The Anti-Nuclear Movement)," *Transaction/SOCIETY* 18 (July/August 1981), 81.

²⁰² FOE was involved in regional battles across the country. Thomas Wellock has analyzed its participation in the anti-nuclear movement in California in the 1970s. His analysis reveals a similar conclusion to mine – that FOE drew its real strength from the actions of local groups situated near reactors.

²⁰³ Interview with Salzman.

she attended FOE's first public meeting at the UN building in 1970. In January 1972, she went to London and came across the issue of Edward "Teddy" Goldsmith's journal *The Ecologist* entitled *Blueprint for Survival*. It took a comprehensive look at the dismal ecological situation of the planet, and its proposal was radical political decentralization. It also called for the formation of a "Movement of Survival", conceived of as a "coalition of organizations concerned with environmental issues, each of which would remain autonomous but which saw the best way of achieving its aims was in the framework of the *Blueprint for Survival*." Friends of the Earth was one of five participating organizations.²⁰⁴ Salzman began volunteering at the New York City branch office on Jane Street in 1973, answering phones, writing letters, and soon submitting articles on regional issues for *NMA*. She was hired as the first regional representative for the Mid-Atlantic in 1975.

Like Brower, Salzman thrived on the decentralized nature of FOE. She remembered that,

The basic part of it that was so fantastic about this organization which was because of Brower, was that first of all it was decentralized, no one told you what to do, no one told you what you had to support or oppose, no one told you what issues you had to do, you were completely free to do anything, and this was true of all field reps across the country.²⁰⁵

She believed that it was this freedom to act and speak as one pleased that attracted FOE staffers, "The people that came to FOE came precisely because it was an uncompromising organization, because of Brower's vision...so you got the right people. You got the people who agreed."²⁰⁶

Salzman became interested in issues of nuclear power in 1973. "It hit me what nuclear is all about" when she read the proceedings of the AEC hearings in *NMA*; in particular, the journal's analysis of the manifold threats posed to humans and their environment by low level radiation, accidents, exposure, and leakage. She "became obsessed with it", and entered into a

²⁰⁴ "Movement of Survival", *The Ecologist*, 2 (1972), 23.

²⁰⁵ Interview with Salzman.

²⁰⁶ *Ibid*

world of similarly obsessed people. She recalled that “everyone in the 70s who was involved in nuclear power, all the Clamshell Alliance, all those people, it was an obsession, we thought about nothing else. Nothing else.”²⁰⁷ She began reading extensively on the topics, corresponded with John Gofman and nuclear physicist Marvin Resnikoff, developed working relationships with grassroots activists from New Hampshire and Long Island, and became friendly with Leonard R. Solon, director of the New York City Health Department’s Bureau for Radiation Control.²⁰⁸

In cooperation with Solon she ran a successful campaign against the transport of nuclear waste from the Department of Energy’s Brookhaven National Laboratory on Long Island through the city. From the reactor’s construction in 1963, the lab had transported spent fuel rods in an unaccompanied truck to the Queens border, where it was met by city police and escorted through Manhattan to the George Washington Bridge. Once on Interstate 95, the truck had continued unescorted to a reprocessing facility in Aiken, South Carolina.²⁰⁹ Salzman was responsible for generating public opposition to the project by gathering witnesses, attracting publicity, and organizing public attendance at the Board of Health hearing in November of 1975, at which Solon gave dramatic testimony that a shipping accident or terrorist attack would immediately kill 10,000 people and cause one million fatal cancers. The following January, the New York City Council banned the transport of radioactive wastes through the five boroughs.

Salzman continued to work closely with Solon and the Board of Health, organizing hearings on the hazards of the Indian Point reactors on the Hudson River; generating public

²⁰⁷ Ibid

²⁰⁸ Resnikoff was a nuclear physicist on the staff of NY PIRG in the late 1970s, later with Waste Management Associates. He was particularly interested in the health effects of nuclear waste storage, and ran the Coalition Against West Valley Wastes in upstate New York. Solon was a health physicist, noteworthy for supporting a ban on the air transport of nuclear materials from JFK airport.

²⁰⁹ Matthew L. Wald, “Silence Masks Shipment of Brookhaven’s Nuclear Wastes,” *New York Times*, May 13, 1984, M1.

support against Columbia University's on-site reactor, eventually amending the city health code to require a permit from the health commissioner to operate a reactor within the city; and targeting the Suffolk County Health Department's radioactive waste transport codes.²¹⁰

In her work, Salzman was concerned with three aspects of nuclear power: nuclear safety, government secrecy, and waste. In a letter subtitled "Scientific Elite", printed in the November 1975 issue of the *Bulletin of the Atomic Scientists*, Salzman brought these concerns together. Opening with the provocation that, "It is hard to escape the conclusion that the nuclear establishment's obsession with reactor safety is a deliberate ploy, intended to exclude the citizen from the nuclear power debate and from democratic decision-making," she framed the safety of reactors as a straw-man argument, intended to keep citizens from addressing the true dangers of nuclear power: the longevity and instability of the wastes produced, and the threat to civil liberties posed by the infrastructure needed to protect these wastes.²¹¹ She argued that the "scientific elite" of the technocratic nuclear establishment had to date set the terms of the conversation, around questions of reactor safety. Arguing that these elite should henceforth be excluded from decision-making in favor of the ordinary citizen, she called for a change of perspective amongst anti-nuclear activists.

We can no long permit the pro-nuclear cadres to set the terms of argument. Reactor safety was a good issue to jolt the public, but compared to the issues of radioactive waste and terrorism it is like estimating how many angels can dance on the head of a pin.²¹²

For Salzman, the expansion of the nuclear power industry was a double mortgage on the future of the human species: on both its physical and political survival. Nuclear wastes and their inherent instability threatened the immediate and future health of the human species; the

²¹⁰ Lorna Salzman, "Friends of the Earth nuclear power activities, NYC-NYS 1975-1976," Carton 27, Folder 8. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²¹¹ Lorna Salzman, "Scientific Elite," *Bulletin of the Atomic Scientists*, November 1975, 2.

²¹² Ibid

increasingly stifling bureaucratic, military, and political infrastructure created to manage these wastes and convince the public of their safety threatened the health of democratic citizenship. “There is only one politically, biologically, and ethically acceptable solution: total permanent abandonment of nuclear power.”²¹³

Salzman took her own advice, coming to focus increasingly on the inseparability of political and physical health. The flyer for a November 1975 rally against nuclear power in New York City’s Columbus Circle featured a cigarette pack, on the side of which was written,

NUKES

A Choice Blend of Berserk Technology, Radioactive Crud, and 100% American
Bureaucracy

Warning: Nuclear Power is Hazardous to Your Health²¹⁴

The rally’s speakers were a mixture of peace activists, antinuclear activists, and local politicians, each of whom emphasized the threat posed by nuclear power to democracy, present human health, and the longevity of the human species. The flyer’s use of a contemporary symbol of cancer, the cigarette pack, made blunt its assessment of nuclear power. It played upon the addictive potential of nuclear power, as well as the probability of delayed illness brought about through unchecked habit.

Salzman understood radioactive waste as the Achilles’ heel of the nuclear industry. In a 1978 analysis, she pointed to the desperate situation of the Brookhaven Laboratory which, forced to store its wastes on site, found itself three years after the transportation ban with a nearly overflow situation.²¹⁵ Later that year, she published a thorough critique of the proposed storage solutions put forth by the Department of Energy and the Nuclear Regulatory Commission. She

²¹³ Ibid, 3.

²¹⁴ “Rally Against Nuclear Power” flyer, November 1975, received from Pamela Lippe.

²¹⁵ Lorna Salzman, “Wasting Away,” *The Ecologist*, 6 (1978).

examined each of the “eight turkeys” of proposed solutions, none of which, she concluded, apart from storage in tanks of water, had yet to be demonstrated to have any technical merit. In the article Salzman brought forth the concept of the biosphere as the scale on which anti-nuclear activists should be thinking. “The real goal of these efforts [to find solutions for nuclear wastes] should be successful isolation of the radioactive materials from the biosphere, primarily from water, people and natural resource deposits that may be useful to future generations.”²¹⁶ She concluded by urging, “In the face of glaring gaps in technical knowledge, it seems eminently reasonable to urge that U.S. reactors be phased out until an effective solution to the waste problem has been demonstrated.”²¹⁷ For Salzman, the permanence of nuclear wastes symbolized everything amiss with nuclear power: in particular, the inherent injustice of the present generation passing on its unsolved problems to the next. By urging activists to think on the level of the biosphere, she linked the longevity of the human species to that of the planet.

Salzman’s “last big fight” through FOE was against the Shoreham nuclear reactor on Long Island. She “entered the fray” in 1977, and eventually came into contact with Nora Bredes, organizer of the Shoreham Opponents Coalition. Bredes appointed Salzman to the executive committee of the Coalition, which successfully convinced every politician on Long Island to oppose nuclear power.²¹⁸

Following the March 1979 meltdown of the Three Mile Island reactor in Pennsylvania, the Shoreham opposition gained its own critical mass. A rally of 15,000 was held on June 6, 1979, after which several hundreds of attendees who had attended an earlier training in civil disobedience took apart the plant’s fence and entered the facility.²¹⁹ As Salzman recalled, Three

²¹⁶ Lorna Salzman, “The Five Thousand Centuries of Nuclear Garbage,” *Business and Society Review*, 26 (1978),10.

²¹⁷ *Ibid*, 15.

²¹⁸ Interview with Salzman.

²¹⁹ John T. McQuiston, “Shoreham Action Is One of Largest Held Worldwide,” *New York Times*, June 4, 1979, A1.

Mile Island “turned everything around”. The Shoreham reactor never received its license, and was eventually dismantled.

Following Three Mile Island, Salzman moved out to Long Island in fear of the traveling radiation. She issued increasingly vitriolic press releases, including a pamphlet entitled “The New York Academy of Sciences Three Mile Island Conference: A Vehicle for Promoting Nuclear Energy and Suppressing Dissent?” She printed these pamphlets herself and distributed them at the 1980 New York Academy of Sciences Conference on “The Three Mile Island Nuclear Accident: Lessons and Implications”, an interdisciplinary retrospective analysis of the disaster and its aftermath. In the pamphlet, she argued that the conference was comprised entirely of nuclear advocates, to the exclusion of the public, and that the voices of antinuclear activists had been deliberately silenced at the event.²²⁰ Salzman’s activities became so “extreme” during this period that Brower himself contacted her with a request to cease and desist.²²¹

Salzman was fired in 1984 with Brower’s ouster and the radical reorganization of FOE. She did not go quietly into the night; indeed, she continued to lobby Brower for years afterwards to take vengeance on those who had brought upon what she saw as a coup. She continued on to work for the National Audubon Society, organized the New York State Green Party, and is a prolific writer to this day.

Pamela Lippe

A generation younger than Salzman, Pamela Lippe came to the nuclear issue as a Hampshire College undergraduate interested in the impact of communication media and looking

²²⁰ Donald B. Straus, “Lessons for the Resolution of Technical Disputes,” *Annals of the New York Academy of Sciences*, 365 (1981), 336-337.

²²¹ Interview with Salzman.

for a research topic. This deadline coincided with Sam Lovejoy's 1974 act of civil disobedience against Northeast Utilities, and Lippe became involved with Lovejoy's network of activists, largely based on his farm in Montague, Massachusetts, there developing many of the contacts that she would rely upon during her work with FOE.

When Lippe started looking for work in 1976, she was hired by Friends of the Earth in Washington, D.C., to organize national organizations to take a position on nuclear. Her primary task was, as she explained to Tony Mazzochi of the Oil, Chemical and Atomic Workers Union, to organize "doctors and health organizations" to sign a petition on low-level radiation.²²² This petition drive had grown out of an idea that Gofman's assistant Egan O'Connor had proposed to Brower in 1972. In a vehement memo, O'Connor had urged that "identifying our constituency by name is the most urgent thing we need to do."²²³

As Lippe recalled, the work was slow going and she only got through to people who were willing. She reached out to a broad range of organizations, from the American Lung Association (ALA) and the American Cancer Society (ACS) to the National Student Association (NSA) and the National Council of Senior Citizens (NCSC). The responses of these organizations were as varied as their purposes: while the ALA and ACS expressed openness to endorsing a low-level radiation petition, and the NSA declared a Nuclear Teach-In Week in New England, the Senior Citizens' Council refused to take a position on nuclear energy.²²⁴

Alongside this rather formal and rocky outreach, Lippe helped to organize "occupations" of the Nuclear Regulatory Commission in 1976-77, in solidarity with the ongoing Seabrook

²²² Pam Lippe, "Report #22 Re: Nuclear Liason", September 21, 1976. Carton 27, Folder 4. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²²³ Egan O'Connor to David Brower and Sam Love, "Re: Stopping the premature licensing of nuclear power plants", July 26, 1972. Carton 26, Folder 32. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²²⁴ Pam Lippe to Dave Brower et al., "Re: Nuclear Liason, Report #21". Carton 26, Folder 33. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

occupations. As she recalled, “people were occupying Seabrook, and then a group would come down to D.C. and get arrested there, some of the same people that got arrested in Hampshire, and they would caravan down, camp out at a Jesuit estate in D.C.”²²⁵ Lippe’s role was primarily to negotiate with the NRC, calling in advance to announce that people were coming.

By 1978, Lippe had moved from nuclear to genetic engineering issues, getting involved in proposed legislation regarding the regulation of recombinant DNA research. Then Three Mile Island happened. FOE allowed her to organize the May 6 March on Washington along with Donald Ross, co-creator with Ralph Nader, of the Public Interest Research Group. The march, the largest anti-nuclear demonstration to date, garnered an estimated attendance of 70,000.²²⁶ Lippe soon thereafter left FOE for a job as director of the Musicians United for Safe Energy Foundation (MUSE).²²⁷

Once Lippe left FOE she was not replaced. Other staffers took on nuclear issues, armaments in particular, but the organization did not hire someone specifically focused on nuclear. This absence would form one of Brower and Salzman’s key critiques of the “new” FOE. Lippe’s truncated career as an anti-nuclear representative indicates the marginal possibilities, in the late 1970s, for national-level organizational collaborations on anti-nuclear issues.

FOE hosted the First Biennial Conference on the Fate of the Earth was held in New York City in October 1982. Inspired by *The New Yorker* columnist Jonathan Schell’s bestselling book *The Fate of the Earth* (1982), a compilation of essays on the threat of nuclear war, the

²²⁵ Interview with Lippe.

²²⁶ Wendell Rawls, Jr., “65,000 Demonstrate at Capitol to Halt Atomic Power Units,” *New York Times*, May 7, 1979, A1.

²²⁷ Pamela Lippe to David Brower, May 15, 1979. Carton 26, Folder 34. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

conference endeavored to explore “Conservation and Security in a Sustainable Society”. Critiquing “thirty years of futile attempts at disarmament”, in his opening address Brower argued for a re-imagining of national defense, one in which conservation, education and health would replace military might.²²⁸ Spanning three days, the conference explored the extent of nuclear stockpiles worldwide, strategies for defusing the arms race, and pathways to a non-nuclear, non-fossil fuel based “soft energy” economy.

The last day was devoted to a special symposium on “Medicine and the Biosphere”. Largely the work of Physicians for Social Responsibility (PSR), the symposium addressed the consequences of nuclear war for both humans and the environment. Jonathan Lorch, president of PSR, opened the day with a call to treat the Earth as one would treat a patient,

If we are to affect the fate of the Earth positively, rather than face one ecological and military relapse after another, we must move from symptomatic cures to pathologic cures for the ills of this planet.²²⁹

Given a patient with pneumonia, a symptomatic cure would be aspirin for the fever and aches, a pathologic cure, antibiotics. The danger of such symptomatic treatment was that “in congratulating ourselves when the fever subsides, we forget that the disease is still vigorous and lethal.”²³⁰ He urged the audience to search for the root “pathogeneses” of the Earth’s ills; lacking such an understanding, environmentalists could only continue to bounce from symptom to symptom.

Individually, the problems we face are limitless – but if viewed as manifestations of a few pathologic processes they become manageable. This conference can mark the beginning of our search for the underlying and interrelating pathogeneses of the Earth’s diseases – the pathology common to all of our toxic, economic, social, spiritual, and nuclear ills.²³¹

²²⁸ David Brower, “The Purpose of the Conference”, in *The Proceedings of the First Biennial Conference on the Fate of the Earth: Conservation and Security in a Sustainable Society* (San Francisco: Earth Island Institute, 1983), 3-6.

²²⁹ Jonathan Lorch, “Introduction,” in *The Proceedings of the First Biennial Conference on the Fate of the Earth*, 237.

²³⁰ Ibid

²³¹ Lorch, “Introduction,” 238.

Lorch stopped short of naming the common pathology.

The speakers who followed Lorch focused on the medical and ecological consequences of nuclear war, world population growth and resource depletion, atmospheric and climate change, and concluded with a panel discussion on “Medicine and Ecology in the Industrialized Nations”, primarily concerned with the current capacity of clinical medicine to deal with environmentally-induced diseases.

According to Brower’s recollection, the conference was attended by more than 1,000 people. Yet the absence from the program of activist speakers was remarkable. Although Winona LaDuke, an Ojibwe activist, was given a brief slot on the program, there was no time allotted to grassroots anti-nuclear activists, many of whom had worked for decades to link the human and environmental health consequences of nuclear power and weapons proliferation. This absence indicates a cordoning off of scientific discussion from the activist community. Although the conference did a remarkable amount of work in weaving clinical medicine into the protection of the earth, this was separate from grassroots struggles and political organization. Indeed, conference participants unanimously advocated national and international governmental solutions to nuclear proliferation. The balance of scientists and grassroots activists possible in the 1970s had shifted; thenceforth, for FOE and its fellow conference participants, the anti-nuclear cause would be pursued in the halls of government, with the aid of scientists and other professionals, and not in the streets.

Pesticides Program: D.C. to Oregon, Vietnam to Michigan

“Not many are aware that Friends of the Earth has a toxic substances and pesticides program.”²³²

- Erik Jansson, 1977

In contrast to its nuclear power campaigns, pesticides never constituted a priority for FOE on a national level. Rather, the organization’s actions around pesticide minimization and prohibition were driven by single individuals responsible for raising their own funds. In many cases, FOE threw its institutional weight behind pesticide initiatives once the individual activists had generated significant momentum. Frequently, this individual momentum generated new organizations, as in the cases of Jay Feldman and Monica Moore, both of whom worked briefly in FOE yet continued on to found the National Coalition Against the Misuse of Pesticides,²³³ and Pesticide Action Network. This internal dynamic suggests that FOE found it necessary to maintain a distance from contemporary anti-pesticide activism. Most of the fights to regulate or ban pesticides were being fought on a local level, by rural communities exposed to spray drift and groundwater contamination. These communities put strong emphasis on how pesticides affected human health, maternal and fetal health most particularly, and argued in rights-based terms for the increased protection of these vulnerable populations.²³⁴ Although FOE occasionally gave organizational and lobbying support to these local groups, its expansive focus on health as both an indicator and an outcome of the symbiosis between humans and the

²³² Erik Jansson, August 23, 1977, Carton 34, Folder 21, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²³³ NCAMP was later renamed Beyond Pesticides.

²³⁴ As Linda Layne has observed, “An abnormally high rate of miscarriage is often one of the first and most visible signs of environmental crisis.” Linda Layne, “In Search of Community: Tales of Pregnancy loss in Three Toxically Assaulted Communities,” *Women’s Studies Quarterly* 29 (2001), 25.

environment – in other words, as a category larger than human health – required it to keep a marked distance from the grassroots emphasis on the health of specific human bodies.

From its founding FOE kept up-to-date with possibilities for taking action on toxic substances on the federal level. George Alderson recommended that FOE get involved in the lawsuit planned for 1969 to get the Department of Agriculture to de-register one of the “hard pesticides”, such as aldrin and dieldrin. He urged Brower and Soucie to contact Jim Moorman at the Center for Law and Social Policy, and determine how FOE could become the principal co-plaintiff. According to Alderson, “the case will probably have a big publicity impact, aside from its basic importance in making the public interest effective in regulation of pesticides.”²³⁵ In early 1970, FOE, in cooperation with the Children’s Foundation and the Migrant Workers Research Project, petitioned the Secretary of Agriculture for the immediate suspension of registration of the use of any substances containing the herbicide 2,4,5 – T for use around the home, in water and on food crops. The Secretary eventually cancelled registration for the use of these substances in recreational and domestic areas, yet maintained its registration for farm weed control.

A brief announcement in *NMA* stated that December 5th, 1970 would be “DDT Information Day” in Los Angeles. Friends of the Earth “will organize to distribute pamphlets at supermarkets, restaurants, fish markets and sporting goods stores.” The pamphlets explained the contamination of Santa Monica Harbor from pollutants released at the nearby Hyperion sewage treatment plant, and “suggest(ed) that this situation is technically and economically solvable.” The pamphlets warned of the fate of the endangered brown pelican, as well as the danger posed

²³⁵ Alderson to Brower and Soucie, “Re: Pesticide Litigation”, August 23, 1969. Carton 34, Folder 21, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

to humans from the consumption of particular species of fish. “We plan to distribute some 200,000 brochures that day.”²³⁶ In a subsequent memo to Marc Lappé, Tom Turner noted that following the rallies and speeches, about ten people left the gathering to begin passing out leaflets in front of a department store across the street. The local “rent-a-cop” and the store manager asked them to leave; however, when they saw the NBC television cameras nearby they “hastily withdrew the request and became very friendly.”²³⁷

In February of 1971, Joseph Browder wrote to the EPA urging the immediate banning of DDT and 2,4,5-T on the basis of their “imminent hazard to the public”. “Any evidence of teratogenicity, carcinogenicity or other harmful effects in non-essential, non-medical compounds, demands that they be withheld from use until their safety for the human can be demonstrated unequivocally.”²³⁸ Browder’s focus on human health was unique for FOE, and suggested that he believed the EPA was more responsive to arguments about humans than the environment, so much so that he was willing to argue that “DDT is a public health hazard of pan epidemic proportion.”²³⁹

Yet on the whole FOE was distancing itself from an exclusively human-health centered reasoning. Gary and Sharon Blankenship, from Temperance, Michigan, wrote to FOE in September 1971 regarding the spraying of their property with Agent Orange by the county road commission. “Our home has just been turned into Vietnam”, they began. They continued on to describe the extent of death and dying in their forest community, concluding that “there was so little heed paid to the manner in which the spraying was done that children, pets, or other living

²³⁶ Tom Turner, “DDT Day,” *Not Man Apart* 1 (1972).

²³⁷ Tom Turner to Mark Lappé, Carton 34, Folder 21, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²³⁸ Joseph Browder to EPA, February 5, 1971, Carton 34, Folder 21, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²³⁹ See Edmund P. Russell, “Lost Among the Parts per Billion: Ecological Protection at the United States Environmental Protection Agency,” *Environmental History* 2 (1997).

creatures could have easily been in the forest or bushes and exposed to these noxious chemicals.”²⁴⁰ Printed alongside the Blankenship’s letter was a response from Gary Soucie. He advised the Blankenships to read up on the issues, and contact or start a local community organization. Noting that FOE had no local office with which the Blankenships could affiliate, he urged them to “take your case to the people”, appeal to the press, meet with the offending organizations, and educate themselves, above all else. In short, FOE could offer moral support, but not much more.

Within the environmental community, FOE was recognized as a source of information about chemical pollution. Robert R. Curry, newly hired as the Sierra Club’s director of research, contacted Brower in the summer of 1974 to ask for his input on the EPA’s recently released list of proposed hazardous substances. Curry’s note is as important for its solicitation of FOE as for its hint of the re-direction that would come for the environmental movement. Curry argued that his research office, intended to keep Club staff members and lobbyists up to date on relevant issues, was essential to making intelligent decisions. “Only with competent professional input can organizations, such as the Sierra Club, provide sound advice and formulate intelligent policy.”²⁴¹

FOE’s actions against pesticides and toxic chemicals followed a different course than those it took against nuclear power. Regarding nuclear power, the organization called for a complete moratorium. It took no such stand on pesticides; as such, although there were sporadic actions on the issues, it took the concerted actions of two individuals, Erik Jansson in Washington, D.C., and Bob Scowcroft in San Francisco, to direct the organization’s resources and attention to the matter. Their very different careers illustrate much about FOE’s internal

²⁴⁰ Gary and Sharon Blankenship, “Bringing the War Home,” *Not Man Apart*, September 1971, 3.

²⁴¹ Robert R. Curry to David Brower, August 27, 1974. Carton 46, Folder 33. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

organization, grassroots pesticides activism, and the nature of FOE's understanding of health. Jansson and Scowcroft's work demonstrates a divergence between FOE and grassroots activism, a divergence which stems from very different understandings of health. It also lays bare the ultimate irony: that after a decade of arguing strenuously for the collective health of the planet, FOE would find the greatest success through the individualized consumer-based campaigns initiated by Scowcroft.

Erik Jansson

Jansson came to FOE as a volunteer in 1975, and remained so until his departure in July 1984, paying rent on his own corner of the office, and working off a desk fashioned from a door thrown atop two sawhorses. A self-described "freelance economist", Jansson was the author of *Earth Baby's Ransom* (1972), which argued that the corporate financing of elections inevitably led to the ransoming of the earth. Claiming that the "environment is the economy", Jansson urged his readers to pursue tried-and-true corporate strategies for influencing elections, including "whiplashing" Congressmen – focusing on one issue and one candidate at a time, and pouring all resources into that struggle.²⁴² This suggestion foreshadowed the personality he brought to his work at FOE – a personality which dominated most staff recollections. Tom Turner remembered him as a "real zealot" on the subject of pesticides.²⁴³ Bob Scowcroft recalled that there was "magic in his [Erik's] ability to see over the horizon and also to push buttons sometimes", a magic accompanied by a lack of social skills and a profound impatience.²⁴⁴

²⁴² Erik Jansson, *Earth Baby's Ransom: How Business is Ruining Its Prosperity and Ours by not Maintaining a Better Environment* (Columbus, Ohio: Mulberry Institute, 1972), 125.

²⁴³ Telephone interview with Tom Turner, December 20, 2011.

²⁴⁴ Telephone interview with Bob Scowcroft, February 10, 2012.

Erik Jansson drew up a resume of his activities in August 1977. Opening with the challenge that, “Not many are aware that Friends of the Earth has a toxic substances and pesticides program,” Jansson continued on to list the program’s accomplishments in 1976 and 1977.²⁴⁵ These included the passage of the Toxic Substances Control Act (1976), which would not be possible “without the sales effort of our program”; the successful lobbying of the Department of Agriculture on integrated pest management; working with the EPA to simplify its mechanisms for registering and deregistering pesticides, and with a local Massachusetts union on regulating PCBs in the workplace.

In spite of Jansson’s bravado, FOE’s pesticides program remained piecemeal and scattershot, languishing in the D.C. office until Jansson came across the “Alsea Letter”, sent in April of 1978 to the EPA by eight women in rural Alsea, Oregon, during the public comment period for the agency’s proposed deregistration of 2,4,5-T. These women, who collectively had suffered ten miscarriages in the preceding five years, noticed that their miscarriages had all occurred during the two month period following the Forest Service’s application of dioxin-containing herbicides. Suspecting a causal relationship, the women requested help from “any agency, group or industry” in researching the problem.

When Jansson received a copy of the letter, he went through all of the 4,000 letters submitted to the agency, collecting more than 450 reports of poisonings from aerial sprayings. Believing the Alsea Letter to be the most compelling case for the de-registration of 2,4,5-T, Jansson “papered” D.C. with it, focusing specifically on journalists and legislators.²⁴⁶ Decrying the EPA’s resistance to de-registering the chemical as tantamount to human experimentation, Jansson joined forces with the Benton County health officer and several EPA staffers to push the

²⁴⁵ Erik Jansson, August 23, 1977.

²⁴⁶ Carol Van Strum, *A Bitter Fog: Herbicides and Human Rights* (San Francisco: Sierra Club Books, 1983), 166.

EPA into conducting a study of spontaneous abortion rates in relation to herbicide spraying. The study discovered a significant increase in spontaneous abortions in June, immediately following the time of peak spraying, and these results formed the justification for the EPA's February 28, 1979, emergency suspension order against 2,4,5,-T and its cousin 2,4,5-TP (Silvex). The EPA cited a link between dioxin exposure and increased risk of miscarriage to justify its decision.²⁴⁷

Following this victory, Jansson organized the first National Pesticides Victims Conference, in Washington D.C., from March 1-2, 1979. Representatives from more than ten states arrived, many with slide presentations and speeches on the health consequences of pesticide sprayings in their areas. These ranged from miscarriages and birth defects to death.²⁴⁸ As Jansson phrased it in a letter to Brower, the theme of the conference was "victims meet the civil servants and administrators", a kind of consciousness-raising for the EPA regarding the human consequences of its programs (or lack of them).

Upon the radical reorganization of FOE in 1984, and his imminent departure, Jansson wrote a précis of the achievements of his activities at FOE. With an eye towards educating future FOE staffers on the history of their organization, Jansson wrote,

Now that Friends of the Earth has decided to discontinue working on the issue of pesticides and farming issues, and to change its approach to a "campaign" model rather than a "network" model, a description of what can be accomplished with the "network" model at low cost might be of at least historic interest. Old fashioned lobby programs still work.²⁴⁹

He argued that the greatest success of FOE's program had been to put pesticide manufacturers on the defensive. His list of the program's activities, most of which had involved lobbying the EPA

²⁴⁷ Jeffrey Smith, "EPA Halts Most Use of Herbicide 2,4,5-T," *Science* 203 (1979), 1090.

²⁴⁸ Erik Jansson to David Brower, February 9, 1979. Carton 34, Folder 21. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²⁴⁹ Erik Jansson, "Achievements of the Volunteer Pesticides and Toxics Program of Friends of the Earth, 1975 to 1984", Carton 34, Folder 32. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

and Congress on specific preventative legislation, or publicizing the dangers of pesticides, made FOE's role as a publicist and lobbyist clear. As he assessed it, the pesticides program was a "network" model, by which he meant that time and resources were distributed non-hierarchially between different organizations. He attributed FOE's success to this approach, "a much more democratic and bottoms up program" than, by implication, the D.C.-based "campaign" model that had taken over the organization.²⁵⁰ For Jansson, decentralization was both economically and politically salubrious; the new model of FOE as a campaign-driven, centralized organization portended failure.

Jansson continued to work on pesticides and toxics until his death in 2008, founding the National Network to Prevent Birth Defects and the Department of Planet Earth, as well as helping Jay Feldman at the National Coalition Against the Misuse of Pesticides.

Bob Scowcroft

It would be hard to invent someone more different in character from Erik Jansson than Bob Scowcroft. Scowcroft's first ambition was "to be an adventurer".²⁵¹ After an extended stint at a commune in California, he "joined up with a buddy and went to Alaska, spent almost three months in the bush, culminating in hiring a plane to drop them off above the Arctic Circle." Somehow he "eventually" worked his way to D.C., and in looking for a job saw a postcard for the Alaska Coalition, which was working to pass the Alaska National Interest Lands Conservation Act. From a start stuffing envelopes and emptying wastebaskets he worked his way up to office manager, a job that landed him in the headquarters of the Coalition, housed in the FOE office at 620 C Street.

²⁵⁰ Ibid

²⁵¹ Interview with Bob Scowcroft.

Through the Alaska Coalition, Scowcroft had solicited small backpacking and outfitting companies to hold raffles and “Alaska Nights”, at which they could show a set of slides compiled by the Coalition. The Coalition not only made money from the raffles, but generated many letters to Congressmen, as well as a growing list of small business owners sympathetic to the preservation of Alaska wilderness which Scowcroft described as a “grassroots environmental chamber of commerce.”²⁵²

Inspired by Scowcroft’s chamber of commerce idea, Jansson arranged to cover two months of Scowcroft’s salary, if FOE’s San Francisco office would agree to hire him to organize small businesses on pesticides issues. As Jansson wrote in his proposal,

Work by Bob Scowcroft of the Alaska Coalition shows that Friends of the Earth has not even begun to touch the membership and participation possibilities that are available with a person who works systematically at headquarters and in the field to contact backpacking stores, health food stores, special interest organizations, food co-ops and the like.²⁵³

The idea was to promote FOE’s name through partnering with small businesses, especially health and recreational stores, by publishing articles in these businesses’ monthlies, generating lists of interested stores and business organizations; and sponsoring on-site events, such as slide shows, talks and raffles.

Scowcroft began at the San Francisco office in 1978, and immediately began organizing health food stores and distributors on the issue of pesticide spray drift. He set up a table at the Natural Foods Merchandiser Trade Show in Anaheim, California, and distributed Jansson’s literature on the problem of accidental spray drift. From spray drift, Scowcroft moved on to

²⁵² Bob Scowcroft, narrator and Irene Reti, interviewer, “Bob Scowcroft: Executive Director, Organic Farming Research Foundation,” (Santa Cruz, California: University of California, Santa Cruz, 2010), 10; Interview with Scowcroft.

²⁵³ Erik Jansson, “Proposal for San Francisco and Washington Organizers”, December 1, 1978. Carton 78, Folder 37. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

efforts to ban 2,4,5-T and phenoxy herbicides, and to get the federal government and private producers to adopt integrated pest management methods.

His efforts paid off quickly. In August 1979, *The Corn Husk: Your Ear on the Whole Foods Industry*, newsletter of Corn Country Whole Foods, Inc., afforded FOE a full page to make its case. The article linked pesticide use with organic farming, explaining how Erik Jansson was lobbying the USDA to give organic farmers the same recognition and support as chemical farmers, while also defining an “organic” certification. “Once spraying is regulated and the most harmful chemicals are banned, food and water will be safer for all consumers.”²⁵⁴ “Pesticides not only threaten farmers’ and agricultural workers’ health, but the health of everyone who eats fruits and vegetables, drinks the water, or breathes the air.”²⁵⁵ In the *Erewhon Monthly* for January 1980, FOE made its case for why stores should get involved. “You, the whole food store, are essential to our work. You are our personal link with the people of your community...”²⁵⁶

The majority of Scowcroft’s work was with health food stores – by 1979, he had roughly 350 stores posting or circulating FOE’s status report on pesticides.²⁵⁷ This number grew to 1200 by the early 1980s. He moved on to “good food” distributors, including Corn Country Foods, Arrowhead Mills, Healthy Valley, and Celestial Seasonings, asking for donations and advertisements for *NMA*. Scowcroft saw the monetary potential of these connections, and in communication with the FOE management defended his program on the basis of the potential windfall for FOE.

²⁵⁴ Friends of the Earth, “Friends of the Earth”, *The Corn Husk*, August 1979; 3. Carton 73, Folder 12. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²⁵⁵ Ibid

²⁵⁶ Friends of the Earth, “Meet Friends of the Earth and Join the Fight Against Pesticide Abuse!”, *Erewhon Monthly*; 1. January 1980. Carton 73, Folder 12. David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

²⁵⁷ Bob Scowcroft, “To Jeff”, 1979. Carton 73, Folder 12, David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

Scowcroft focused on the consumer; in particular, the consumer concerned about his/her personal health. By organizing fundraisers and educational evenings through the businesses that catered to, and in many ways shaped, this identity of health and personal well being through consumption – Hudson Bay Outfitters, food-coops – Scowcroft’s work made opposition to pesticides a lifestyle choice. This was very different from FOE’s work on nuclear power, which understood human health in the aggregate, as public health. Although pesticides were understood to pose a problem to the health of the human population at large, and to strike indiscriminately, outreach through health-based consumption made their true significance personal. Moreover, the success of Scowcroft’s work in soliciting new members for FOE illustrates the extent to which individuals looked towards companies for their political education.

FOE produced a “Status Report on Pesticides” for Fall 1981/Winter 1982, a small leaflet intended for distribution at health food stores. It looked at three pesticide cases from different regions of the country: Endrin sprayed on wheat in Montana; Sevin sprayed in the Northeast to control the gypsy moth; and Malathion used in California to control the fruit fly. It emphasized the lack of information available on the long-term effects of exposure to these pesticides; the probability that unintended spray drift had exposed populations far from the site of actual spraying; and industry secrecy. Linking all of these factors, it observed that “the people exposed to the pesticides often do not know, nor have the right to know, the health effects.” It repeatedly emphasized the public’s inability to trust that either the government or industry had the public health as its foremost concern. It concluded by urging, “If you are concerned about what’s in the food you eat, the water you drink, and the air you breathe, as well as the kind of world we return to our children, join us by filling out the coupon and mailing it to us with your check today.”²⁵⁸

²⁵⁸ Friends of the Earth, “Status Report on Pesticides”.

The Status Report connected individual health with an understanding of participatory democracy and informed citizenship. As had Rachel Carson, it asserted an individual's "right to know" what lurked in his or her environment, and framed democratic citizenship as a process of demanding that government and industry be held responsive to the individuals who were affected by their actions. Yet this was a mediated citizenship, in which FOE was the medium through which the individual consumer acquired and analyzed health and environmental information. Moreover, this emphasis on individual health quite frankly suggested that one could protect the health of the planet through knowledgeable personal consumption choices. Buying foods not sprayed with Endrin would, it implied, in turn save the fields and their inhabitants.

Through his work against spray drift and persistent pesticides, Scowcroft became involved with the organic farming community in California, and was asked to write a letter expressing FOE's support of the Sunset Act, the first law on organic farming in the country.²⁵⁹ Organics would dominate Scowcroft's career from that point forward. He left FOE peaceably in 1984, continuing on to work with the California Coalition of Organic Farmers and founding the Organic Farming Research Foundation.

Conclusion

Throughout its long seventies, FOE was a sprawling, perpetually underfunded, enthusiastic organization striving to incorporate a broad range of issues into the environmental agenda. Its vision of the health of the planet, expressed so readily in the 1982 anti-Reagan ad, emerged from the decentralized nature of the organization, a decentralization which both impelled and enabled individual staffers to form alliances with other environmental activists,

²⁵⁹ Interview with Scowcroft.

scientists, doctors, and philosophers alike. The health of the planet, in essence, was equal parts biological, democratic, and spiritual.

1984 was a crucial and traumatic year for FOE. Following personality conflicts as well as alleged financial misconduct, Brower had stepped down as president in 1982, though he remained on the Board of Directors. Facing a \$700,000 debt, FOE management, at that point based entirely in D.C., decided to close the San Francisco office and its publications program to boot. Brower was fired as Chairman of the Board; Salzman was fired as well; Scowcroft agreed to a severance package; and Jansson chose to leave. Then followed a sordid series of machinations, allegations, and embezzlements which would leave few unsullied.²⁶⁰

FOE's vision of the health of the planet narrowed in the 1980s, as it joined the "Coalition of Ten", a Washington, D.C., - based group of large environmental lobbying and litigation organizations. The "Ten" leaned on informed individual action as the basis for environmental protections, arguing that environmentalism had "roots deep in the American tradition of citizen action."²⁶¹ The coalition felt that the proper site for negotiating increased regulations was between citizens and the state. This approach quickly became infamous among a rising cohort of radical environmentalists, who indicted the Ten for compromising with federal government agencies, especially on land protection issues. Many of these radicals, including Dave Foreman, Howie Wolke, Stephanie Mills, and Gary Snyder, were former staffers or affiliates of these organizations, FOE in particular. As we shall see in the coming chapter, the connection of these radicals with FOE was far from coincidental; FOE's turn towards professionalization was

²⁶⁰ For a thorough personal recollection of the events, see Lorna Salzman, "The Decline and Fall of Friends of the Earth in the United States," *Philosophy and Social Action – Philosophy, Science, and Society* 16 (1990). Also available on her website, at <http://www.lornasalzman.com/collectedwritings/DeclineofFriends.html> (Accessed March 21, 2012).

²⁶¹ Robert Cahn, ed., *An Environmental Agenda for the Future* (Washington, D.C.: Island Press, 1985), 1.

particularly resented, for it had long been revered as a mainstream organization with a truly radical agenda.

The health of the planet continued to be pursued, albeit in a much different milieu. A dense network of deep ecological philosophers, Beat poets, wildlife conservation biologists, and direct action environmentalists emerged in the 1980s, a network which championed the health of the planet in spite of the health of humans. This network, and the “earth medicine” it developed, forms the subject of the next chapter.

Chapter 3

Gary Snyder, Biocentrism and Land Medicine

In 1971, Gary Snyder gave a talk entitled “The Wilderness” to the Center for the Study of Democratic Institutions in Santa Barbara, California.²⁶² Snyder, a central poet of the Beat Generation, opened with the wish to “be a spokesman for a realm that is not usually represented either in intellectual chambers or in the chambers of government”.²⁶³ That realm was the wild.

Snyder saw two faces of the wild: the internal face of human imagination, creativity, and impulse, and the external face of nature, of “self-contained, self-informing ecosystems”. In both of these aspects, the wild constituted “the ground” of humanity’s existence. According to Snyder, contemporary Western culture, as well as the ancient civilizations of China and India, had alienated themselves from the wild through deforestation, monoculture farming, over-fishing, and by privileging “civilized” over “primitive” behaviors. At the root of the problem, he explained, “is the mistaken belief that nature is something less than authentic, that in a sense it is dead”.²⁶⁴ By deluding itself that nature was of less worth than human affairs, humanity had sown the seeds of its self destruction.

Snyder called for an expansion of human democracy to include the nonhuman,

What we must find a way to do, then, is incorporate the other people – what the Sioux Indians called the creeping people, and the standing people, and the flying people, and the swimming people – into the councils of government...If we don’t do it, they will revolt against us. They will submit non-negotiable demands about our stay on the earth.

²⁶² The CSDI, established in 1959, was a think tank created by the Ford Foundation’s Fund for the Republic. It functioned as a residential center enabling scholars and politicians to address such “basic issues” as education, integration, and the re-conceptualization of the United States constitution.

²⁶³ Gary Snyder, “The Wilderness”, in Gary Snyder, *Turtle Island* (New York: New Directions Books, 1969), 106.

²⁶⁴ *Ibid*, 107.

We are beginning to get non-negotiable demands right now from the air, the water, the soil.²⁶⁵

According to Snyder, humanity had created for itself an impending crisis. Environmental destruction had reached such a degree that “non-negotiable demands” were soon to be issued by the trees, the land, the air, and the animals. Confronting and answering those demands with a view towards survival required humanity to look outside of its historically recent idolization of growth, progress, and separation from the wild, toward the very identity it had worked so hard to reject: “the primitive”. For, Snyder argued, it was the primitive peoples of the earth – Native American tribes, Eskimos, and Inuit, among many others – who had attempted to maintain an “ecological conscience” by keeping open “lines of communication with the forces of nature.”²⁶⁶ He pointed to several ways that such communication had happened: art, hunting rituals, shamanistic channeling of other life forms, poetry, and a general depth of ecological knowledge regarding the non-human residents of the place that one inhabits. Positing, as much provocatively as optimistically, that “we are on the verge of postcivilization”, Snyder called on his audience to take inspiration from the traditional ways of these so-called “primitive” peoples, to foster a greater representation of the nonhuman within the modern way of life, lest the planet’s other residents begin to demand retribution for centuries of neglect and abuse.

Coming fast on the heels of the first Earth Day, Snyder’s speech was striking in its distance from the politics of the preceding April. However radical individual speakers had been in their critiques of consumerism, economic expansion, population growth, and individualism, Earth Day’s real triumph was a revival of investment in liberal democratic processes. Snyder’s vision was, by contrast, decidedly non-anthropocentric and anarchist. As opposed to a human politics (or a politics of human health), he focused on the health of the entire ecological

²⁶⁵ Ibid, 108.

²⁶⁶ Ibid, 107.

community, of which humans were merely one element, and he called for radical changes in consciousness and lifestyle, rather than reforms in legislation and governance. He asserted that the natural world was the *real* world, and that it was capable of issuing “non-negotiable demands” once its boundaries were breached. His vision required a politics radically different from Capitol Hill lobbying and citizen petition drives.²⁶⁷ Indeed, for Snyder, liberal democratic politics would only perpetuate modern society’s alienation from the wilderness upon which it depended.

Snyder had participated in the first Earth Day, speaking at the Greeley campus of Colorado State University on over-population, economic growth, and deforestation. As he recounted twenty years later,

That first Earth Day was not exactly a beginning, but it was a hinge, a turn around a corner. It marked the gradual waning of the need for anti-war activism and the swinging of our energies toward the struggle for the *health* of the earth. It brought a whole generation of students, and many others who had never much thought of nature before, into a movement in defense of life and death, of the whole process of nature.²⁶⁸

Snyder gestured toward an alternate, *biocentric* trajectory ushered in by Earth Day, one which recognized moral standing in nonhuman nature, and perceived humans as just one member of a diverse ecological community. He embraced the shift of energy towards the health of the earth for what it meant: that a growing number of humans were turning their attention outside the confines of human politics.

Throughout the 1970s and growing in numbers and influence in the 1980s, Snyder’s biocentric message found resonance with a motley crew of environmental activists, academic

²⁶⁷ Snyder enthusiastically embraced anarchism throughout his career. For an extended discussion of the relationship between anarchism and radical environmentalism, see Keith Woodhouse, “A Subversive Nature: Radical Environmentalism in the Late-Twentieth-Century United States” (Ph.D diss., University of Wisconsin, Madison, 2010).

²⁶⁸ Gary Snyder, “Earth Day and the War Against the Imagination,” in Gary Snyder, *A Place in Space; Ethics, Aesthetics, and Watersheds* (Berkeley: Counterpoint, 1995), 57-8. My emphasis.

philosophers, back-to-the-landers, and ecologists striving to construct a politics *of the wild*, an environmental politics that did not begin and end with human welfare. Despite dramatically different geographic and occupational niches, this sprawling group came to identify as biocentric, and to craft a politics intended to represent and restore the health of the wild.

Though united on the question of whose health needed protecting – the wilderness - and from whom – modern industrial civilization - the biocentric impulse initially arose from four distinct groups of people. The first was from the exodus of the San Francisco counterculture. In the wake of the 1967 “Summer of Love”, and the subsequent crackdown by the city’s health, fire, and police departments, the Haight-Ashbury social experiment was effectively dissolved.²⁶⁹ Many residents dispersed to communes and organic farms scattered across the country, eager to begin collective living experiments based upon ecological values.²⁷⁰ This exodus included Gary Snyder. Initially trained as a scholar of classical Chinese and Japanese literature, Snyder became a key figure in the San Francisco poetry renaissance of the 1950s.²⁷¹ He left San Francisco in 1956 to train as a Zen Buddhist monk in Japan.²⁷² Upon his return to San Francisco in 1967 he immersed himself in the Haight-Ashbury, most memorably (and perhaps stereotypically) chanting mantras onstage with Allan Ginsberg at the 1967 Human Be-In at San Francisco’s

²⁶⁹ For more on the Summer of Love see Anthony Ashbolt, “‘Go Ask Alice’: Remembering the Summer of Love Forty Years On,” *Australasian Journal of American Studies* 26 (2007); Christoph Grunenberg and Jonathan Harris, eds., *The Summer of Love: Psychedelic Art, Social Crisis, and Counter-Culture in the 1960s* (Liverpool: Liverpool University Press, 2005); Leonard Wolf, *Voices from the Love Generation* (Boston: Little, Brown, 1968). On the relationship between the hippie counterculture and the ecology movement see Andrew Kirk, *Counterculture Green: The Whole Earth Catalog and American Environmentalism* (Lawrence: University of Kansas Press, 2007); Rome, “Give Earth A Chance”.

²⁷⁰ As Peter Berg described it, “veterans of the amazing cultural liberation” of the Haight joined “groups of new settlers who had earlier headed to the land to pursue Earth-based values.” See Peter Berg, “Beating the Drum with Gary,” in Jon Halper, ed., *Gary Snyder: Dimensions of a Life* (New York: Random House, 1991), 381.

²⁷¹ For more on Snyder and the poetry and politics of the Beat Generation, see: Patrick D. Murphy, ed., *Critical Essays on Gary Snyder* (Boston: G.K. Hall & Co., 1991); Patrick D. Murphy, *Understanding Gary Snyder* (Aiken: University of South Carolina Press, 1992); Gary Snyder, “Notes on the Beat Generation”, in Gary Snyder, *A Place in Space*, 7-18.

²⁷² For more on Gary Snyder, the Beat Generation, and Buddhism, see: Sherman Paul, “From Lookout to Ashram: The Way of Gary Snyder”, and Bert Almon, “Buddhism and Energy in the Recent Poetry of Gary Snyder,” in Murphy, *Critical Essays on Gary Snyder*.

Golden Gate Park. With Ginsberg and others, he purchased 100 acres of land on the San Juan Ridge of the Sierra Nevada Mountains, a region that had been heavily logged and mined for gold in the late nineteenth century, and subsequently abandoned. Snyder began building a family home with his wife, Masa Uehara, and the help of a rotating crew of volunteers. The home, which he named Kitkitdizze after the low-lying shrub constituting most of the ground cover, expanded over the following decade to include a zendo, gardens, and a solar heated laundry, and remains to this day independent of the electrical grid.²⁷³ Snyder was a prolific poet, frequent public speaker, and avid correspondent; it was at his poetry readings, through his aggressive letter-writing, and at his house that many of the activists discussed in this chapter came into contact with him and one another.²⁷⁴

Peter Berg was another pivotal migrant from the Haight. As a member of the San Francisco Mime Troupe in the mid-1960s, Berg had developed the practice of “guerrilla theater”: theater directed towards provoking and inspiring social change. Berg left the Mime Troupe to found the Diggers in 1966. A self-described “anarchist guerilla street theater group”, the Diggers aimed to foster a new society amongst the youth in the Haight through such fora as Free Stores, free concerts, street theater, and occupations of San Francisco City Hall.²⁷⁵ In 1969, Berg left the city with his family on a North American tour of communes, eventually settling at the Black

²⁷³ A zendo is a Buddhist meditation hall. For a vivid description of Kitkitdizze during its construction, see Peter Coyote, “Gary Snyder and the Real Work”, in Halper, *Gary Snyder: Dimensions of a Life*; Gary Snyder, “Kitkitdizze: A Node in the Net”, in Snyder, *A Place in Space*.

²⁷⁴ Despite what I will argue to be his pivotal role in biocentric politics and theory, Gary Snyder has to date remained absent from environmental history scholarship. Andrew Kirk, in *Counterculture Green*, devotes some time to describing Snyder as an “environmental prophet”, a member of the “countercultural environmentalism” of the late 1960s and 1970s. Certainly, Snyder was a member of the counterculture, if that term is used to describe the quest, often fuelled by hallucinogenic drugs, for an alternate ecological worldview. Yet at this chapter will demonstrate, his role was just as material as it was prophetic.

²⁷⁵ Berg, “Beating the Drum with Gary Snyder,” 381.

Bear Ranch, an “egalitarian commune” in the northern Californian Siskiyou Mountains.²⁷⁶ In their different ways, Berg and Snyder each gave formative shape to *bioregionalism*, the practice of committing oneself to a particular place, learning its history and patterns, and endeavoring to restore it to health.

The second contingent of the biocentric movement was comprised of deep ecological philosophers. Throughout the 1960s, theologians, ecologists, economists, and anthropologists, including Lynn White, Garrett Hardin, Paul Ehrlich and Loren Eiseley, critiqued the connection between anthropocentrism and environmental destruction.²⁷⁷ What became known as deep ecological philosophy arose through the collaboration of some of these critics: Norwegian philosopher Arne Naess, American philosopher George Sessions and sociologist Bill Devall. Sessions and Devall had been influenced by Naess’ 1973 paper, “The Shallow and the Deep, Long-Range Ecology Movements”. The paper enumerated the differences between the “shallow reform environmentalism” of large environmental lobbying organizations, which focused on the protection of human health and welfare, and “deep ecocentric environmentalism”, by which Naess referred to the recognition that “man” was fully embedded within an environment governed by the principle of “biocentric egalitarianism”.²⁷⁸ Over the course of the 1970s, the three elaborated a deep ecological “platform” or “ecosophy”, based on the premise that humans were one and the same with nature. As Devall and Sessions explained in 1985, deep ecology “goes beyond” piecemeal and shallow approaches to environmental problems, and seeks instead

²⁷⁶ All quotes in this paragraph are taken from Shaping San Francisco’s video interview with Peter Berg as part of the “Ecology Emerges” series. Available at <http://archive.org/details/EcologyEmergesPeterBerg>.

²⁷⁷ Lynn White, Jr., “Historical Roots of Our Ecologic Crisis,” *Science* 155 (1967); Paul Ehrlich, *The Population Bomb* (New York: Ballantine Books, 1968); Garrett Hardin, “The Tragedy of the Commons”, in Garrett de Bell, ed., *The Environmental Handbook* (New York: Ballantine/Friends of the Earth Books, 1970).

²⁷⁸ Arne Naess, “The shallow and the deep, long-range ecology movement. A summary,” *Inquiry* 16 (1973), 96.

“to articulate a comprehensive religious and philosophical worldview”.²⁷⁹ Although “deep ecology” became a constitutive platform of biocentric politics, its philosophers were not: with the exception of Bill Devall’s participation in Earth First!, the deep ecological philosophers had little direct political engagement.²⁸⁰

By the end of the 1970s, the bioregionalists and the deep ecologists were joined by a third set of activists: refugees from the environmental bureaucracy in Washington, D.C. One was Stephanie Mills, whose initial claim to fame was her valedictorian address at Mills College in 1969, “The Future is a Cruel Hoax”. In the speech, Mills claimed that she would never have children, asserting that because of overpopulation, “The world is becoming a mangled corpse, an entity afflicted with the cancer of man”.²⁸¹ She gained an instant caché within San Francisco politics, at the headquarters of Friends in the Earth in particular. Over the next decade she served on the FOE advisory board, and as intermittent editor of *Not Man Apart*. By the early 1980s, disillusioned with the patriarchy and “glacial pace” of Capitol Hill politics, Mills was reborn as a prolific bioregional writer and active homesteader in Michigan’s Leelanau County.

Another refugee was Dave Foreman, a former Young Republican and field organizer for the Wilderness Society. Along with Howie Wolke and Bart Koehler from FOE, and Ron Kezar from the Sierra Club, Foreman founded Earth First! in 1981. Angered by what they saw as a penchant for compromise amongst the environmental organizations in the Washington, these

²⁷⁹ Bill Devall and George Sessions, *Deep Ecology: Living as if Nature Mattered* (Salt Lake City: Peregrine Smith Books, 1985), 65. Despite their sustained critique of mainstream environmentalism, of the three only Bill Devall was actively political, through the Humboldt State student chapter of Earth First!, and the Earth First! Foundation Board. Interestingly, Devall and Sessions had a permanent falling out in 1984, and Devall’s political activity became a point of contention. George Sessions to Arne Naess, October 14, 1988. Series 2, Box 167, Folder 82. Gary Snyder Papers, University of California, Davis.

²⁸⁰ Devall and Sessions were in frequent communication with Snyder, and dedicated their 1985 book to him. Sessions taught philosophy at Sierra College in Rocklin, California, in the foothills of the Sierra Nevada, and built a home close to Snyder’s in the late 1970s. The two were frequent correspondents, on issues ranging from ecology and environmental activism to the purpose of philosophy. George Sessions to Gary Snyder, December 22, 1981. Series 2, Box 167, Folder 46. Gary Snyder Papers, University of California, Davis.

²⁸¹ Stephanie Mills, *Whatever Happened to Ecology?* (San Francisco: Sierra Club Books, 1989), 57.

refugees cultivated a new ethos and fervor of ecodefense – which they described as the self-defense of the wild.

The fourth contingent of biocentrists came from academic ecology. Increasingly frustrated with the distance between university-based ecological studies and wilderness advocacy, in 1986 a group of ecologists led by population geneticist Michael Soulé challenged their colleagues to increased political participation. Soulé proposed a new “crisis discipline” of conservation biology, intended to make science relevant for policy-making purposes.²⁸² The resulting Society for Conservation Biology adopted a basic set of values which, following explicitly in deep ecological philosophy’s footsteps, Soulé described as an “ecosophy”.²⁸³ Soulé and his colleague Reed Noss became active members of Earth First!, helping it to craft its ambitious wilderness protection proposals, and later founding the Wildlands Project with Foreman in 1991.

The convergence of the San Francisco counterculture with academics and disillusioned environmental organizers proved to be fertile ground for the efflorescence of biocentric thought and politics regarding the health of the earth. Biocentrists employed a variety of terms to diagnose the planet’s ills, and to prescribe a right course of action. On the diagnostic side, ecologist Raymond Dasmann spoke of humanity’s assault on biodiversity as the “Third World War”; Michael Soulé described it as the “end of evolution”, the “Sixth Great Extinction”, and the “Anthropocene Era”; and Dave Foreman, borrowing from interwar ecologist Aldo Leopold, compiled a list of human inflicted “wounds” to the earth.²⁸⁴ On the prescriptive side, Dasmann

²⁸² For an excellent history of the emergence of conservation biology and its influence on environmentalism, see Turner, *The Promise of Wilderness*.

²⁸³ Michael Soulé and Arne Naess were in fact close friends, meeting often at Buddhist retreats and for mountain hiking excursions.

²⁸⁴ Dave Foreman, *Rewilding North America: A Vision for Conservation in the 21st Century* (Washington: Island Press, 2004), 3.

advised adoption of a “future primitive” state; Snyder and Berg argued for “re-inhabitation”; Soulé, Foreman, and Noss developed “rewilding” proposals; and Earth First! practiced nonviolent direct action. While the terms employed were diverse, the fundamental message was not: humanity lived on the brink of disaster, and only immediate attention to the health of the earth and its non-human inhabitants could help ameliorate the impending downfall.

This chapter traces the development and interconnection of these biocentric diagnoses and prescriptions. In one important sense, it picks up where the previous chapter left off. There was a great continuity in personnel between FOE and biocentric activism. Gary Snyder was on the FOE advisory board in the early 1970s; Stephanie Mills and Earth First! co-founder Howie Wolke both worked for FOE; subsequent to her firing, Lorna Salzman continued on to play a constitutive role in the bioregional movement; and ecologist Raymond Dasmann was a frequent collaborator with David Brower. Yet all these individuals, at various points during the 1970s, became disillusioned with the direction in which FOE was heading; in particular, with the possibilities for political action within the federal bureaucracy. As Foreman later phrased the matter, “Even FOE, which had started out radical back in the heady Earth Day era, had gravitated to the center and, as a rule, was a comfortable member of the informal coalition of big environmental organizations.”²⁸⁵

In its structure, however, this chapter will take its cue from the diversity of biocentric activism. Rather than following the evolution of thought in a single large organization, it follows the evolution of an impulse as it developed amongst a motley assortment of philosophers, poets, biologists, and activists. Unlike FOE, which served as a grounding point and clearinghouse for various influences, the biocentric impulse took its shape from the soil in which it rooted, whether the ponderosa pines of the high Sierra Nevada, the dense urban network of San Francisco, or the

²⁸⁵ Dave Foreman, *Confessions of an EcoWarrior* (New York: Harmony Books, 1991), 15.

heavily farmed valleys of the Appalachian mountains. Following Snyder's bioregional imperative - "Don't move, work with your own area"²⁸⁶ - the biocentric impulse was profoundly local. Whereas FOE pitched its primary battles against the state, the biocentric activists discussed in this chapter fought fundamentally local battles against planning agencies, neighbors, and at specific sites of deforestation and resource extraction. For these activists, the 1970s did not represent a new politics but a further turning away from the correct and ecologically necessary ways of life of the past. For some, like Mills and Foreman, this conviction was born from years of working within mainstream environmentalism. For others, such as Peter Berg, it was born from the ethic and lifestyle of decentralization and individualism in which they had been steeped in the 1960s.

The chapter will examine three facets of biocentric politics: bioregionalism, the ecodefense practiced by Earth First!, and the conservation biology-based "land medicine" of the Wildlands Project. It will focus on themes common to all: how to heal the earth, reinhabitation and rewilding, opposition to mainstream environmentalism, and the importance of place. It will also spotlight the remarkable interlocking of their memberships. This cross-fertilization between ostensibly divergent groups of people allowed these otherwise disparate endeavors to coalesce around a homogeneous message about protecting the health of the wild. Throughout, the chapter will attend to how crucial Gary Snyder's life and writing were to weaving together these various organizations and practices.

²⁸⁶ Gary Snyder to Susan Zakin, December 12, 1990. Series 2, Box 210, Folder 45. Gary Snyder Papers, University of California, Davis.

Bioregionalism

“City and country people...all live in distinct life-regions, absolutely unique creases of the planet’s skin.”²⁸⁷

- Peter Berg, 1976

Biocentric thought found articulate and practical expression in the bioregional movement that emerged in the early 1970s. Bioregionalism arose as a means of describing the negotiations and mutual compromises that occurred as students and social activists left San Francisco and university campuses to re-settle in remote and sparsely populated regions.²⁸⁸ This diaspora infused rural communities with the social activism, anti-statism, and countercultural lifestyles of these new residents, many of whom were rich in ecological ideals but lacked any concrete knowledge of the ways of life best suited to the region they had chosen to inhabit. Gary Snyder and Peter Berg, who themselves settled in rural areas of Northern California, were part of this new, often uneasy encounter between long-time rural residents and idealistic young homesteaders. The two would each come to describe the process of learning to live in a place, according to its ecological possibilities, as *bioregionalism*.

The central premise of bioregionalism was that human-drawn boundaries were ecologically detrimental. As defined by bioregionalist Kirkpatrick Sale, a bioregion denotes a place defined by its inhabitants rather than political mandate, “a region governed by nature, not legislature.”²⁸⁹ Northern Californian bioregionalist and Humboldt State English professor Jim Dodge took this definition further, writing in the *Co-Evolution Quarterly* that,

²⁸⁷ Peter Berg, “Amble Towards Continent Congress”, in Peter Berg, *Envisioning Sustainability* (Subculture Books, 2009).

²⁸⁸ Doug Aberley, “Interpreting Bioregionalism: A Story from Many Voices”, in Michael McGinnis, ed., *Bioregionalism* (New York: Routledge, 1998), 15.

²⁸⁹ Kirkpatrick Sale, *Dwellers in the Land; The Bioregional Vision* (San Francisco: Sierra Club Books, 1985), 43.

Bioregionalism means life territory, place of life, or perhaps by reckless extension, government by life. If you can't imagine that government by life would be at least 40 billion times better than government by the Reagan administration, or Mobil Oil... then your heart is probably no bigger than a prune pit and you won't have much sympathy for what follows.²⁹⁰

As Peter Berg and Raymond Dasmann framed it, "*Bioregion* refers both to a geographical terrain and a terrain of consciousness – to a place and the ideas that have developed about how to live in that place."²⁹¹ The precise parameters of a bioregion varied. As Dodge explained, bioregions could take into account biotic shifts, watersheds, cultural perceptions, land forms, elevation, and "spirit places".²⁹² Ultimately, a bioregion was a conceptual, political, and ecological category.

Literary scholar Ursula Heise has noted that, "life lived with a "sense of place" entails the "rejection of some aspects of modernization, such as centralized governing institutions and high geographical mobility", as well as the embrace of particular activities, such as "building one's own home or working one's own farm."²⁹³ Bioregionalists believed that it was through these practices that humans would gain an intimate knowledge of place, and develop a sacred connection to it. Bioregionalism strongly assumed that "detailed knowledge of a local environment will lead to emotional or intuitive ties to place and to an attitude of care and responsibility toward it."²⁹⁴

It took two gatherings of the United Nations to bring together the various influences that would give definition to this new attitude of "care and responsibility" as bioregionalism. The first, a November 1969 conference on "Man and His Environment – A View Toward Survival",

²⁹⁰ Jim Dodge, "Living By Life: Some Bioregional Theory and Practice," *Co-Evolution Quarterly* 32 (1981), 6.

²⁹¹ Peter Berg and Raymond Dasmann, "Reinhabiting California," *The Ecologist* 7 (1977).

²⁹² *Ibid*, 7-8.

²⁹³ Ursula K. Heise, "Local Rock and Global Plastic: World Ecology and the Experience of Place," *Comparative Literature Studies* 41 (2004), 131.

²⁹⁴ *Ibid*, 132.

was sponsored by the United States National Commission for UNESCO, and held in San Francisco. Program chairman Huey Johnson invited Dasmann, Snyder, and Mills, along with Paul Ehrlich, Barry Commoner, Sierra Club director Michael McCloskey, and scores of experts in various fields to produce brief policy statements on a broad range of issues, in the hopes, as Johnson passionately explained, “to save man from himself by ensuring a healthy environment”.²⁹⁵

Raymond Dasmann spoke on “Ecological Diversity”, asserting that “if we fail to rise to the challenge of ecological diversity, there will be no humans on earth”.²⁹⁶ Stephanie Mills, fresh from her commencement address success, ridiculed the conference as a gathering of “well-intentioned souls” wasting time by reassuring one another about the existence of a problem, and refining their own guilt about their failure to act fully. She spoke with righteous anger about the “all-holy economy” that would presently “blow away like leaves in the storm of environmental disaster.”²⁹⁷ She invited politicians to reconsider their overweening commitment to re-election by asking themselves a simple, graphic, question,

...the big question to ask is “So what?” So what if I don’t get reelected or reappointed. Will my position mean anything if I’m up to my neck in bodies and sewage?²⁹⁸

Gary Snyder presented two poems – “Long Hair” and “Before the Stuff Comes Down” - inspired by ecologist Aldo Leopold’s land ethic. Aspiring to awaken conference participants to the interpenetration of nature and human society, Snyder wrote,

Deer trails slide under freeways
slip into cities
swing back and forth in crops and orchards
run up the sides of schools!²⁹⁹

²⁹⁵ Huey Johnson, “Introduction,” in Huey Johnson, ed., *No Deposit-No Return. Man and His Environment: A View Toward Survival* (Reading, MA: Addison-Wesley Publishing Company, 1970), 3.

²⁹⁶ Raymond Dasmann, “Ecological Diversity,” in Johnson, *No Deposit-No Return*, 111.

²⁹⁷ Stephanie Mills, “Ecology: A Commitment,” in Johnson, *No Deposit-No Return*, 292.

²⁹⁸ Ibid

The Conference was intended as a preparatory gesture for the June 1972 UN Conference on the Human Environment (UNCHE) to be held in Stockholm. Yet in just those three years, fault lines between the conference participants and the international environmental bureaucracy had solidified. Despite the San Francisco Conference's request that the 1972 event give full representation to youth and grassroots activists, the Stockholm Conference did the opposite. Planning for the 1972 event was restricted to bureaucrats and scientific experts,³⁰⁰ and the thousands of youth and environmental activists who descended upon the city were shunted to a remote airfield on the outskirts of the city. Thus, the UNCHE was effectively two conferences: the official UN conference, attended by bureaucrats, non-governmental organizations, policy-makers and scientists, and the alternative conference, attended by dissident scientists like Barry Commoner, environmental activists, and itinerant youth.³⁰¹

Environmental entrepreneur Stewart Brand, of *Whole Earth Catalog* fame, sent a "Life Forum" comprised of San Francisco artists and activists to the Conference. The delegation included Gary Snyder and fellow Beat poet Michael McClure; members of the Black Mesa Defense Fund, a direct action group formed to halt strip mining of coal on Northern Arizona's Black Mesa Reservation; the Hog Farmers, a hippie commune from Southern California best known for providing security at the Woodstock Music Festival; and Stephanie Mills, whose ostensible job while in Stockholm was to host eclectically themed dinner parties.³⁰²

²⁹⁹ Gary Snyder, "Long Hair-Deer Trails," in Johnson, *No Deposit-No Return*, 283.

³⁰⁰ For a complete list, see Rene Dubos and Barbara Ward, eds., *Only One Earth: The Care and Maintenance of a Small Planet*. (New York: W. W. Norton and Company, 1972), xviv-xxv.

³⁰¹ A full listing of all the alternative conference attendees can be found in Mary Jean Haley's *Open Options* pamphlet, printed and distributed at the conference by Stewart Brand's Point Foundation.

³⁰² Mills, *Whatever Happened to Ecology?*, 94-96. As Andrew Kirk writes, the Point Foundation was intended to "support activities aimed at the ecological health of the planet." See *Counterculture Green*.

The Life Forum's ambition was to encourage the "flowering of consciousness" amongst youth attending the event, to facilitate a "generational gathering" like Woodstock.³⁰³ Yet consigned to a remote location, the Forum was a failure in this regard.

The UNCHE solidified the existential and conceptual distance between the international environmental bureaucracy, whose goals were to establish acceptable levels of pollution and determine how environmental protection could further economic growth, and a set of people modeling an alternative ecological existence ("California's most noteworthy ecofreaks").³⁰⁴ In its official summary declaration, the UNCHE cast "man" as the steward and wise cultivator of the earth's natural resources, and emphasized that the greatest priority in the determination of environmental policy should be the protection of the human rights of the world's most marginalized human communities.³⁰⁵ Indeed, the declaration devoted more time to human rights and development than to the environment.

These priorities were starkly contrasted by the vision embodied in Snyder's poem "Mother Earth: Her Whales", which he distributed at the alternative conference's whale march.

How can the head-heavy power-hungry politic scientist
Government two world Capitalist-Imperialist
Third-World Communist paper-shuffling male
Non-farmer jet-set bureaucrats
Speak for the green of the leaf? Speak for the soil?³⁰⁶

For Snyder, it was impossible for the cosmopolitan elite, whose loyalties were to nation-states, political orders, and disciplined forms of knowledge, whose way of life was patriarchal and divorced from the earth, to make decisions for the good of the non-human world. All such an

³⁰³ Interview with Stephanie Mills, February 2012.

³⁰⁴ Mills, *Whatever Happened to Ecology?*, 94.

³⁰⁵ UNCHE, "Declaration of the United Nations Conference on the Human Environment", Stockholm, June 1972.

³⁰⁶ Gary Snyder, "Mother Earth: Her Whales", in Mills, *Whatever Happened to Ecology?*, 97.

elite could do, Snyder wrote, was to “argue how to parcel our Mother Earth/To last a little longer”. Snyder called for solidarity amongst all peoples,

Standing Tree People!
Flying Bird People!
Swimming Sea People!
Four-legged, two-legged, people!

It was high time, he implied, for humans to recognize their true loyalties: not to political and economic boundaries, but to tree, bird, whale, and bear.

Also present at the conference, albeit in radically different capacities, were Peter Berg and Raymond Dasmann. Berg came by himself as “a representative of North American communards”. He brought along a homemade video presentation, a compilation of footage from his tour of North American communes. He also distributed a broadside entitled “Automated Rites of the Obsolete Future”. In true Digger fashion, the broadside was ironic, provocative, and psychedelic, opening with the challenge to “Abandon FLESHWORKS, abandon NATURESHAPE, abandon EARTH!”, and concluding with the question, “No alternative to leaving Earth, huddling in smogdomes with life-ensuring tickets off the pestilential 3rd planet?”³⁰⁷

Raymond Dasmann was involved with the official side of the UNCHE, as senior ecologist with the International Union for the Conservation of Nature (IUCN). Dasmann’s overriding concern was how to adequately preserve endangered species, and he had become increasingly convinced that the only way to do this was through habitat preservation. In the context of wildlife conservation practices of the 1960s, which often focused exclusively on individual species, this was a radical idea. Inspired by the work of geneticist Lee Dice, who in

³⁰⁷ Peter Berg, “Automated Rites of the Obsolete Future,” in Berg, *Envisioning Sustainability*, 43-47. For a tamer analysis of Berg’s attendance, see Berg, “Beating the Drum with Gary”, 385.

the 1920s and 1930s had developed the concept of a “biotic province” to describe an area with “ecologically continuous” soil, climate, and topography,³⁰⁸ Dasmann developed a series of maps, entitled “Biotic Provinces of the World”, depicting the boundaries of the world’s major biotic provinces.³⁰⁹

Dasmann, of an older generation, did not consider himself a part of the “hippie spirit” of the early 1970s. Regarding the “confrontational nature” of the alternative conference attendees, Dasmann recalled that he was in agreement with their goals and disagreement with their methods.³¹⁰ Nevertheless, he shared their impulse to escape the mushrooming environmental bureaucracy. One year after the UNCHE, Dasmann bought a plot of land on the San Juan Ridge several miles away from Snyder, remembering that “I was beginning to have nightmares about being caught forever in an endless UN conference in a city I did not know.”³¹¹

Unbeknownst to Dasmann, his series of maps had found an audience outside of the scientific conservation community. Berg’s friend, poet Allen van Newkirk, had at that point been using the word “bio-region”, consciously taken from Dasmann’s maps, to describe an ideal ecological community. Van Newkirk, a Detroit-based activist and artist, had moved to Nova Scotia in the late 1960s, and founded the Institute for Bioregional Research in 1974. The Institute was dedicated to defining “biogeographically interpreted culture areas”, within which humans would work to restore biodiversity and build ecologically sensitive ways of life.³¹² However, Newkirk was adamantly opposed to including humans as permanent residents within this community. Berg felt strongly that the concept of a bio-region could inspire a reformulation

³⁰⁸ Lee Dice, *The Biotic Provinces of North America* (Ann Arbor: University of Michigan Press, 1943).

³⁰⁹ Raymond Dasmann, *Called by the Wild: An Autobiography of a Conservationist* (Berkeley: University of California Press, 2002), 174-176.

³¹⁰ *Ibid.*, 145.

³¹¹ *Ibid.*, 196.

³¹² Aberley, “Interpreting Bioregionalism”.

of human society and culture; in the years following the UNCHE he reached out to Dasmann directly, suggesting that they “add people to the concept and create a socio-political movement”.³¹³ Although Dasmann was amenable to the prospect, he and Berg would not collaborate for several years.

Following the perceived failure of the conference, Berg and his long-time partner, dancer Judy Goldhaft, returned to San Francisco and founded the Planet Drum Foundation in 1973, with an eclectic mix of poets, landscape architects, artists, anthropologists, and long-term San Francisco activists, many of whom the two had met during their tour of North American communes. Initially, Planet Drum functioned as a clearinghouse for bioregional literature and reinhabitation strategies, creating and distributing “bundles” of bioregional poems, maps, essays, and artwork to scattered communes, farms, and ecological restoration projects across North America.

In an Earth Day 1974 presentation at the University of North Carolina, Berg gave plain statement to the goals of bioregionalism.

We begin to reinhabit the earth as planetarians, starting where we are, aware of where our food & water are coming from. Aware of what the land beneath our feet is doing, how it works with the unique life & weather of that spot.

WE DON'T NEED AN APOCALYPSE TO GET OUT OF THE WORLD & ONTO THE PLANET.³¹⁴

Berg defined re-inhabitation as beginning with local knowledge: where our food and water come from, other than the grocery store. From these basic sources of survival the re-inhabitant begins to comprehend the ecological patterns of a region: the contours of its watershed, the specific plant communities, what types of food can be grown and which cannot. It would not take an

³¹³ This quote was taken from Shaping San Francisco's video interview with Peter Berg as part of the “Ecology Emerges” series. Available at <http://archive.org/details/EcologyEmergesPeterBerg>.

³¹⁴ Peter Berg, “Reinhabitation Message from the Pacific Coast, North America”, in Berg, *Envisioning Sustainability*, 53-54.

earth-shattering event, Berg argued, for humans to re-adopt these basic forms of knowledge. Becoming “local-planet people” simply required humans to become aware of the places they inhabit, to understand that they must “scale their lives to keep their region healthy”.

From its beginning as a literary forum, Planet Drum expanded. From 1975 to 1979, Berg and Goldhaft toured Northern California with their “reinhabitory theater”. Aiming to inspire people to see, however fleetingly, through non-human eyes, Berg and Goldhaft would act out different animal species. But it was to be Dasmann’s participation in Planet Drum that propelled bioregionalism past the confines of scattered communes and Digger-esque artistic projects.³¹⁵ In 1977, Berg and Dasmann published “Reinhabiting California” in *The Ecologist*. In the article, the first mainstream explanation of the purpose and goals of bioregionalism, they wrote,

Reinhabitants...want to fit into the place. Their most basic goals are to restore and maintain watersheds, topsoil, and native species... Their aims might include developing contemporary bioregional cultures...and new region-to-region forms of participation with other cultures.³¹⁶

The article, widely reprinted and circulated (“too much” in Dasmann’s mind), was the first thorough attempt to define the bioregional identity as one of “re-inhabitation”. The re-inhabitant, obviously not native to a region, nonetheless lived with the goal of becoming native. This process entailed learning the ecological and cultural patterns of a region, and attempting to rectify human-induced damage.

One year later, Berg explained in the introduction to *Reinhabiting A Separate Country: A Bioregional Anthology of Northern California* that,

There are countries that can’t be found in a World Atlas although they can be seen in a plane out the window, countries whose soft borders remain invisible to governments even though travelers easily sense crossing them. They are the natural countries founded on

³¹⁵ Aberley, “Interpreting Bioregionalism”.

³¹⁶ Berg and Dasmann, “Reinhabiting California”.

specific soils and land forms, exposed to particular climate and weather, and populated by native plants and animals which have endured since the last Ice Age. Each is a separate living part of the unified planetary biosphere; tissues and organs in the current manifestation of Earth's anatomy. They exist as a live geography more distinct than the nations and states whose borders shift arbitrarily to include or divide them.³¹⁷

Together, Berg and Dasmann proposed the existence of another world, one which lay beyond the human artifacts of political boundaries, treaties, commodity circulation and capital accumulation. This world was one whose boundaries were dictated by the contours and patterns of the land and its non-human inhabitants, boundaries that defined the possible forms of existence for the land's human residents.

Berg and Dasmann understood the Earth as a single living, breathing unit. Their ideal reinhabitant was rooted in place and planetary in consciousness. Their description of bioregions as "tissues and organs in the current manifestation of Earth's anatomy" aimed to foster this dual awareness. Berg and Dasmann were deeply invested in an endeavor to facilitate humans' recognition of, and existential connection to, their place of inhabitation, believing that only this connection would enable humans to properly restore the bioregion to health.

Bioregional thought evinced a complicated relationship between local places and planetary knowledge. As Gary Snyder explained, bioregionalism meant that we,

Consciously fully accept and recognize that this is where we live and grasp the fact that our descendants will be here for millennia to come. Then we must honor this land's great antiquity-its wildness-learn it-defend it-and work to hand it on to the children (of all beings) of the future with its biodiversity and health intact.³¹⁸

For Snyder, bioregionalism meant attachment to a specific place, an attachment strengthened by the belief that the environment in abstract cannot and will not inspire protection. As Snyder reflected, "We begin where we are, at our personal moment of perception. We seek a sense of

³¹⁷ Peter Berg, ed., *Reinhabiting a Separate Country: A Bioregional Anthology of Northern California*. (San Francisco: Planet Drum Foundation, 1978).

³¹⁸ Gary Snyder, "Bioregional Perspectives," in Gary Snyder, *The Practice of the Wild: Essays* (San Francisco: North Point Press, 1990), 40.

self-in-place first of all, and a community on a human scale, evolving to a community of creatures.” Yet this localness of perception and community did not diminish the global, planetary aspects of bioregional thought. Snyder put the paradox thusly, “It is not enough just to “love nature” or to want to “be in harmony with Gaia.” Our relation to the natural world takes place in a *place*, and it must be grounded in information and experience.”³¹⁹ From local knowledge develops a coherent and concrete understanding of the planet; an understanding in marked divergence from the environmental platitudes of “nature” and “Gaia”.

With the other members of his community on the San Juan Ridge, Snyder was actively engaged in fostering this kind of direct connection to place.³²⁰ He and his neighbors negotiated closely with local Bureau of Land Management officials. Careful research on the forest management practices of the region’s original Nisenan inhabitants led the Ridge’s residents to convince the BLM that controlled burns were the best, most ecologically sound method of interacting with the forest. In 1979, Snyder wrote to David Brower that,

Our life here comes to sometimes standing out on a dirt road beside a couple of pickup trucks having dialogue with the BLM or Forest Service Timber Management Officer about the very tree that he is marking or road that he is laying out for the next logging contract.³²¹

Earlier in the decade, the community had banded together to oppose the state’s paving of a dirt road, successfully fought the Ridge’s inclusion into the local water district, and built a wooden schoolhouse for the region’s children.³²²

The idea of the Earth as a living entity with “absolutely unique creases” in its skin animated much bioregional activism, particularly towards restoration. In 1977, the Frisco Bay

³¹⁹ Snyder, “Bioregional Perspectives,” 39.

³²⁰ The San Juan Ridge was a fortuitous place for this bioregional experiment. Its population had grown from 200 to 2000 in 1970, largely with the flight from San Francisco.

³²¹ Gary Snyder to David Brower, January 18, 1979. Series 2, Box 1, Folder 31. Gary Snyder Papers, University of California, Davis.

³²² Paul Ciotti, “The Gold Mine Versus the Quail at Dawn: An Argument about Gold in the Sierra and the Way People Choose to Live,” *The San Francisco Chronicle*, April 14, 1985.

Mussel Group, an offshoot of Planet Drum aiming to restore the San Francisco Bay's capacity to support a viable mussel population released a pamphlet entitled *Living Here*,

Watershed is a living organism: rivers and streams and underground flows are veins and arteries; marshes are the pollution-removing kidneys; water is the cosmic sense organ of the earth, the dimpled skin between above and below; water rhythms show us moon, season, shape and sense of land.³²³

The comparison between the planetary and human bodies encouraged an emotional connection with the nonhuman world; by comparing planetary processes to the familiar pathways of the human circulatory system, the organization provided its readers with a tangible way of imagining and comprehending the natural world. Moreover, the anatomical imagery enabled diagnosis to take place, by giving humans a template for assessing and treating the planet as they would a sick human.

This diagnosis was practiced by the Mattole Watershed Salmon Support Group. Formed in 1980 by residents of the Mattole River area, approximately 200 miles northeast of San Francisco, the Support Group was concerned about depleted or eradicated salmon runs. It measured pollutants in the water, replanted eroded river-edges, fought against development projects, and built hatch boxes, in which fertilized eggs taken from wild salmon were incubated and sheltered until they were ready to tackle their passage to the ocean.³²⁴

For many bioregionalists, health was the dominant metaphor for the ecological restoration that successful reinhabitation required. Stephanie Mills, a Michigan bioregionalist, observed that health was the dominant metaphor for the ecological restoration which bioregionalism entailed.³²⁵ This metaphor relied upon the work of early twentieth century

³²³ Frisco Bay Mussel Group, "Living Here" (San Francisco: 1977).

³²⁴ For more on the Mattole River Salmon Support Group see Stephanie Mills, *In Service of the Wild* (Boston: Beacon Press, 1995), 150-167.

³²⁵ Author's telephone interview with Stephanie Mills, February 2012.

ecologist Aldo Leopold; in particular, his concepts of land health as the “capacity of the land for self renewal”, and of the ecologist as a “doctor”.³²⁶ Echoing Leopold, Mills wrote,

Even when attempts at domesticating, or subjugating, wild systems or organisms appear to have succeeded, the results are a little perverse... In contrast to these anomalies are the qualities of wildlife and wild places: authenticity, indigeneity, specificity and spontaneity; resilience and health.³²⁷

Mills understood health as a gauge of ecological stability and historical continuity. She judged an area of land to be healthy insofar as it had maintained its historical ecological community, self-regulated through fire and large carnivores, and existed relatively untrammelled by human affairs. The proper role of humans, Mills felt, was to facilitate the land’s reclamation of these inherent patterns.

Although Mills saw healing as the dominant metaphor in ecological restoration, she believed that the most tangible aspect of healing entailed overcoming the alienation of humans from nature. Drawing upon the work of ecological psychotherapist Chellis Glendinning, Mills described this overcoming as a “psychic healing”³²⁸, and believed that involvement in ecological restoration work could bring it about. As she described it, “We heal ourselves. It’s not so much that we can presume to heal nature, although we certainly need to make amends as best we can, but that the work we do in restoration heals community, re-weaves biotic community.”³²⁹

Mills’ emphasis on the communal and cultural aspects of ecological restoration work resonated with many other bioregional activists. From the bioregional perspective, cultural practices mediate between humans and their environment, and demand as much restorative work

³²⁶ Aldo Leopold, *A Sand County Almanac. with Other Essays on Conservation from Round River* (New York: Oxford University Press, 1966), xv, 269 p.

³²⁷ Mill, S. (1994). *The Wild and the Tame*. In David Clarke Burks, *Place of the Wild : A Wildlands Anthology* (Washington, D.C.: Island Press, 1994).

³²⁸ Chellis Glendinning, a psychotherapist and environmental activist, is also author of *Waking Up in the Nuclear Age: The Book of Nuclear Therapy* (1987), and *When Technology Wounds: The Human Consequences of Progress* (1990).

³²⁹ Stephanie Mills, Telephone Interview.

as do ecosystems. Planet Drum's reinhabitory theater, Gary Snyder's poetry, and the San Juan Ridge residents' collective activities are each representative of attempts to "heal community", largely by jostling humans out of their current ways of perception.

Health had three valences for bioregionalists. First, it described the optimal state for a particular bioregion, usually through reference to a past state of being. Second, it assessed the quality of relationship between humans and the environment they inhabit. A healthy re-inhabitory relationship was one in which humans understood and accepted their role within the lifecycles of a particular place. Third, it functioned as a heuristic device. Comparing the planetary to the human body fostered an understanding of an ecosystem's dis-ease. This last valence stemmed most directly from the biocentric premise that humans are one with their environment. If, as Snyder wrote, "we are all composite beings, not only physically but intellectually, whose sole individual identifying feature is a particular form or structure changing constantly in time," then there was no substantive difference to be found between one's own health and that of the neighboring river.

There is no "self" to be found...and yet oddly enough, there is. Part of you is out there waiting to come into you, and another part of you is behind you, and the "just this" of the ever-present moment holds all the transitory little selves in the mirror.³³⁰

Bioregionalism was equal parts ecology, geography, natural history, and practical experimentation with living in greater harmony with the land. Yet the language with which it was most frequently written about drew most heavily upon the German and American Romantic traditions of the 19th century, and a 1960s language of consciousness transformation. This language suggested a unity between the self and the planet.

A passage from Stephanie Mills is particularly illustrative of this synthesis. Reminiscing on the 1986 Earth First! annual gathering, she wrote that, "Absolute compassion with Mother

³³⁰ Gary Snyder, "Reinhabitation," in Snyder, *A Place in Space*, 183.

Earth – suffering her pangs of creation and destruction – demands inordinate strength of spirit, a strength nurtured by a sense of one’s interpenetration with wild nature.” She called for a

Supra-rational, call it mystical, apprehension of the planetary ecosystem’s functioning and possible destiny in order to begin to address the urgent problem of preserving the diversity of life on Earth. Such understanding is less often a product of the science of ecology than a result of an epiphany experienced in nature or distilled in poetry.³³¹

Mills’ reminiscence brought together eighteenth and nineteenth century Romantic conceptions of the ecstatic union of humans and nature, and the anti-Enlightenment belief that true experience came from direct immersion in nature, rather than from scientific observation and experimentation, with the 1960s hippie countercultural impulse to encourage social change through a revolution in consciousness.³³²

Equally as important, however, were the anti-statist, separatist, and anarchist tendencies brought together under the bioregional tent. In “Reinhabiting California”, Berg and Dasmann argued that “The bioregion cannot be treated with regard for its own life-continuities while it is part of and administered by a larger state government. It should be a separate state.”³³³ Four years later, Jim Dodge asserted that “A second element of bioregionalism is anarchy.”³³⁴ And in an interview from 1986, Snyder stated that “bioregionalism stands for the *de*-centralization of, the critique of, the state.”³³⁵ Bioregional anarchy was ecological anarchy, based upon attempting to first understand, and then to implement, principles derived from the possibilities of local ecology into the everyday workings of human social and political affairs.

³³¹ Stephanie Mills, “Thoughts from the Round River Rendezvous,” *Earth First! Journal* (Brigid 1986).

³³² The parallels between German Romanticism and 1960s revolutionary politics, and the explicit adaptation of the former by the latter, has been well explored. See Michael Löwy, “The Revolutionary Romanticism of May 1968,” *Thesis Eleven* 68 (February 2002).

³³³ Berg and Dasmann, “Reinhabiting California”.

³³⁴ Dodge, “Living by Life,” 8.

³³⁵ “Gary Snyder: The Catalyst Interview”, *The New Catalyst*, January/February 1986, 10.

In 1979, Berg challenged the scattered bioregional experiments to a “Continent Congress”.³³⁶ The Congress would understand itself actively and ambitiously,

This time congress is a verb. Congress, come together...

Continent Congress isn't a simple exercise. It's an enormous effort to overcome the politics of extinction, the Earth-colonist globalism which exhaust whole continents, their people, and moves now to devastate deep floors of our planetary oceans.³³⁷

Five years later, the first North American Bioregional Congress was held in the Ozark Mountains. The Congress gathered two hundred activists, including Mills and Berg, from across the country, for five days of workshops, committee meetings, ritual performances, and ceremonial tree plantings. The gathering ended on an optimistic note, declaring that,

A growing number of people are recognizing that in order to secure the clean air, water and food that we need to healthfully survive, we must become guardians of the places where we live. People sense the loss in not knowing our neighbors and natural surroundings, and are discovering that the best way to take care of ourselves and to get to know our neighbors is to protect and restore our bioregion.³³⁸

Yet all was not harmonious within the bioregional community. A growing contingent of its members, most of whom were present at the Conference in its Eco-Defense Committee,³³⁹ felt that bioregionalism had become too mired in its own lifestyle innovations and poetic license, and was desperately in need of a new attitude.

³³⁶ Peter Berg as quoted in David Haenke, “The North American Bioregional Congress,” *In Context* (1983), 32. Available online at: <http://www.context.org/iclib/ic03/haenke/> (Accessed October 3, 2012).

³³⁷ Berg, *Envisioning Sustainability*, 243.

³³⁸ **Ibid**

³³⁹ The eco-defense committee, strongly affiliated with Earth First! passed a resolution recommending “appropriate nonviolence direct action” as a means toward preventing environmental destruction. *NABC Proceedings*, 31.

Earth First!: the Samurais of Bioregionalism³⁴⁰

“The name Earth First! was chosen because it succinctly summed up the one thing on which we could all agree: that in *any* decisions, consideration for the health of the Earth must come first.”³⁴¹

- Dave Foreman, 1991

The reinhabitation and restoration vision proposed by Snyder, Berg, Dasmann and Mills was not the only bioregional path. In 1987, Dave Foreman, co-founder of Earth First!, proclaimed in the *Earth First! Journal* that, “Earth First! is the militia of the bioregional movement.”³⁴² At a time of great self-searching within the organization, Foreman asserted that, “While we may sometimes feel alone on the battlements, we are not...we are in the web of the newer bioregional movement.”³⁴³

Foreman offered several reasons why Earth First! activists should feel a kinship with bioregionalists: both groups sought a new definition of human community, “turn[ing] away from hierarchy to tribalism”; both chose craft over technology; both recognized their inseparability from natural ecosystems; and both were subverting rather than reforming the “dominant paradigm”. Earth First! and bioregionalism were two faces of the same biocentric vanguard. As Foreman noted, “Except for the emergence of Earth First!, I think the most encouraging development in North America of late has been the bioregional movement.”³⁴⁴

However, for Foreman, bioregionalism had strayed from the necessary path. It had become mired in its own lifestyle innovations – solar heating systems, barter economies, and

³⁴⁰ Peter Berg claims that Foreman proclaimed Earth First! to be the samurais of the bioregional movement during a visit to the Planet Drum Foundation office. Berg, “Ecology Emerges”.

³⁴¹ Foreman, *Confessions*, 18-19.

³⁴² Dave Foreman quoted in Bron Taylor, “Bioregionalism: An Ethics of Loyalty to Place,” *Landscape Journal* 19 (2000), 50.

³⁴³ Dave Foreman, “Reinhabitation, Biocentrism, and Self Defense,” *Earth First! Journal*, August 1, 1987, 22.

³⁴⁴ *Ibid*

handcrafts – and lost sight of the necessity for “resacralization and self defense.” Given the certainty of “industrial collapse”, Foreman argued that bioregionalists must be prepared with “deeper solutions” than composting toilets and poetic dreams of a non-hierarchical ecological community. These deeper solutions could be “made manifest by reinhabitory humans” in two ways. First, by remembering to represent those who are not present – “Wolf, Orca, Gila Monster, and Oak” – in all human affairs. In a striking echo of Snyder’s 1971 speech to the Center for the Study of Democratic Institutions, Foreman urged, “We must constantly extend the community to include all.”³⁴⁵ Second, by exercising self-restraint as a species: halting overpopulation, and limiting our presence to a very small segment of the Earth’s landmass. Foreman reminded his readers of eco-anarchist author Edward Abbey’s maxim: “We have a right to be here, but not all at once, at the same time, in the same place.”³⁴⁶

Foreman asserted that the central task of bioregionalism should become the identification of core wilderness areas and wildlife corridors, from which humans would be excluded.

The centerpiece of every bioregional group’s platform must be a great core wilderness preserve where all the indigenous creatures are present and the flow is intact.³⁴⁷

This centerpiece was drawn entirely from the work of the emergent field of conservation biology, and its conviction that the “flow” of evolution could only be preserved through the establishment of core wilderness areas and wildlife corridors, and the reintroduction of large carnivores into these areas. Earth First!’s “warrior society” was the expression of the “wilderness defending itself”. Through developing core wilderness preserves for a region, Earth First! would “chart out the game plan for our self defense.” Laying clear the battle lines,

³⁴⁵ Ibid

³⁴⁶ Ibid

³⁴⁷ Ibid

Foreman noted, “If the dying industrial empire tries to invade our sacred preserves, we resist its incursions.”

Foreman took particular umbrage at bioregionalism’s insistence on local control. Displaying a profound mistrust of rural regions, he argued that working with rural residents and regional and state level lands managers – the work that Snyder, Mills and Berg had dedicated much of their lives to – was worthless. “Congress is a shining beacon of bioregional enlightenment when compared to any state legislature in the West, or worse yet, to a rural county commission.” Wilderness’ real friends, Foreman believed, were “urban folk”; ironically, those people who in their day-to-day lives had virtually no traffic with the wild. A far cry from Snyder’s 1972 indictment of the alienation of jet-setting bureaucrats and non-farmers, “hand-heavy power-hungry politic scientists”!

Despite its stridency, Foreman’s polemic did more to highlight the organization’s internal divisions than to resolve them. He asserted that Earth First! was part and parcel of the bioregional movement, yet insisted that bioregionalism’s work be re-oriented towards the protection of wilderness areas *apart* from human inhabitation. He argued that Earth First! was a warrior society, yet he spent the majority of the article elaborating conservation biology tactics: re-mapping bioregions and wilderness corridors and submitting these maps to planning agencies. As we will see, strategic and epistemological tensions between science and direct action, and disagreement over whether humans should be included within or excluded from the wilderness, had been brewing within Earth First! from its beginning.

Founded in the summer of 1980 by refugees from Washington, D.C. environmental lobbying – Dave Foreman of the Wilderness Society, Howie Wolke and Bart Koehler of Friends

of the Earth, and Ron Kezar of the Sierra Club – Earth First! was intended to be a “radical, no-holds barred” organization, which would represent and defend wilderness at any cost. Its name was chosen to reflect the founders’ one point of agreement – that the health of the Earth take primacy in all decisions. Health, for these activists, meant restoring massive areas of intact wilderness, cordoning them off from all direct and indirect human interventions. Moreover, protecting the Earth’s health would require reclaiming an emotional connection to it. “We have been too reasonable, too calm, too understanding. It’s time to get angry, to cry, to let rage flow at what the human cancer is doing to Earth, to be uncompromising.”³⁴⁸

From its founding, Earth First! practiced a form of political action which up to that point had been relatively absent from American environmentalism, a set of nonviolent direct actions borrowed heavily (albeit often unacknowledged) from the labor, civil rights, and antinuclear movements.³⁴⁹ Through a diverse set of strategies, including tree-sits, logging road blockades, liberal use of padlocks, and the more controversial practice of “monkeywrenching”, Earth First! “made the principled individual the physical guardian of wilderness.”³⁵⁰ Its opening move in 1981, the unfurling of a 300-foot long sheet of black plastic down the face of the Glen Canyon Dam on the Colorado River to symbolize the destruction of a manmade boundary; activists’ handcuffing themselves to bulldozers to prevent the construction of the Bald Mountain Road in the Siskiyou National Forest (1983); the physical standoff between Dave Foreman and a bulldozer which resulted in his being run over (1983); the chorus of wolf howls by a group of seventy protestors outside the San Francisco headquarters of the Maxxam Group (1986): most of Earth First!’s political interventions emphasized the transcending of manmade boundaries that

³⁴⁸ Foreman, *Confessions*, 20.

³⁴⁹ Ironically, the explicit alliance between certain branches of Earth First! and various leftist movements, labor in particular, would contribute to the organization’s dissolution in 1990.

³⁵⁰ Turner, *The Promise of Wilderness*, 213.

had been imposed upon the natural world, as well as an identification with the wilderness so intense that individuals were willing to risk their lives for it.³⁵¹ The organization spoke of these actions variously as self-defense, eco-defense, and as the wilderness protecting itself.

Underpinning its direct action was the biocentric premise that humans were no higher a species than any other; from this premise Earth First! had extrapolated to the belief that the wilderness required a cadre of defenders. This was a complicated position to negotiate: on the one hand, Earth First! argued that the human species had overshot its ecological niche, and should be excluded from the wilderness; on the other hand, it believed itself to be the proper defender of that wilderness. Regardless, in contrast to bioregionalists, Earth First! was not interested in the revitalization of human culture, but in its diminution.

Although Foreman did not give concrete expression to the idea of Earth First! as a bioregional “warrior society” until 1987, from its inception the organization was plagued with internal disagreement over the scope and purpose of its direct action. “Monkeywrenching”, an umbrella term encompassing a plethora of actions taken against the machinery and infrastructure of environmental destruction, inspired particular contention. Practices included pouring sugar into the gas tanks of bulldozers, uprooting survey stakes, “nighttime gardening” in genetically modified crop fields, inserting metal spikes into trees slated for logging, and downing power lines.³⁵² Officially, monkeywrenching exclusively targeted machines and industrial infrastructure; however, tactics such as tree spiking aroused considerable debate over their potential to cause human injury.³⁵³

³⁵¹ On the Glen Canyon action see Turner, *Promise of Wilderness* and Woodhouse, “A Subversive Nature”. On handcuffing and Foreman’s assault, see “Blockaders Assaulted by Bulldozer”, *Earth First! Journal*, Litha 1983. On the wolves, see Dale Champion, “Redwood Cutting Provokes a Protest,” *San Francisco Chronicle*, October 23, 1986,24.

³⁵² For a complete list of tactics, see Foreman and Haywood, *Ecodefense*.

³⁵³ Monkeywrenching, tree-spiking in particular, was a hotly debated topic in the *Journal*. For a sampling of perspectives see: Christopher Manes, “Monkeywrenching: An Appraisal,” *Earth First! Journal*, Brigid 1990; Howie

Gary Snyder was an early and harsh critic of monkeywrenching. Snyder had been in attendance at Earth First!'s first national gathering, the Round River Rendezvous of 1981, and had published often in the *Journal*. In a letter to the *Journal* in August 1982, Snyder described himself as an ardent supporter of Earth First!'s new approach to environmental activism; in particular, its expression of a renewed commitment to the earth. He then began his assault on monkeywrenching and Earth First!'s overall culture of "mere theatrics."

Citing the FBI's infiltration of student groups, the American Indian Movement, and the Black Panther Party in the 1960s and 1970s, Snyder urged readers to consider the very real possibility that a provocateur was already within in the Earth First! ranks, ready to urge "some bit of sabotage which will be precisely the excuse the government needs". He argued that given contemporary American culture's valuation of machines and property over human life, the FBI would be deadly serious in persecuting Earth First!,

If anyone thinks that violence against machinery is somehow ok (as long as people don't get hurt)...it would be utterly foolish to think that industry and government will take it as a joke.³⁵⁴

In light of this historical and cultural context, Snyder accused Earth First! activists of insufficient reflection upon their tactics. Any amount of violence, whether against machines or humans, needed to be undertaken with what he described as a "deadly deliberate and impeccable" choice of strategies,

Earth First! has real work to do. We are not a bunch of bonzo street theater ex-hippies, as much fun as it might be. If violence ever were any only-possible-choice, it would have to be undertaken with true warriors' consciousness...There have been cultures where men were trained in true warrior consciousness; this is not one of them.³⁵⁵

Wolke, "Thoughtful Radicalism," *Earth First! Journal*, Yule 1989. Most Earth First!ers, including Foreman, eventually renounced tree spiking.

³⁵⁴ Gary Snyder, "Letter," *Earth First! Journal*, August 1, 1982.

³⁵⁵ Ibid

In essence, Snyder believed Earth First! activists to be radically unprepared for the types of tactics that the organization was increasingly practicing and promoting.

Suggesting an alternate perspective, one which most Earth First!ers were likely loath to embrace, Snyder offered a spiritual explanation for respecting bulldozers,

All materials, all organisms, all machines, all parts and all wholes are worthy of respect. As the ecologist Sterling Bunnell says, bulldozers are funny latter-day elephants, which if used in right time and place would do for the plant communities what elephants used to do around the globe – namely step climax succession back a few phases to increase biological mass by opening the canopy.³⁵⁶

Snyder's rather ridiculous metaphor can be read as a challenge to Earth First! to expand its biocentrism, limits that, according to Snyder, prevented it from seeing its oneness with nonorganic creatures such as bulldozers.³⁵⁷ He concluded by suggesting that “we must start turning industrial capitalist civilization around by first noting the traces of it that we carry within us”. In other words, the protection of wilderness would remain handicapped if Earth First! continued to draw lines in the sand between the wild and the tame, the non-human and the human, itself and industrial civilization.

Although Earth First! gained the most publicity for its direct actions, it was equally a philosophical and scientific forum.³⁵⁸ In 1983, the organization put forth a plan for the future of wilderness protection in the United States. Outlined in the *Journal*, the proposal mapped out 37% of the continental U.S. for wilderness designation, primarily concentrated in the western states. In contrast to the contemporary wilderness protection regime, which tended to designate smaller, non-contiguous areas for protection, the “Earth First! Wilderness Preservation System”

³⁵⁶ Ibid

³⁵⁷ In addition, although this is well beyond the scope of this dissertation, Snyder's comments are reflective of his lifetime of Zen Buddhist practice.

³⁵⁸ As historian Keith Woodhouse has observed, “Earth First! was as much a thinktank as it was an activist organization.” Woodhouse, “A Subversive Nature,” 262.

proposed a network of large interconnected wilderness areas.³⁵⁹ Perhaps unsurprisingly, the proposal received little attention outside the organization. Several years later, however, these mapping initiatives led Earth First! into an alliance with the fledgling science of conservation biology.

In the mid-1980s, Earth First! began to rely upon concepts emerging from the recent science of conservation biology: keystone species, island biogeography, and minimum viable populations. Foreman cultivated alliances with biologists Reed Noss and Michael Soulé, together developing a series of regional proposals for wilderness preservation.

Conservation biology was an explicitly normative and applied science, whose primary goal was to close the gap between academic ecology and wilderness advocacy.³⁶⁰ It was also explicitly biocentric. Inspired by Sessions' and Naess' "Principles of Deep Ecology", Soulé had formulated a basic set of principles for conservation biology.³⁶¹ In a 1985 essay published in *BioScience* announcing the birth of conservation biology, Soulé described these normative principles as an ecosophy, a foundation for an appropriate attitude towards other species.

Diversity of organisms is good.

Ecological complexity is good.

Evolution is good.³⁶²

This ecosophy led conservation biology to identify intrinsic worth in such ecosystem qualities as diversity, stability, inter-dependence, and in the maintenance of natural processes.

³⁵⁹ "Earth First! Wilderness Preservation System," *Earth First! Journal*, June 1983. For more on the proposal, see Turner, *The Promise of Wilderness*, 304.

³⁶⁰ Turner, *The Promise of Wilderness*, 272.

³⁶¹ By the late 1970s, Soulé was in close contact with Snyder and his eclectic circle, Devall, Sessions, and Naess in particular, primarily through their shared Buddhist practice.

³⁶² Michael E. Soulé, "What is Conservation Biology?," *BioScience* 35 (1985), 730-731.

The alliance with conservation biology helped Earth First! to translate its ethic of self-defense into policy options. However, it also furthered its internal divisions. With a ballooning membership, estimated around 15,000 by the end of the 1980s, and no central structure apart from the *Journal*, Earth First! was an amalgamation of anarchist, social justice, monkeywrenching, resacralization, and nihilist impulses.³⁶³ An increasingly apocalyptic tenor pervaded the organization in these years, as evidenced by Foreman's assertion that "its time to be antibodies against the human pox that's ravaging this precious beautiful planet."³⁶⁴ The bluntly antihumanist and elitist implications of this sentiment found increasing audience within the organization.

Unlike bioregionalists such as Berg and Snyder, who believed that humans were capable of regenerating relations with one another and with nonhuman nature, much of Earth First!'s membership remained ambivalent about the ability of humans to act positively. This ambivalence could take somewhat muted form, as in Foreman's statement that, "Ours is an ecological perspective that views Earth as a community and recognizes such apparent enemies as "disease" and "pests" not as manifestations of evil to be overcome but rather as vital and necessary components of a complex and vibrant biosphere."³⁶⁵ Or it could take deeply misanthropic form. In a 1986 interview with Bill Devall, Foreman went so far as to argue that famine was nature's way of restoring order to itself, and that the United States should cease providing aid to Ethiopia. "Miss Ann Thropy", asserted in the *Journal* that, "If radical environmentalists were to invent a disease to bring human population back to ecological sanity,

³⁶³ Keith Woodhouse, "A Subversive Nature," 294.

³⁶⁴ Dave Foreman quoted in Christopher Manes, *Green Rage and the Unmaking of Civilization* (Boston: Little, Brown, 1990), 84.

³⁶⁵ Foreman, *Confessions*, 26-27.

it would probably be something like AIDS.”³⁶⁶ Indeed, at the most extreme, the organization believed that the best human society was one radically diminished in numbers and banned from entering most wild spaces.

Although Earth First!’s direct actions and philosophy claimed an intense identification with wilderness against the impositions of human society, one of the organization’s greatest weaknesses, from both a bioregional and a political perspective, was the uprootedness of many of its activists. While there were many local chapters scattered across the country, engaged in a variety of activities, as the organization gained in numbers and national notoriety, new activists, primarily students, began traveling from distant parts of the country to participate in seminal events, such as the 1990 Redwood Summer in Mendocino, California.

The idea for Redwood Summer began with a call issued by Judi Bari and Darryl Cherney, of Ecotopia Earth First!, for a “Mississippi Summer” for the California Redwoods.³⁶⁷ The Mississippi Summer Project of 1964, more commonly known as Freedom Summer, had involved bussing more than 1000 activists into the state to help resident organizers register Mississippi’s African American population to vote. Bari’s analogy was not accidental: Ecotopia Earth First!’s intent was to amass as many activists in Mendocino as possible to speak for the trees. That summer, with state and federal regulations on old-growth logging and spotted owl protection soon to take effect, logging companies intended to pre-emptively harvest large tracts of old-growth redwood forests of Northern California.

The protests began in June, with scattered actions in Sacramento, Humboldt, and Marin counties. Activists staged tree-sits, collected biological data on endangered species, and

³⁶⁶ Miss Ann Thropy, “Population And AIDS,” *Earth First! Journal*, May 1, 1987.

³⁶⁷ Judi Bari, “1990: A Year in the Life of Earth First!,” in Judi Bari, *Timber Wars* (Monroe, Maine: Common Courage Press, 1994), 70.

blockaded lumber company Louisiana Pacific's export operations.³⁶⁸ The climactic event of the summer was a rally in Fort Bragg in July, at which 2,000 Earth First!ers marched through the town chanting "Earth First! Profits Last!". The marchers came face-to-face with several hundred pro-logging counter-demonstrators. Redwood Summer continued throughout August, as demonstrators locked themselves to logging equipment, stood in front of bulldozers and chainsaws, and attempted a citizen's arrest of Pacific Lumber president John Campbell. In the end, Bari estimated that 3,000 people had participated.³⁶⁹

While Redwood Summer was hailed as a great triumph amongst the northern California Earth First! chapters, Gary Snyder and Dave Foreman saw it as a terrible failure, albeit for very different reasons. Snyder was critical of the action for what it "failed to understand about the community and the area."³⁷⁰ His critique, shared by others, notably Humboldt State professor and bioregional activist Jim Dodge, was that the action, which had attracted student activists from around the country, had shattered the coalition of loggers and environmentalists which had been carefully cultivated in the Mendocino region. Dodge argued that the students would "go back to college or the city with the fall, and leave us with a shattered, polarized community. It will take years to heal this and get going again."³⁷¹ The students had assumed and then fomented an antagonism between the two camps which didn't necessarily or naturally exist.

This tension, between the philosophical and spiritual identification of Earth First! with bioregionalism and the increasing ideological and geographic diversity of its membership, dovetailed with inconsistencies in Foreman's own philosophy. Foreman was deeply suspicious of and largely hostile towards rural communities. In 1987 he had attacked bioregionalism for its

³⁶⁸ Ibid, 73.

³⁶⁹ Ibid, 78.

³⁷⁰ Snyder to Zakin, October 12, 1990.

³⁷¹ Ibid

“glorification of *local control*”. In so doing, “bioregionalism has subverted itself to fit with the dominant, natural-world-as-supermarket mentality of the know-nothing, provincial, resource-exploiting bumpkin proletariat of North America’s rural areas”.³⁷² He related his experience in New Mexico’s Gila National Forest, watching idealistic back-to-the-landers decay into “seedy rednecks complete with chainsaws, trap lines, muscle wagons, and tight-lipped complaints about how the federal government was restricting “their” right to develop “their” natural resources for economic plenitude.”³⁷³

Foreman critiqued Judi Bari and the organizing efforts of the Northern California Earth First! chapter precisely for their local-ness, accusing them of collaborating with loggers and timber barons. He also indicted Bari and her fellow activists on a quite different charge: being too leftist. In his departure letter from Earth First!, written jointly with his partner Nancy Morton, Foreman wrote that “We see happening to the Earth First! movement what happened to the Greens in West Germany – an effort to transform an ecological group into a Leftist group.”³⁷⁴

Social justice, for Foreman as for many other Earth First!ers, was simply not on the agenda. For them, the health of the earth demanded the complete dismissal of all matters concerning human society. To the extent that a true Earth First! considered human culture, it was toward its diminution, its curtailment, its rewilding. When Foreman jumped ship, he took off for decidedly more scientific waters. Abandoning activists, his next initiative, the Wildlands Project, brought together conservation biology with bioregionalism, to construct a “land medicine” capable of healing human-inflicted wounds to the earth.

³⁷² Foreman, “Reinhabitation, Biocentrism, and Self Defense”.

³⁷³ Ibid

³⁷⁴ Dave Foreman and Nancy Morton, “Good Luck Darlin’. It’s Been Great,” in John Davis, ed., *The Earth First Reader: Ten Years of Radical Environmentalism* (Salt Lake City, UT: Peregrine Smith Books, 1991), 264.

Conservation Biology and the Wildlands Project

“One of the penalties of an ecological education is that one lives alone in a world of wounds...An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise.”³⁷⁵

- Aldo Leopold, 1949

Foreman departed Earth First! for a decidedly more conservative milieu. The field of conservation biology was thriving. The Society’s journal, *Conservation Biology*, began publication in 1987; under the editorship of biologist David Ehrenfeld, the journal was a forum for heated debate on how to best protect wilderness, the correct size for protected wilderness areas, the regulatory role of large predators, the proper relationship between scientists and activists, and how to best assess the health of species and ecosystems.

Ehrenfeld was fond of provocative editorials, with such titles as “Does Anyone Care?” and “Is Anyone Listening?” He was a prolific writer on philosophical and religious matters, and had become somewhat of a cult figure amongst biocentric activists with his 1978 book *The Arrogance of Humanism*, a quasi-Heideggerian tract which condemned the “religion” of humanism, of which mainstream environmentalism was a part, for causing untold environmental destruction.³⁷⁶

Ehrenfeld began, in the 1980s, to reflect upon the usefulness of “health” as a descriptive or qualitative term for conservation biology. He argued that ecologists’ understanding of health began to change in the 1960s and 1970s, as they began to study natural ecosystem disturbances due to fire and invasive species. Prior to that, the idea of ecosystem health had been static and

³⁷⁵ Aldo Leopold quoted in Foreman, *Confessions*: 61.

³⁷⁶ David Ehrenfeld, *The Arrogance of Humanism* (New York: Oxford University Press, 1981).

relatively unproblematic, as represented by Aldo Leopold's work in *Sand County Almanac* (1949), in which Leopold had defined health by identifying of a base state of normalcy (health) from which degrees of deviation (disease) could be calculated. However, once the regularity of natural disturbances was accepted, this base level of health became conceptually untenable. Ehrenfeld argued that given the rise of non-equilibrium theories of community and ecosystem structure, premised on the belief that no ecosystem was a stable entity, that it had become increasingly problematic to describe a particular species or ecosystem as healthy, particularly once human-induced disturbances were added in to the equation. Ehrenfeld highlighted two problems with the continued usage of the concept of ecosystem health. The first was a matter of perspective, "ecosystems have many functions and processes, not all of them strongly related to one another. A judgment of ecosystem health can be a function of which process you are looking at, which in turn is determined by your own values."³⁷⁷ The second was definitional, "A general word such as health can end up with all kinds of narrowing qualifications and can lose some of its original meaning if we apply it too rigorously to examples of specific communities."³⁷⁸ In other words, health was most effective as a general concept, and useful only to those with a deep and long standing knowledge of what was being evaluated.

Nonetheless, Ehrenfeld noted that "ecosystem health and illness seem to be palpably real and observable qualities". Despite its lack of theoretical justification, ecosystem health was something that environmental activists and scientists alike felt on an intuitive level. Ehrenfeld argued that the true usefulness of health was as a concept bridging two worlds, one which enabled scientists and non-scientists to communicate with one another. Moreover, he posited,

³⁷⁷ David Ehrenfeld, "Ecosystem Health and Ecological Theories," in Robert Costanza et al, eds., *Ecosystem Health: New Goals for Environmental Management* (Washington, D.C.: Island Press, 1992), 140.

³⁷⁸ *Ibid*, 141.

health, in being “an idea that transcends scientific definition”, can, in its use, infuse scientific practice with “proper” values.³⁷⁹

Ehrenfeld found an audience for this reconsideration of the scientific usefulness and political valence of ecosystem health. Reed Noss, an active member of Earth First! and a graduate student in Wildlife and Range Sciences at the University of Florida, had become Earth First!’s “de facto consulting scientist”,³⁸⁰ publishing scientific articles in the journal and reviewing conservation proposals. Noss, who succeeded Ehrenfeld as journal editor in 1993, agreed on the extra-scientific usefulness of health, and the need for conservation biologists to find a common language with environmental activists. In a 1989 article, “Who Will Speak for Biodiversity?”, Noss made a plea for conservation biology to embrace its applied and political nature rather than get bogged down in “pure science” debates,

Conservation biologists would do well to communicate more with environmental activists. Yes, it’s true, such people sometimes get their facts mixed up, and their perspective can be myopic and narrowly provincial. Yet any true and lasting change in environmental policy is going to come from the grass roots. These people, the real environmentalists, love the Earth, and are certainly not afraid to get their hands dirty.”³⁸¹

This willingness to “get their hands dirty” undoubtedly referred to Noss’ affiliation with the South Florida chapter of Earth First!, which in the 1980s had worked to reform the U.S. Forest Service in Florida, and halt two “huge and ominous urban developments” in natural areas.³⁸²

Noss admitted that, “Working scientists cannot do all that radical amateurs are willing to do in defense of Nature”, and argued instead that the role of the conservation biologist was to “pose

³⁷⁹ Ibid, 142.

³⁸⁰ Turner, *The Promise of Wilderness*, 305.

³⁸¹ Reed F. Noss, “Who Will Speak for Biodiversity?,” *Conservation Biology* 3 (1989), 203.

³⁸² Reed Noss, correspondence, November 2012.

and answer scientific questions, and to provide information that is relevant not only to policy-makers, but ultimately to anyone who is concerned about the environment.”³⁸³

The following year Noss set forth his definition of ecosystem health. Leaning heavily on the work of Aldo Leopold, Noss asserted, “When a community is dominated by native species, is relatively stable, and shows other attributes of “health”, it is often said to have integrity.”³⁸⁴

Interestingly, Noss appears to have assumed that the political valence of “ecosystem health” was more important than revising the concept based upon recent research on ecosystem disequilibrium. For Noss, the proper role for conservation planning was to limit human influence, including limiting the human management of wild areas. Echoing Ehrenfeld’s concern that well-intentioned ecological conservation and “sustainable management” were frequently animated by human-centered and instrumental goals, Noss argued for a paradoxical solution. Wilderness areas should be staked out and then preserved completely free of human presence, in a ratio of fifty percent wilderness to fifty percent managed lands.³⁸⁵

These ongoing debates about defining ecosystem health and the proper role of science infused the work of perhaps the most important practical initiative to emerge from the conservation biology movement, the Wildlands Project. Co-founded by a mixture of Earth First! members, including Howie Wolke, Dave Foreman, and *Journal* editor David Johns, and conservation biologists Noss and Soulé, the Project debuted at the Society for Conservation Biology’s annual meeting in 1993. The Wildlands Project’s central mission was to design large-scale, aggressive solutions to the crisis of biodiversity and habitat destruction, based upon the premise that “healing the land” meant allowing for the recovery of “whole ecosystems and

³⁸³ Noss, “Who Will Speak for Biodiversity?,” 203.

³⁸⁴ Reed F. Noss, “Can We Maintain Biological and Ecological Integrity?,” *Conservation Biology* 4 (1990), 241.

³⁸⁵ *Ibid*

landscapes” across North America.³⁸⁶ Its primary goal was to reorganize North America into a system of large core wilderness areas, from which humans would be excluded, and to connect these areas with wildlife corridors, enabling the passage of large predators and the migration of species. It pursued this goal through public policy channels, largely on the local level. The Wildlands Project, in its description of the environmental crisis and the solutions it proposed, was a far cry from Earth First!.³⁸⁷

The philosophical grounding for the Wildlands Project had been fully laid out by Foreman in *Confessions of an Eco-Warrior* (1991). Largely a collection of articles previously published in the *Journal*, and subsequently revised to reflect his growing commitment to conservation biology, *Confessions* described the type of world necessary to successfully protect wilderness in the face of the ongoing “sixth great extinction”. Foreman’s solution was simple: de-industrialization. Humans could continue to inhabit cities, but the balance would be reversed – cities would become islands within wilderness. Roads would be unpaved, dams dismantled, suburbs abandoned, and industrial agriculture halted. Large-scale predators like grizzly bear, wolf, and coyote would be reintroduced into their original habitat and allowed to roam freely.

Continuing in the elitist vein that had characterized his previous description of Earth First! as a “warrior society”, Foreman embraced Reed Noss’ idea of a “wilderness gene”. In May 1984, Noss had written in the *Journal* that the people best equipped to reproduce were Earth First!ers and other supporters of biocentrism. He argued that the time was right to recognize a “deep ecology elite”, an “ideological population of people who understand their kinship with the earth, their interdependence with other ecological entities, and their duty to fight

³⁸⁶ John Davis and Dave Foreman., “The Wildlands Project,” *Earth Island Journal* 8 (1993).

³⁸⁷ For a thorough analysis of the Wildlands Project as part of the “new conservation movement” of the 1990s, see Turner, *The Promise of Wilderness*, 302-305.

for what they love and *are*.”³⁸⁸ Noss had closed defiantly, “Call me an elitist if you like, but I say that all people are *not* equal in comprehending or defending the Earth!”

Seven years later, Foreman had devised a historical narrative for this gene. As he explained, it was a remnant of our Neanderthal past; for it wasn’t until the advent and triumph of Cro-Magnon that humans came to live out of balance with their environment. “There is no evidence that Neanderthals ever got out of balance, ever upset their environment, ever forgot their place in nature, ever caused the extinction of other species.”³⁸⁹ This Neanderthal wilderness gene survived recessively in the Cro-Magnon gene pool, sporadically surfacing in particular ecological advocates, such as Chief Seattle, John Muir, Rachel Carson (and presumably, Foreman, Earth First!, and the Wildlands Project).

Foreman placed the wilderness gene within James Lovelock’s Gaia theory of the Earth as a single living organism, asking “If we accept the Gaia hypothesis that Earth functions as a single organism, then where do we fit in?”³⁹⁰ One school of thought, according to Foreman, mistakenly understood humans to be “Gaia’s nervous system – the brain, the communications aspect, that we are ensconced in the driver’s seat.”³⁹¹ Another school of thought saw humans’ place vis-a-vis Gaia much more darkly: “Looked at from the point of view of other organisms, humankind...resembles an acute epidemic disease”.³⁹² Foreman rephrased this latter biocentric perspective physiologically: “In our decimation of biological diversity, in our production of toxins, in our attack on the basic life-support system of Earth, in our explosive population growth, we humans have become a disease – the Humanpox.”³⁹³

³⁸⁸ Reed Noss, “Deep Ecology, Elitism, and Reproduction,” *Earth First! Journal*, May 1, 1984, 16.

³⁸⁹ Foreman, *Confessions*, 56.

³⁹⁰ *Ibid* Gaia theory is the focus of Chapter 5.

³⁹¹ *Ibid*, 57.

³⁹² William R. McNeill quoted in Foreman, *Confessions*, 57.

³⁹³ *Ibid*

If the human species had become a disease of planetary proportions, then Gaia, as organism, would produce antibodies to defend itself. The antibodies are conservationists, the most recent incarnation of which was the Wildlands Project. Gaia pulled upon the recessive Neanderthal wilderness gene to create “a new race of...humans who love the wild, whose primary loyalty is to earth and not to *Homo sapiens*...[who] will fight like antibodies and phagocytes for the wild, for the previous native diversity of our planet.”³⁹⁴

In its first decade, the Wildlands Project fought for this diversity on both local and national levels. It successfully convinced the United States Department of Fish and Game to reintroduce the Mexican wolf to the New Mexican deserts in 1994; contributed to the Northern Rockies Ecosystem Protection Act, the first federal legislation based upon core ecosystem reserve areas and connecting corridors, which was introduced to Congress in 1992 and remains under consideration today; and developed an ambitious and idealistic proposal for a North American Wildlands Network.³⁹⁵

By the close of its first decade, the Wildlands Project had explicitly re-framed its work as “land medicine”, and its specific role as a “land doctor”. Working closely with pathologist Bob Howard, and indebted to Aldo Leopold’s conception of land health and disease, in 2004 the Project had identified seven human-inflicted ecological “wounds” to the land: direct killing of species; loss and degradation of ecosystems; fragmentation of wildlife habitat; loss and disruption of natural processes; invasion by exotic species and diseases; poisoning of land, air, water, and wildlife; and global climate change.³⁹⁶ These wounds were each caused, directly and indirectly, by human activity: fishing, road building, fossil fuel consumption, overpopulation, and industrial recreation, amongst a multitude of others.

³⁹⁴ Ibid, 57-58.

³⁹⁵ For the full proposal see Foreman, *Rewilding North America*.

³⁹⁶ Foreman, *Rewilding North America*, 63.

The proper role for the conservationist was as a land doctor,

Just as a medical doctor seeks not only to treat the symptoms and the disease but also to understand the root cause (s) of the illness, so do ecological “doctors” seek both to heal the wounds of the land and to understand their underlying causes.³⁹⁷

The ecological doctor’s job was both historical and preventative: healing the wounds that had already been inflicted, while attempting to prevent any future harm. The stakes were high, for just as in medicine, the “end point” of the human pathology was death. For the earth, this end point would manifest as a loss of resilience and an inability to maintain normal ecological processes such as climate regulation.

Conclusion

At this point that the biocentric vision of health reached fruition while simultaneously losing steam as an active political engagement. The Wildlands Project articulated several ways in which humans could act as land doctors, including controlled burns, pulling invasive plants, pouring boiling water on red imported fire ant mounds, or reintroducing a population of a native species that had been extirpated from an area.³⁹⁸ Yet, lacking the resources to pursue any of these strategies on a substantive level, it devoted its energies to designing and lobbying for wilderness networks, experiencing very limited success in these endeavors. The land doctoring would remain the province of the bioregional reinhabitants and restorationists who had been practicing it already: as in the case of the Mattole Salmon Support Group, painstakingly restoring the Mattole River to health through replanting the riverbanks and hand-spawning salmon.

³⁹⁷ Ibid

³⁹⁸ Correspondence with Reed Noss, November 2012.

The 1990s marked a time of dissociation and de-radicalization for biocentric activism. In marked contrast to the 1970s and 1980s, when Peter Berg and Raymond Dasmann could collaborate on an equally scientific and poetic exploration of re-inhabitation; Gary Snyder could critique the strategies yet offer ideological support to Earth First!; Dave Foreman could pop by the Planet Drum Foundation offices and proclaim himself an earth samurai; and Reed Noss could split his time between Earth First! activism and field research, the 1990s stand out as the time when different biocentric paths were defined and fortified, and once-radical activists concentrated their energies on policy-making.

Peter Berg and the Planet Drum Foundation designed a “Green City” program outlining a sustainable future for San Francisco. The program was adopted in its entirety by the city council in 1989. Gary Snyder and his neighbors formed the Yuba Watershed Institute, which continues today to work with the local Bureau of Land Management office. Largely through the work of Snyder and the Planet Drum Foundation, “bioregion” is now a standard term amongst California state environmental planners. Reed Noss, once so enthusiastic about “ecosystem health” as a means of articulating and pursuing conservation politics, explained recently that “most uses of health in conservation have been sloppy or anthropomorphic, so I no longer use them often.”³⁹⁹ The Wildlands Project, since re-organized into the Rewilding Institute, has largely faded from the wilderness conservation arena. And bioregional restoration projects continue as they began: as small, concentrated, local efforts to restore individual ecosystems.

In one respect, however, biocentrism was given much more radical expression. In 1997, the Beltane Communiqué surfaced on the Internet. Authored by the previously unknown Earth Liberation Front (ELF), the communiqué announced the birth of a new environmental struggle, the “struggle of all species to be free”.

³⁹⁹ Correspondence with Reed Noss, November 2012.

We are the burning rage of this dying planet. The war of greed ravages the earth and species die out every day. ELF works to speed up the collapse of industry, to scare the rich, and to undermine the foundations of the state. We embrace social and deep ecology as a practical resistance movement. We have to show the enemy that we are serious about defending what is sacred. Together we have teeth and claws to match our dreams. Our greatest weapons are imagination and the ability to strike when least expected.⁴⁰⁰

Over the following decade, the ELF claimed responsibility for more than one hundred arson attacks, construction site and heavy machinery destructions, tree spikings, and animal liberations, concentrated initially in the Pacific Northwest but spreading assiduously throughout the Midwest and the East Coast. In each case, the ELF released a communiqué several days after the event; otherwise, the organization remained silent and its members anonymous. The ELF took the monkeywrenching of Earth First! to a drastically new level, incorporating explosives and arson while maintaining Earth First!'s original prohibition against harming humans and animals.

The next chapter will take us far afield from this biocentric terrain, to a community of people initially antagonistic towards conceptualizing the environment as something requiring protection. For the residents of Love Canal, New York, the relationship between their own health and their neighborhood environment became only too real in 1976, as the toxic wastes buried by the Hooker Chemical Corporation bubbled into their basements and through their bloodstreams.

⁴⁰⁰ Earth Liberation Front, "Beltane Declaration," in Craig Rosebraugh. *Burning Rage of a Dying Planet: Speaking for the Earth Liberation Front* (New York: Lantern Books, 2004), 20.

Chapter IV

“You’re Murdering Us”⁴⁰¹: Love Canal, Human Health, and the Environmental Justice Movement

“I believe it’s time to re-evaluate who is doing the governing and who is being governed in this country.”

- Carrol Mrak, 1980⁴⁰²

In the summer of 1980, Carrol Mrak wrote a heated letter to President Carter. In her opening salvo she accused the president of “undermining the importance of the Love Canal situation and the rights of every American citizen in this country.” She believed that Carter had been responsible for green-lighting projects, from nuclear plants to refugee amnesty programs, which negatively affected the present and future livelihood of American citizens. She argued that his real focus should be to rectify unemployment, homelessness, illness, and social instability among his own citizenry. Mrak asserted that the administration’s misplaced priorities had abandoned its citizens to the doctrine of “self-dependence”, observing that, “In such a time of crisis, Americans are again reminded that the government is concerned with governing only it [sic] own political best interests.”⁴⁰³

Mrak was a recent evacuee from Love Canal, New York. In the summer of 1976, residents had discovered over 21,000 tons of toxic chemical wastes buried underneath their

⁴⁰¹ Lois Gibbs quoted in Adeline Levine, *Love Canal: Science, Politics, and People* (Lexington, MA: Lexington Books, 1982), 27.

⁴⁰² Carrol Mrak, Letter to President Carter, June 22, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁰³ Ibid

neighborhood and elementary school. The discovery occasioned a deluge of state and federal scientific investigations, extended political prevarication, and increasingly vitriolic resident activism. One month prior to Mrak's letter, the Environmental Protection Agency (EPA) had announced that 11 of 36 neighborhood families showed evidence of chromosome breakage. Immediately thereafter, neighborhood residents held two EPA officials hostage for five hours until the federal government agreed to the temporary evacuation of 700 families.

Mrak's letter, while prompted by an unresolved toxic waste crisis, was concerned with much more than her immediate experience of illness, plummeting property values, evacuation, and confrontational street politics. For her, life in the Canal was inseparable from broader issues of limited social resources, foreign policy, the responsibility of government to its citizens, and the future effects of present (in)actions. On what grounds did she link these issues? How was it conceptually possible for her to connect the "Love Canal situation" with nuclear plants, refugees, and the rights and responsibilities of citizenship?

This chapter investigates how Mrak and other residents of Love Canal made sense of the toxic wastes in their community. To do so, it explores how residents conceived of their health in relationship to the surrounding environment; how they gave political expression to these conceptions; and how the foreign policy of the United States in the late 1970s was a crucial context for understanding the inter-relationship of their own bodies to the environment. It delves into residents' Congressional testimony, letters to the editor, and correspondence with state and federal officials, as well as collective political actions taken against state and federal agencies, from the start of the crisis in 1978 to 1983, when residents won a class action settlement against Occidental Petroleum.⁴⁰⁴

⁴⁰⁴ In December of 1983, the New York State Supreme Court approved a settlement agreement in the case *Urban et al. vs. Occidental Chemical Corporation et al.* The agreement awarded plaintiffs \$150 million, one million of which

In environmental history scholarship, Love Canal is most frequently analyzed in relation to, if not as part of, the birth and growth of the environmental justice movement.⁴⁰⁵ Indeed, residents' emphasis on their personal, local experience as the basis for knowledge about the relationship between the human body and its environment is central to environmental justice politics. This association is further substantiated by the continued activism of Lois Gibbs, the founder and president of the Love Canal Homeowner's Association (LCHA). Following the neighborhood's permanent relocation, Gibbs moved to Virginia and established the Citizen's Clearinghouse for Hazardous Waste (CCHW), which continues to provide organizational and scientific information and training to grassroots anti-toxics and environmental justice groups around the country.⁴⁰⁶

Yet Love Canal activism is much more than an episode in the birth of the environmental justice movement. How residents conceptualized their health and disease, the environment in which they lived, and the global context which shaped their local is inextricable from the intersection of regional and national politics, the renewed impulse towards participatory grassroots activism, and global resource struggles in the late 1970s.

To broaden our understanding of the significance of Love Canal, the neighborhood must be situated within two other contexts. The first is the domestic legacy of WWII and the Vietnam War in Western New York, the Niagara Falls region in particular. Western New York was a key site for the burial of toxic and radioactive wastes produced at domestic munitions factories and

was to be used for the creation of the Love Canal Medical Trust Fund, which continues to provide for the medical expenses of former Love Canal residents today.

⁴⁰⁵ The environmental justice "movement" is a loose network of thousands of small neighborhood based groups fighting hazardous waste facilities and toxic dumps throughout the United States. Environmental justice activists focus specifically on the health of communities, understanding communities that are particularly vulnerable because of race and class disparities as endangered species. The most coherent statement of the environmental justice platform can be found in the "Principles of Environmental Justice" issued at the 1991 First National People of Color Environmental Leadership Summit. See <http://www.ejnet.org/ej/principles.html> (accessed November 28, 2011).

⁴⁰⁶ The CCHW is now known as the Center for Environment, Health, and Justice.

the Manhattan Project; to date there are over 300 inactive or partially active waste sites in the Niagara Falls region. This regional history structured how Love Canal residents responded to the toxic wastes in their neighborhood. Many of the neighborhood's men worked in local chemical factories, several remembered or had been directly involved in the dumping of wastes in the Canal and other sites, and many were members of local unions, one of which, the Buffalo Workers' Movement, was a vocal critic of Hooker Chemical, the company responsible for dumping at Love Canal.⁴⁰⁷ There were also a number of regional groups fighting to clean up and close more than fifty radioactive dumping sites in the region. Moreover, the 1979 discovery of dioxin in the Canal prompted residents to relate their health to that of Agent Orange-afflicted Vietnam veterans and refugees. The chemical and radioactive byproducts of the U.S. military were a steady presence in residents' lives: their production provided employment, stained the environment, and defined workplace union activism.

The second context is that of risk assessment. By the late 1970s, a new way of apprehending the danger posed by manmade chemicals - quantitative risk assessment - came to influence their study and regulation among the Environmental Protection Agency (EPA) and New York State Department of Health (DOH) alike. Quantitative risk assessment, which considers risk to be a fact of modern life, "something to be managed rather than eliminated", informed the methods and priorities of the state and federal scientists involved at Love Canal.⁴⁰⁸ Likewise, residents identified scientific agencies as their primary opponent, seeing DOH officials

⁴⁰⁷ Blum, *Love Canal Revisited*, 57–61. Blum argues that local union activism by the United Auto Workers, the Oil Chemical and Atomic Workers, and the United Steelworkers, was strongly focused on the health repercussions of working with toxic chemicals. The unions donated significant money and resources to the Love Canal Homeowner's Association; moreover, union members brought experience with picket lines and protests to the LCHA's demonstrations.

⁴⁰⁸ Langston, *Toxic Bodies*, 113.

in particular as “the designated arbitrators of risk.”⁴⁰⁹ As such, residents’ conceptions of the human body and its relationship to the environment were formed in confrontation with risk assessment’s particular take on the relationship of the health of the human body to the environment.⁴¹⁰

This chapter opens by exploring the literature on the significance of Love Canal. The following three sections explore how residents understood their health and disease, how these understandings shaped and were in turn shaped by residents’ engagement with contemporary foreign affairs, and how the environment in which they lived became visible to them *as* an environment through the intersection of personal suffering and global politics. The chapter concludes with a reflection on what Carrol Mrak and her fellow residents can tell us about the environmental justice movement they continue to define and disturb.

The Love Canal and its Academic Afterlife

In 1892, entrepreneur William T. Love began excavating a five mile canal in the Niagara Frontier. Love intended for the canal to connect the upper and lower Niagara Rivers, with an artificial falls installed at the southern end that would generate enough hydropower to sustain “Model City”, the proposed company town for his Niagara Power and Development Corporation.

⁴⁰⁹ Amy Marie Hay, “Recipe for Disaster: Chemical Wastes, Community Activists, and Public Health at Love Canal, 1945-2000” (PhD diss., Michigan State University, 2005), 141.

⁴¹⁰ According to Joseph Highland, head of the Toxic Chemicals Program of the Environmental Defense Fund (EDF) in the late 1970s, Love Canal was “a stop along the way” in the evolution of society’s understanding of how to deal with the plethora of chemicals that had been “enthusiastically” released into the environment post-WWII. Highland described a social “awakening”, post-*Silent Spring*, to an understanding that “we have no idea of the impact of what we’re releasing into the environment. This awakening prompted a shift away from the prohibition approach to the risk assessment approach, underwritten by the assumption that chemicals are neither bad nor good, but rather, that given the right duration and route of exposure, any chemical is potentially toxic.” Joseph Highland, Skype Interview, October 23, 2011.

In the late 1890s, with only 3000 feet of canal completed, Love ran out of funding and abandoned the region, leaving Niagara Falls residents with a recreational waterway.⁴¹¹

Hooker Chemical and Plastics Corporation bought the site from Niagara Power and Development during World War II for use as a chemical waste dump. In tandem with the United States military, Hooker buried 21,000 tons of toxic chemical wastes in the Canal. Among the wastes were thirteen million pounds of lindane, four million pounds of chlorobenzenes, and several hundred pounds of dioxin.⁴¹² The Canal was not a unique site in the region; the Niagara Falls area is densely populated with buried radioactive and chemical wastes, most the result of domestic WWII munitions production in area factories, as well as the need for a remote area to dispose of waste from the Manhattan Project.⁴¹³

In 1953, Hooker sold the sixteen-acre landfill to the school board of the rapidly expanding city of Niagara Falls, which built the Ninety-Ninth Street Elementary School atop the buried chemicals and opened the remaining land to low and middle income suburban development. Aware of the potential liability associated with its waste disposal activities, Hooker specified in the deed that it could not be held responsible for any injury or property damage caused by the Canal's contents.

Residents remember that the Canal chemicals were a consistent presence in the neighborhood from its construction. Barbara Quimby, who attended the elementary school in the 1950s, recounted poking sticks into surfacing drums of chemicals on the playground, skipping rocks over the accumulated sludge, and watching the rocks smoke as they hit the sludge. According to Quimby, children were frequently burned by oozing liquids, and neighborhood

⁴¹¹ Andrew Jenks, "Model City USA: The Environmental Cost of Victory in World War II and the Cold War," *Environmental History* 12 (2007), 553.

⁴¹² Samuel S. Epstein, *Hazardous Waste in America* (New York: Random House, Inc., 1983), 92–93.

⁴¹³ Jenks, "Model City USA," 557.

dogs that spent time in the Canal developed skin diseases, lost hair, and sometimes died. In the early days of the neighborhood, parents directed their concerns towards Hooker, frequently calling the company dispensary to ask how they should treat the chemical burns which their children had acquired at school.⁴¹⁴

Neighborhood homes were likewise affected. Debbie Cerillo remembered that nothing would grow in her yard; what was worse, a thirty-five by twenty foot hole, filled with foul smelling brown-black liquid, opened up in the field behind her house. During the rainy season, the liquid would flood her backyard.⁴¹⁵ By the early 1970s, after several seasons of high rainfall, the black sludge began to ooze through basement walls and into front yards and gardens throughout the neighborhood. Responding to neighborhood complaints about basement flooding, chemical odors, skin rashes and chemical burns, in June of 1977 the city hired Calspan, a Buffalo-based consulting firm, to investigate. The company concluded in August that there had been “massive leakage” of contaminated liquid into adjacent homes, and that there was also significant contamination of ground and surface water.⁴¹⁶

In response, the New York State Departments of Health and Environmental Conservation began testing the residents and neighborhood environment. The State was quickly joined by a plethora of federal agencies, including the Centers for Disease Control (CDC), the EPA, and the Department of Health and Human Welfare. Neighborhood residents organized themselves into multiple associations, the Love Canal Homeowner’s Association (LCHA) becoming the most visible and aggressive of these groups. Over the next few years, through mass media and public protest, the LCHA fought an arduous and partially successful campaign to win recognition and restitution from Hooker Chemical (then owned by Occidental Petroleum) and the federal

⁴¹⁴ Epstein, *Hazardous Waste in America*, 95.

⁴¹⁵ *Ibid*, 97–98.

⁴¹⁶ *Ibid*, 99.

government. By 1981, nearly 900 families had left or been permanently relocated, and the Canal was declared the first “Superfund” site, under the recently passed Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

How Love Canal residents in general, and the LCHA in particular, responded to the toxic wastes in their neighborhood has and continues to provoke serious controversy for scholars of environmental politics, environmental justice activists, and environmental toxicologists and epidemiologists. Of particular controversy has been the relationship of Love Canal to the environmental justice movement: in particular, whether the community’s response represented the beginning of environmental justice activism, or simply another instance of suburban NIMBY (“Not in My Back Yard”) politics.

For some, Love Canal represents progressive grassroots triumph, the first time that ordinary citizens banded together to fight the environmental injustices perpetrated upon them by combined industrial and governmental negligence. In this vein it has been described variously as “both catalyst and prototype for the emergence of anti-toxics groups nationally”, “the birthplace of the environmental justice movement as well as the beginning of hazardous waste policies as we know them today in North America”, “prefigur[ing] a new way of defining what it meant to be an environmentalist”, and “the beginning of the environmental health movement in the United States.”⁴¹⁷ Alongside the grassroots activism at Warren County, North Carolina in 1978 against the siting of a dump for waste PCBs, the Love Canal community’s response is pinpointed by these enthusiasts as the emergence of a new type of environmental activism, which would come,

⁴¹⁷ Bob Edwards, “With Liberty and Environmental Justice for All: The Emergence and Challenge of Grassroots Environmentalism in the United States,” in Bron Taylor, ed., *Ecological Resistance Movements: The Global Emergence of Radical and Popular Environmentalism* (Albany: State University of New York Press, 1995), 39; Thomas H. Fletcher, *From Love Canal to Environmental Justice: The Politics of Hazardous Waste on the Canada-U.S. Border* (Ontario, Canada: Broadview Press, 2003), 46; Lois Marie Gibbs, *Love Canal: and the Birth of the Environmental Health Movement*, (Washington, D.C.: Island Press, 2010), 1; Gottlieb, *Forcing the Spring*, 247.

by the late 1980s, to be called the environmental justice movement.⁴¹⁸ This activism, driven from the local, grassroots level, emphasizes the multiple threats posed to human health by an industrialized environment, as well as the disproportionate presence of toxic wastes in low-income and non-white communities.

Others challenge this triumphal interpretation. Historians Elizabeth Blum and Amy Hay have pointed to the profoundly conservative aspects of the neighborhood's activism, including the racial polarization of resident organizations, some white residents' emphasis on salvaging their property rights, and female activists' explicit rejection of the contemporary feminist movement. Blum and Hay each argue that maternal values and private property rights were much more significant in informing residents' activism.⁴¹⁹ Giovanna di Chiro and Dolores Greenberg have asked, on the basis of many residents' lack of attention or frank prejudice towards class, race, and gender inequalities, whether the Canal should even be considered as part of the emergence of the environmental justice movement.⁴²⁰ While diverse in subject matter, these analyses follow a common trajectory: they identify moments of social and political conservatism in the community's activism, and on the basis of these moments mark the distance between the neighborhood and the environmental justice movement.

Still others have questioned the newness of the activism at Love Canal. Environmental sociologist Robert Gottlieb asserted that a direct lineage can be traced from Progressive Era urban reformers Alice Hamilton and Jane Addams through LCHA President Lois Gibbs to the

⁴¹⁸ For literature on Warren County see R.D. Bullard, *Dumping in Dixie: Race, Class and Environmental Quality* (Boulder: Westview Press, 2000); Eileen McGurty, *Transforming Environmentalism: Warren County, PCBs, and the Origins of Environmental Justice* (New Brunswick, New Jersey: Rutgers University Press, 2007).

⁴¹⁹ Blum, *Love Canal Revisited*; Amy M. Hay, "Recipe for Disaster: Motherhood and Citizenship at Love Canal," *Journal of Women's History* 21 (2009); Hay, "Recipe for Disaster: Chemical Wastes, Community Activists, and PublicHealth at Love Canal, 1945-2000."

⁴²⁰ Giovanna di Chiro, "Nature as Community: The Convergence of Environment and Social Justice," in William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W. W. Norton and Company, 1996); Dolores Greenberg, "Reconstructing Race and Protest: Environmental Justice in New York City," *Environmental History* 5 (2000).

environmental justice movement. Gottlieb argued that for each, “change was a community function, and that environmentalism... was not about technique, but the intersection of science, policy, and democratic action.”⁴²¹ Gottlieb’s argument is buttressed by recent scholarship on 1950s grassroots activism, which shows that communities across the United States organized themselves to fight instances of air pollution, pesticides, and water pollution, which they perceived first and foremost as public health threats, and attempted to remediate through using established policy channels and enlisting scientific experts.⁴²²

By contrast, historian Richard Newman contends that while the actions taken by Love Canal residents may not have been novel, a new political subjectivity of the “environmentally threatened citizen” did emerge at Love Canal.⁴²³ As he wrote of Lois Gibbs’ 1982 autobiography, *Love Canal: My Story*, “[It] is the first grassroots rejoinder to the classic environmental literature in that it is aimed specifically at the ordinary citizen trapped in a precarious environmental state.”⁴²⁴ Newman’s analysis is supported by Gibbs’ own interpretation of Love Canal. In the most recent edition of her autobiography, she argues that the environmentally threatened subjectivity is boundary-less, extending to the womb and crossing all geographic boundaries. She stressed the ubiquity of chemical exposure, “One lesson that we have all learned over the past three decades is that every one of us, regardless of where we live, encounters very dangerous chemicals every day; in shower curtains, toys, yogurt, milk, computers, and in the air itself. No one is safe.”⁴²⁵

⁴²¹ Gottlieb, “Beyond NEPA and Earth Day”, 11.

⁴²² Dewey, *Don’t Breathe the Air*; Adam Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (Cambridge University Press, 2001).

⁴²³ Rich Newman, “Making Environmental Politics: Women and Love Canal Activism,” *Women’s Studies Quarterly* 29 (2001), 79.

⁴²⁴ *Ibid.*, 78.

⁴²⁵ Gibbs, *Love Canal*, 15.

Newman's analysis provides a solid grounding for an investigation of the significance of Love Canal activism. In the struggles to gain official recognition that their health was threatened by the toxins in their environment, Love Canal residents relied upon a complicated language of rights and citizenship. Residents of all political persuasions insisted that their individual rights as citizens of the United States included the federal government's protection of their health and environment.

Historian James Longhurst has argued that grassroots environmental action in the postwar period is part of a much broader movement – the “rights revolution” – to redefine the individual's relationship to the state. This redefinition emphasized local, participatory democracy, increased individual involvement in policy-making processes, and drew upon mass media and mass protest to achieve these goals.⁴²⁶ In contrast to what Longhurst sees as an increasing attempt by large Washington D.C.-based environmental lobbying organizations to work within the regulatory frameworks established in the late 1960s and early 1970s, “citizen environmentalists” employed a heavily rights-oriented language of citizenship to demand exceptional protections from the government. Indeed, Carrol Mrak's repeated emphasis on the implications of Carter's foreign policy for his own citizens speaks to the significance of citizenship as a framework for confronting the Canal wastes.

Clearly, Love Canal is a sore spot, an unresolved moment, in the development of environmental politics, a moment which raises as many, if not more, questions than it answers. To navigate this complexity, this chapter is framed by the work of Newman and Longhurst. It argues that a different political subjectivity emerged at Love Canal, a subjectivity that gave particular emphasis to residents' rights as citizens. To explore this subjectivity it asks several questions: How did residents define their health, the environment, and the relationship between

⁴²⁶ James Longhurst, *Citizen Environmentalists* (Boston: Tufts University Press, 2010).

the two? What geo-political events shaped how they articulated these conceptions, and how they actualized them in a political way? In what ways has this political subjectivity endured? This chapter will trace the emergence of a form of activism – that of the community under environmental threat – which has exerted a lasting effect on the existing terrain of environmental politics.

Popular Epidemiology, Risk Assessment, and the Environmental Defense Fund

Beginning in 1977 with the initial discovery of hazardous wastes in the Canal, the New York State Health Department and Department of Environmental Conservation, as well as the EPA, the Department of Health and Human Services, and the CDC, performed scores of epidemiological and environmental studies on the residents, homes, gardens and creeks of Love Canal. These studies ranged from adverse pregnancy outcomes, home basement air testing for seven “Love Canal indicator chemicals”, autopsies on three dogs, one blackbird, and two gulls, and medical examinations of 112 construction workers from the Canal remedial construction project.⁴²⁷

From a public health standpoint, the results were alarming. Elevated levels of toluene, chloroform, and benzene vapors were found in many homes; twenty school children were diagnosed with severe liver problems; and in May 1980, the EPA announced that a statistically significant number of residents suffered from chromosome breakage. Residents expected these results to prompt swift government intervention. They were deeply mistaken. Once provided with their test results, residents were frequently told to make their own informed decisions. As

⁴²⁷ New York State Department of Health, “Love Canal Studies by the New York State Department of Health”, June 1980. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

Eileen Matsulavage testified in 1979 about receiving the results of her basement air testing, “I was told by Dr. Nancy Kim that the readings were quite high and I should not use the basement...she suggested that I seal the bottom of the doorway with rags. When I questioned whether the house was safe to live in, she stated that it was a personal decision.”⁴²⁸ Similarly, following a New York State Department of Health study that found increased rates of miscarriage and low birth weight in Canal residents, the department announced that it had, “provided women of childbearing age with sufficient information as to the risks before making a conscious and voluntary decision to become pregnant.”⁴²⁹

Love Canal, at which a shifting population had been exposed to more than 200 chemicals at indeterminate strengths and for indeterminate lengths, provoked an epistemological and moral crisis for environmental epidemiology and toxicology. While scientists acknowledged elevated rates of illness and death at Love Canal, their analytic tools could not establish precise causal mechanisms for morbidity and mortality. The fields of epidemiology and toxicology, firmly grounded in studies of occupational exposure and the tracking of discrete chemical vectors, had only recently begun to study the phenomena of chronic and environmental exposure.⁴³⁰ Health officials charged with investigating Love Canal lacked substantive data on the health effects of most of the Canal chemicals, and tended to minimize or negate the health risks felt by residents.⁴³¹ Epidemiological and toxicological studies generated an increasingly uncertain future for residents. The involved scientists insisted that causal links between Canal chemicals

⁴²⁸ Eileen Matsulavage, “Love Canal Testimony”, April 5, 1979. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

⁴²⁹ Love Canal Homeowners Association Inc., “Love Canal Chronological Report, April 1978 to January 1980”, Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University, entry for March 25, 1979.

⁴³⁰ For case histories of occupational health and environmental epidemiology, see Nash, *Inescapable Ecologies*, and Sellers, *Hazards of the Job*.

⁴³¹ “Chemical & Engineering News: Government & Policy - Happy Birthday, Love Canal”, n.d., accessed June 10, 2011, <http://pubs.acs.org/cen/government/86/8646gov2.html>.

and resident ailments could not be confirmed, and, absent these definitive links, state and federal officials delayed action on resident evacuation.

While the Love Canal Homeowner's Association (LCHA), which went door-to-door in 1978 to interview residents about their health experiences, was the largest organization, with approximately 500 members, and the one which received the most media and scholarly attention, residents also formed and/or joined PEOPLE for Permanent Relocation, the Love Canal Renter's Association and the Ecumenical Task Force.⁴³² Despite their organizational and ideological differences, the common point of departure for these organizations was how living in the Canal had impacted residents' health, particularly the health of children. In letters to the editor of local papers, Congressional testimonies, face-to-face confrontations with state and federal officials, picket lines and protests, residents repeatedly insisted that their battered bodies should be the proper focus of scientific and political attention.

A 1978 statement by Mrs. Walters illustrates the health crisis many families experienced.

I lived in the southern end of Love Canal, in the inner ring, which has been designated by the EPA as an uninhabitable area. My husband and I moved into our home in 1964 with no major health problems. During the following two years, I had two miscarriages and our daughter, Michelle, was born in July of 1966. A year later, when we celebrated her first birthday and she was not attempting to walk, we were concerned because her right foot was turned inward. I took her to an orthopedic doctor and he prescribed corrective shoes. One morning, not long after her first birthday, I went in to get her out of her crib and there was something the matter with her leg. It was drawn up toward her back... This was the beginning of a nightmare.⁴³³

She continued on to describe Michelle's diagnosis with rheumatoid arthritis at fourteen months, along with the discovery of the absence of her second teeth, "a common problem experienced by

⁴³² The activities of the LCHA have been extensively analyzed, both because of its successful manipulation of the media as well as because of the available archival sources. See Blum, *Love Canal Revisited*; Epstein, *Hazardous Waste in America*; Gibbs, *Love Canal: My Story*; Hay, "Recipe for Disaster: Motherhood and Citizenship at Love Canal"; Newman, "Making Environmental Politics".

⁴³³ Mrs. Walters, typeset of testimony, 1978. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

many Love Canal children.” Walters herself suffered from a blood clot in her lung, gall bladder surgery, and diabetes, and her husband from “severe psychological trauma”, all of which she attributed to life in the Love Canal. Speaking as a former resident who had fled the Canal shortly after the discovery of the chemical wastes, she pointed to the drastic improvement in Michelle’s health following the family’s departure. “She has grown and her health is excellent. We don’t need health testing to prove that once you move away from a toxic dump, your health can improve.”⁴³⁴ For Mrs. Walters, life at Love Canal meant prolonged and unresolved illness. She was far from alone in making this equation: scores of resident testimonies narrate a frightening number of spontaneous and unresolved ailments.⁴³⁵

In September 1978, led by Lois Gibbs, the residents of the LCHA responded to the discrepancy between health data and conclusive action on relocation by conducting their own health survey. Their intention was to design a survey which would generate conclusive evidence that resident disease was caused by buried chemicals. The LCHA recruited the help of Beverly Paigen, a cancer research scientist at Buffalo’s Roswell Park Memorial Institute, whose main research interest was genetic susceptibility to environmental toxins. Paigen was also an environmental activist interested in assessing the health hazards from chemical wastes.⁴³⁶

Paigen and the LCHA devised a health questionnaire, and a small group of interviewers began canvassing the homes immediately east and north of the Canal. Interviewers focused on length of residency and illnesses, only counting those health effects that, according to Paigen, were “diagnosed by a physician and that the layperson knows by name.” After collecting the

⁴³⁴ Ibid

⁴³⁵ See the testimony of Joann Hale and Debbie Cerillo. Testimony to the Joint Public Hearing on the Need for Community Health Information on Toxic Substances and Hazardous Waste, convened by the State of New York Office of the Assistant Majority Leader, Standing Committee on Health and Standing Committee on Environmental Conservation, November 15, 1983. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

⁴³⁶ Levine, *Love Canal: Science, Politics, and People*, 91.

health data, residents plotted it on a map of the neighborhood waterways. They observed a strong correlation between disease incidence and proximity to underground streambeds (which would come to be referred to as “swales”). Residents then classified homes as historically “wet” or “dry”. The health survey concluded that wet homes demonstrated a three-fold increase in miscarriages, a twenty percent increase in birth defects, and elevated rates of asthma, central nervous system toxicity, and urinary disease.⁴³⁷

In November of 1978, Paigen presented the study results and the swale theory to the New York State Department of Health. She argued that the elevated levels of respiratory, nervous, urinary and reproductive damage demonstrated by residents were “not surprising”, “given the known toxicity of chemicals found in soil and in the air of homes.”⁴³⁸ Although she received a friendly reception, the state quickly began to attack both the methods and conclusion of the study, rejecting all implications that there was a correlation between resident illness and the neighborhood environment.

The LCHA had framed its health survey to counter the reigning logic of risk assessment. Toxicologist Ellen Silbergeld, peripherally involved at Love Canal through her work with the Environmental Defense Fund, traced the emergence of risk assessment to the impracticalities of the 1958 Delaney Clause, an amendment to the Food Drug and Cosmetic Act of 1938. The Delaney Clause, which prohibited the FDA from approving the use in food of any chemical that was known to cause cancer in man, or which, through testing, provoked cancer in animals, constituted the regulatory framework for the EPA in its initial years. Yet, Silbergeld argued, it was unfeasible to enforce the prohibition approach Delaney represented.⁴³⁹ The Toxic

⁴³⁷ Beverly Paigen, et al, “Assessing the Problem – Love Canal,” in Joseph Highland, ed., *Hazardous Waste Disposal: Assessing the Problem* (Ann Arbor: Ann Arbor Science, 1982), 15-16.

⁴³⁸ Ibid.

⁴³⁹ Ellen Silbergeld, telephone interview, October 7, 2011.

Substances Control Act (TSCA) of 1976, which replaced the Delaney Clause, gave the EPA authority over the production, importation, use and disposal of a wide range of chemicals (88,300 by present count), and charged the Agency with preventing “unreasonable risk of injury to health or the environment” from toxic chemicals. Russell E. Train, chief administrator of the EPA at the time, described the Act as “one of the most important pieces of preventative medicine legislation”. Train understood it to be a public health measure, whose “basic aim is to give public health far more of the weight it deserves in the decisions by which chemicals are commercially made and marketed, by which they enter and spread throughout the human environment.”⁴⁴⁰

The significance of the TSCA’s regulatory framework was twofold. First, it placed risk at the center of humans’ relationship to the environment. According to the Act, chemical exposure was unavoidable, indeed a natural part of life on earth; therefore, it was something to be managed, rather than prevented. Second, while the TSCA was intended to prevent injury to both human health and the environment, in its interpretation and implementation the EPA gave far greater weight to the health of humans. This prioritization reflected available risk assessment methodologies, as well as the realities of environmental litigation in the late 1970s. To enforce the TSCA, the EPA developed a risk assessment methodology in cooperation with the Food and Drug Administration, the Occupational Safety and Health Administration, and the Consumer Product Safety Commission. Finding it impossible to develop a methodology that could address all of the potential health and environmental risks from toxic chemicals, the working group focused on cancer, for which it could draw upon already existing risk assessment

⁴⁴⁰ “Train Sees New Toxic Substances Law as ‘Preventive Medicine’ | About EPA | US EPA”, n.d., accessed June 10, 2011, <http://www.epa.gov/aboutepa/history/topics/tsca/03.html>.

methodologies.⁴⁴¹ By the end of the decade, the EPA had become an aggressive agency against environmental cancer; under the administration of Douglas Costle (1977-1985), it even argued that it was a public health, rather than a “bird and bunny” agency. Undoubtedly, this position was strongly related to the possibilities for litigation: EPA lawyers found cancer to be the most effective pretext for enacting environmental regulation. As historian Edmund Russell quipped, “In the legal community, it had become clear that judges feared human cancer more than dead birds.”⁴⁴²

The LCHA’s community health survey stood in stark contrast to the perspective on risk represented by the EPA and allied agencies. For the members of the LCHA, health *a priori* referred to the health of humans in a community. The baseline upon which to judge health was not a normalized background presence of chemicals, but the absence of chemical pollution. Residents’ data emphasized the “*distribution* of a health problem and its spatial proximity to industry and related plumes or odors”, correlated disease with “the social and spatial distribution of difference in the built environment”.⁴⁴³ This emphasis on the spatial aspect of health enabled LCHA members to emphasize differences between individual bodies. In contrast to risk assessment’s endeavor to calculate a standard of acceptable exposure applicable to all individuals, the community’s health survey tried to account for how two families, in close proximity to one another, could evidence drastically different reactions to the Canal chemicals. This “intimate and geographical” reasoning provided a strong platform for countering and reframing the assertions of health officials.⁴⁴⁴

⁴⁴¹ Russell, “Lost Among the Parts per Billion,” 35; Silbergeld interview.

⁴⁴² Ibid, 34.

⁴⁴³ Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty* (Durham, NC: Duke University Press, 2006), 106.

⁴⁴⁴ Ibid.

Such reframing was in full force in the LCHA's confrontations with the Department of Health. By the summer of 1979, despite a wide range of ominous epidemiological data, including the residents' own findings, as well as a fresh wave of panic spawned by the discovery of dioxin in the Canal, only a small fraction of residents had been permanently evacuated. On July 12, LCHA president Lois Gibbs sent a fourteen-point memo to State Commissioner of Health David Axelrod, in which she detailed the residents' ongoing concerns with the direction and certainty of the State's conclusions. The fourteen points encompassed the state's intended plans for dioxin testing, long range monitoring programs, and the identification of control populations for further testing. Point after point, Gibbs insisted that the proper focus for scientific attention was the threatened human body. Exclaiming, "you are dealing with human habitation; with humans every **precaution must** be taken at any cost!", she stressed that, "There are many theories of how the contamination got there, but that is not the **most important question** to ask at this time...Most of these areas have homes, with people walking, playing, and living on the "wet" areas. **These people are continually being exposed** to toxic chemicals." With regard to the continued soil testing of evacuated areas, "**I do not understand** the reasoning of doing further soil tests on 97th and 99th street, where **no one is living, when the outer area has yet** to be **completed**. There are families still living in homes in the outer areas who are possibly being exposed continuously to toxic chemicals and **have had no** soil samples taken. Should not your first priority be tests where there is human exposure **before** areas that are **vacated**?"⁴⁴⁵

Gibbs insisted that scientific studies should begin from the premise that the human body was threatened by the uncertain hazards present in the environment, rather than the need to

⁴⁴⁵ Lois Gibbs to David Axelrod, July 12, 1979, Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University. Gibbs' emphasis.

identify discrete causal links between Canal chemicals and resident ailments. Defining the environment through residents' daily presence and activity, their "walking, playing and living", she argued that New York State's continued testing of uninhabited areas and dead animals was both illogical and unethical. In the summer of 1980, having failed to alter either the methodology of scientific testing or government policy priorities, the residents represented by the LCHA boycotted all further government-sponsored testing.⁴⁴⁶

The boycott represented residents' certitude that the chemicals were causing their illness. As they saw it, the proper role of epidemiological investigation was to identify definite causative links between the contents of the Canal and residents' specific diseases. On these grounds, in early 1980 Gibbs contacted Joseph Highland, head of the Toxic Chemicals Program at the Environmental Defense Fund.⁴⁴⁷ In cooperation with Gibbs and Paigen, Highland determined that the best way, the one whose results would be most corroborated by the consensus of scholarly opinion, to investigate a connection between the chemicals and the children's health was to study children's growth and nerve conduction.⁴⁴⁸

The flyer for the study emphasized its independence from government studies.

This study is a response to the concerns of many Love Canal area parents that their children seem to be small for their age...Your family's participation in the study will be of benefit to both you and your child and will make an important contribution to the understanding of chemical dumps and their effects on child growth.⁴⁴⁹

The flyer concluded,

⁴⁴⁶ However, the LCHA petitioned other organizations and scientists to continue studying the effects of Love Canal on the residents. In particular, it targeted Dr. Beverly Paigen of the Roswell Memorial Institute in Buffalo, who had been deeply involved in Love Canal epidemiology from the beginning, as well as the Environmental Defense Fund and the National Academy of Sciences.

⁴⁴⁷ Gibbs, *Love Canal*, 132.

⁴⁴⁸ Joseph Highland, Skype, October 23, 2011. The results of these studies were published several years later. See Beverly Paigen, et al., "Prevalence of health problems in children living near the Love Canal," *Hazardous Waste and Hazardous Materials* 2 (1985); Beverly Paigen et al., "Growth of children living near the hazardous waste site, Love Canal," *Human Biology* 59 (1987).

⁴⁴⁹ Environmental Defense Fund, "Calling All Kids", June 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

THIS IS NOT A STUDY BY THE GOVERNMENT. THIS IS A STUDY SPONSORED BY THE ENVIRONMENTAL DEFENSE FUND IN COOPERATION WITH DR. BEVERLY PAIGEN AND HAS BEEN PLANNED FOR MANY MONTHS.⁴⁵⁰

Another flyer, handwritten and embellished with smiley-face caricatures, emphasized the simplicity of the tests, and the accessibility of the testing facilities. It described the “simple measures of growth such as height, weight, sitting height and arm fold”, reassuring that “this is all we do.”⁴⁵¹ It provided ample contact information for all of the scientists involved, and promised to help arrange transportation and childcare. In the end, Paigen and the EDF studied 523 Love Canal children, and concluded that seizures, learning problems, hyperactivity, eye irritation, skin rashes, abdominal pain and incontinence were more prevalent amongst these children than in a control population of 440.⁴⁵²

Interestingly, the EDF itself was firmly committed to a risk assessment approach.⁴⁵³ Yet somehow, despite this commitment to a methodology which, in the hands of the state, had occasioned the wrath and staunch opposition of residents, the EDF managed to gain the trust and cooperation of residents. In a personal letter to Highland in March of 1980 on behalf of the LCHA, Gibbs wrote,

We have been pleased with the way EDF has included the residents in meetings to explain how things are progressing...as well as the fact that we have been included in the formation of new activities or studies. Residents have developed a lot of confidence in the EDF because of your open, honest approach.

She petitioned Highland to perform a “real epidemiological study”, promising that residents were looking forward to participating.⁴⁵⁴

⁴⁵⁰ Ibid

⁴⁵¹ “Dr. Paigens Study of the Growth of Children”, June 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁵² Paigen et al., “Prevalence of health problems”, 23.

⁴⁵³ Highland Interview.

⁴⁵⁴ Lois Gibbs to Joe Highland, March 20, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

Throughout the crisis, there was little substantive change in *how* residents understood their health, or connected it to the surrounding environment. Residents' attentions were centrally attuned to the physical and psychological effects of living at Love Canal. They explained how they came to an awareness of the consequences of their exposure to hazardous waste through witnessing the adverse effects manifest in the bodies of their children, themselves, and eventually their neighbors. As Linda Nash has observed in another instance, "Regardless of what epidemiology might suggest, residents still *felt* that the landscape was toxic, that their bodies were instruments that measured things that epidemiology and toxicology apparently did not."⁴⁵⁵

Residents took their personal experience of disease as the basis for knowledge about the relationship between the human body and its environment. This way of understanding the relationship between the body and the environment has two elements. First, knowledge and certainty are seen to arise from the immediate lived experiences of specific communities, rather than from abstract measurements of probability or causality. Second, the human body constitutes the normative site against which scientific methods are to be judged. As we will see in the next section, this way of thinking, in which local lived experience constituted the basis for imagining the abstract and global, informed how residents perceived the policy priorities of the Carter administration.

⁴⁵⁵ Nash, *Inescapable Ecologies*, 193.

Everyone Becomes a Refugee

Seeking redress, residents appealed to politicians and agencies on the state, federal, and international levels. Their appeals began with the damage done to their bodies, but moved quickly to the responsibilities of government to its citizens. Strikingly, residents spoke about these responsibilities through the concepts of refuge and refugees. They painted their neighborhood, prior to the discovery of the chemicals, as a place of refuge. The failure of the federal government to protect this refuge or to provide a new one had transformed them into refugees. As Art Tracy described in 1979, “We’re American refugees. We’re not boat refugees, but we’re American refugees. We have no home. We’ve been pushed, frustrated, pulled hauled. I’ve moved four times in the last month.”⁴⁵⁶ A photo of Debbie Cerillo and her children at a 1978 protest shows a beaming toddler wearing a sign “Love Canal Refugee”.⁴⁵⁷

Many residents extended these metaphors beyond the boundaries of the Canal to encompass the nation and its international relations, connecting the domestic responsibilities of the Carter administration to its foreign policy priorities. They used a language of citizenship, focused in particular on the rights and responsibilities which it entailed, to argue that the government’s attentions were fundamentally misplaced overseas.

Refugees were a constant presence on the geo-political landscape of the 1970s. With the fall of Saigon in 1975 and the end of the Vietnam War, tens of thousands of Southeast Asian refugees arrived in the U.S. The Indochina Migration and Refugee Assistance Act (1975) granted special status to these Vietnamese and Cambodian refugees, whose numbers eventually

⁴⁵⁶ As quoted in Epstein, *Hazardous Waste in America*, 107.

⁴⁵⁷ “Debbie Cerrillo and her children carrying signs at the Love Canal protest at the Niagara Falls, N.Y. City Hall”, October 16, 1978, Penelope D. Ploughman Love Canal Collection, University Archives, State University of New York at Buffalo, <http://ubdigit.buffalo.edu/u?LIB-003,185>.

reached 130,000. At the close of the decade, under mounting pressure from Cubans demanding asylum from foreign governments, Fidel Castro opened the port of Mariel to any Cuban who could arrange for transportation off of the island. The Mariel Boatlift, as it came to be called, landed 125,000 Cubans in the U.S. Moreover, it prompted the passage of the 1980 Refugee Act, which created an Office of Refugee Resettlement within the Department of Health and Human Services, to provide for the “effective resettlement” of refugees arriving in the United States for humanitarian reasons.

This section investigates how Love Canal residents appropriated the historical and contemporary meanings of these twin conceptions of refuge and refugee in order to make sense of and negotiate global politics. In particular, this section investigates how this language enabled residents to travel from an articulation of the poisoning of their neighborhood to an indictment of the Carter administration’s foreign policy.

Many Love Canal residents imagined their neighborhood to be the prototypical American suburban development: self-sufficient and upwardly mobile, centered around the home of the nuclear family. Joe McCoulf wrote to New York State Governor Hugh Carey in March of 1979,

I am not writing to you to ask you for any contributions or gratuities...I don’t want any hand outs and I don’t want something for nothing. I just want what you and every family man and hard working citizen wants – a chance to raise a healthy family when I want to, where I want to, and be able to control my families [sic] destiny.⁴⁵⁸

One month later, Joe’s wife Grace testified before the Senate Subcommittee on Toxic Substances and Chemical Wastes that,

We are left with the responsibility of deciding to have another child here and worrying about weighing the odds of conceiving a child with a birth defect. Why should we be trapped into such a corner... We must watch our families deteriorate and our health suffer.

⁴⁵⁸ McCoulf, Joe. Letter to Governor Carey, March 16, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

Our children are sick, our homes are valueless and we have boarded up homes for neighbors. The entire meaning of family has been corroded.⁴⁵⁹

Both of the McCoufles defined refuge as sovereignty over their family and home. They requested government intervention only when this sovereign control was besieged by sickness and financial ruin not of their own making.

In an appeal to President Carter and Governor Carey entitled “The Love Canal and Confidence in Government”, Lois Gibbs connected the McCoufles’ sentiments regarding the government’s responsibilities towards the intimate space of the family home to the broader implications of national citizenship.

We were a proud neighborhood of working people who paid our taxes, paid our bills, served our country in war, and raised our children to respect the flag, the country, the government and basic values. President Carter, and Governor Carey, what can I tell my children to give them confidence in the government when they ask me, “Mommy, why do we have to live here with the chemicals?”⁴⁶⁰

For Gibbs, the neighborhood had been defined by its stability and regularity. The Canal’s continued toxicity interrupted this dependability. This disruption on a local scale pushed her attentions further afield, towards what she diagnosed as a collapse in the American government’s responsibility to its people. The government’s failure to resolve the neighborhood’s plight had abrogated its people’s confidence, hollowing their faith in flag, country and government.

Gibbs was not alone in connecting the federal government’s dereliction of its domestic duties with its foreign policy. As Grace McCouf observed in her 1979 Senate testimony, “The American people see only the billions shipped out to strangers and never see the aid given to the needy citizens who are the ones paying the taxes - - the same taxes going overseas. Who needs it

⁴⁵⁹ McCouf, Grace. Testimony to the Senate Subcommittee on Toxic Substances and Chemical Wastes, April 5, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁶⁰ Gibbs, Lois, “The Love Canal and Confidence in Government”, date unknown. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

more?”⁴⁶¹ The LCHA’s 1979 “Demands” equated the government’s inaction at Love Canal with its negligence internationally.

Though the United States Government refuses to upholds (sic) its own reparation agreement with countries where it is abundantly clear that the same criminal poisons have been unleashed on the residents of the Love Canal area...we charge the three criminals [Occidental Petroleum, U.S. Army, and NY State] to indeed uphold and enforce its reparation with residents of Love Canal.⁴⁶²

On what grounds did residents connect the poisoning of their neighborhood with the Carter administration’s foreign policy decisions? Significantly, the plight of “boat people” from Cuba and Vietnam – the most visible refugees of the late 1970s - gave concrete form to how residents articulated this link. In an October 1979 open letter to “Senators and Assemblymen”, Gibbs wrote, “We call ourselves the “Canal People” for we feel a kinship with the Boat People of Asia. We are alone and forgotten. We have fled our homes in terror driven out by an enemy we cannot see or fight.”⁴⁶³ The LCHA staged a “Boat People Protest” at the 1980 Democratic Convention in New York City. Members carried signs labeling themselves the “Love Canal Boat People”, and toy rubber rafts with “Carter’s Boat People” written on the sides. As Gibbs recounted, “Since President Carter recognized and helped those who came to him on boats, perhaps he would help us.”⁴⁶⁴

Although Gibbs and many members of the LCHA expressed solidarity, however opportunistic, with the experience of refugees, others viewed the Carter administration’s official open arms policy harshly. In 1979, Eva Lynch wrote to Commissioner of Transportation

⁴⁶¹ McCoulf, Grace, April 5, 1979.

⁴⁶² LCHA, “Demands”, undated. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁶³ Lois Gibbs, “Dear Senators and Assemblymen,” October 14, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁶⁴ Gibbs, *Love Canal*, 164. The “Boat People” slogan was not limited to the DNC convention, but appeared at multiple protests. See “Love Canal Homeowners Association protest targeting the federal government held outside the Niagara Falls, N.Y. Dept. of Health building. Woman holds sign ‘We are Love Canal boat people’”, April 17, 1979, Penelope D. Ploughman Love Canal Collection, State University of New York at Buffalo University Archives.

William Hennessy, “If we were starving “Boat People” the government would come save us, but we are only hardworking, tax paying CITIZENS of the U.S.A., who [citizens] can only come to the aide of Aliens, we are only needed for our tax dollar.”⁴⁶⁵ The following May, just after the Mariel boatlift had begun, Patricia Pino explained to a local newspaper how, “He’ll (Carter) generously use our money...when he wants to play directly into Castro’s hands by accepting thousands of Cuban refugees to further drain our economy. What about the people in Love Canal who need his help, our money, and want our lives?”⁴⁶⁶ Carrol Mrak furthered these sentiments in her June 1980 letter to President Carter,

Please explain how you can justify the entrance of refugees such as we see entering Florida, who riot and cause injury, who are expelled for good reason from their own country? How can the government NOT impose restrictions to halt such potential and immediate problems ranging from unemployment, to housing, feeding, clothing, and educating (now and for lifetimes to come)? You have allowed the introduction of a Cuban, non-American minority to our future.⁴⁶⁷

For Lynch, Pino, and Mrak, the close of the decade was a time of limited social resources, demanding a fierce drawing of boundaries between American self and Cuban other. Their appeals resounded with indignation and racial prejudice, returning again and again to the trope of the known and proper self over against the unknown and therefore disruptive other.

In October of 1979, PEOPLE for Permanent Relocation decided to bypass the federal government completely. The organization appealed to the government of Canada to intervene on behalf of Love Canal residents, on the basis of Canada’s historic protection of American citizens “whose rights it felt were abridged.” The petition opened plaintively, “We, the residents of the Love Canal, Citizens of the United States of America are suffering from economic ruin, chronic

⁴⁶⁵ Eva Lynch, “Letter to Commissioner Hennessy,” August 2, 1979. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

⁴⁶⁶ Patricia Pino, “Letter to the Editor”, May 19, 1980. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

⁴⁶⁷ Carrol Mrak, “Letter to President Carter”, June 22, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

illness and death, the inability to bear normal, healthy babies (when we can bear them at all), and peace of mind due to a chemical disaster not of our own making.” It approached the relationship of Love Canal residents with the federal government contractually. Arguing that residents had upheld their end of the Constitutional bargain by paying taxes, serving in the military, abiding by the law, and voting in elections, PEOPLE indicted the American government for abnegating its Constitutional responsibility to protect its citizens’ “human” rights to, “justice, domestic tranquility, welfare, and the blessings of liberty to ourselves and our future generations.” This contract having thus been broken, PEOPLE requested four things from Canada:

- 1) Subsidized housing for those seeking it, within Canada;
- 2) Political asylum for those seeking it;
- 3) Temporary residence in Canada;
- 4) Petition the General Secretary of the United Nations, Kurt Waldheim, to have our plea for human rights placed before the General Assembly.⁴⁶⁸

Rather than plead with the American government to uphold its responsibilities, PEOPLE sought asylum from a foreign country. In doing so the organization cast Love Canal residents in the role of refugees, a position which, in order to be actualized, would have required it to prove that they had been intentionally persecuted by the American government. In fact, this case *was* argued. PEOPLE member Luella Kenny, whose seven year old son Jon had died of kidney failure in 1978, testified at the 1980 shareholder’s meeting of Occidental Petroleum (the parent corporation of Hooker Chemical since 1968) that, “Why worry about an enemy who will destroy us when we are self-destructing. We don’t need sophisticated nuclear weapons; all we need are the multitude of dumps strategically placed all over the country that will insidiously destroy

⁴⁶⁸ PEOPLE for Permanent Relocation, “Petition to the Government of Canada,” October 17, 1979, MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

everything and everyone in its path.”⁴⁶⁹ Three years later, her argument had become more forceful. She testified to the Senate that, “We condemn other nations because of the use of chemical warfare on an enemy, yet we are content to use this tactic on our own people.”⁴⁷⁰ In the space of three years, Kenny’s indictment of the federal government intensified dramatically, transforming hazardous waste sites from moments of governmental negligence to sites of intentional assault.

Whether focused on the meaning of family, the rights of taxpayers to government services, or the American government’s domestic chemical warfare campaign, the central motif of residents’ statements was the mutual rights and responsibilities of citizens and governments. By upholding these rights and responsibilities they demarcated the boundaries of their refuge. Regardless of political persuasion, residents agreed that the government had failed to abide by its responsibility to protect these boundaries. This failure destabilized the security and serenity which residents had believed to be the essential attributes of their neighborhood. For some, like PEOPLE and Gibbs, this destabilization prompted a universalization of their condition. This universalization was evidenced by the kinship Gibbs felt with the “Boat People of Asia” as well as by PEOPLE’s reaching beyond the borders of the United States for assistance. For other residents, the crisis provoked a retreat. Eva Lynch, Patricia Pino, and Carrol Mrak insisted upon their own entitlement as citizens, and denied any commonalities with foreign populations. Despite this radical difference, in both instances these residents of the Love Canal came to

⁴⁶⁹ Luella N. Kenny, “Occidental Petroleum Share Holders Corporate Responsibility Resolution,” May 21, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁷⁰ Luella Kenny, Testimony regarding "Future Uses of the Love Canal Hazardous Waste Site and Adjacent Property", February 17, 1983. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

understand their neighborhood in a globalized context, and used a rhetoric of citizenship to make sense of the inter-relationship of the government's foreign and domestic policy choices.

Dioxin, the Toxic Environment, and the Environmental Movement

In October 1984, an article entitled "The Barefoot Epidemiologists" appeared in FOE's journal *Not Man Apart*.⁴⁷¹ The article opened with a description of how Lorraine Ross of Los Paseos, California, had organized her neighbors to fight against the leakage of toxic materials from a local electronics plant into their drinking water. Through telephone calls and door-to-door canvassing, Ross collected information about miscarriages and birth defects; by mapping the geographical distribution of her results onto a water district map she ultimately convinced the state and county health departments to investigate resident illnesses.

The author tied Ross' activities to a string of grassroots battles against hazardous wastes beginning at Love Canal. The pull-out caption to the article read, "In every community, an intelligent housewife or two, with time and a telephone, can pull together a high quality health survey."⁴⁷² Putting aside the *Good Housekeeping* vibe of this quote, its historical implications are significant. It recognized that by 1984, the community health survey, often conducted by housewives, was a constitutive and necessary feature of grassroots environmental activism. The tacit acknowledgment that grassroots activism had a place within contemporary environmental politics marked a significant shift from the status quo of the national environmental movement.

Just six years prior, there were virtually no direct exchanges between the Love Canal neighborhood and national environmental organizations. Although by the 1970s many of these

⁴⁷¹ Eleanor Smith, "The Barefoot Epidemiologists," *Not Man Apart*, October 1984.

⁴⁷² *Ibid.*

organizations, including the Sierra Club, the National Wildlife Foundation, and Friends of the Earth, were strong advocates for toxic waste identification, control, and abatement, the only organization to ally itself with the residents was the Environmental Defense Fund.⁴⁷³ Until Eleanor Smith's 1984 article, Love Canal did not merit a single mention in the publications of either Friends of the Earth or the Sierra Club. Similarly, explicitly environmental organizations don't merit a single mention in Gibbs' memoir.⁴⁷⁴

This organizational and ideological disjuncture matters, for it suggests an incommensurability between residents' emphasis on their local health experiences and the priorities of mainstream environmentalists in the late 1970s and early 1980s. Historian Christopher Sellers has argued that in the immediate postwar period, grassroots environmental activists emphasized bodily concerns. Imagining the human body to be "environmentally threatened", they turned an earlier conservationist concern with the threat humans posed to nature on its head. Yet these bodily concerns, most of which lay beyond the realm of the "biologically provable", were sequestered from mainstream environmental activism, which preferred to concentrate on issues like wildlife extinction that were more likely to generate legal and policy success. He describes the schism that resulted as the "body-blindness" of mainstream environmentalism.⁴⁷⁵ Other historians, Adam Rome and Scott Dewey in particular, have

⁴⁷³ Although the case did not hold interest for these other organizations prior to the evacuation, they were frequent participants in Congressional hearings on hazardous waste disposal and the resettlement of Love Canal throughout the 1980s.

⁴⁷⁴ Joseph Highland attributed this disjuncture to the "genesis of organizations", arguing that other organizations just "wouldn't have thought it [Love Canal] was germane". EDF, on the other hand, had been founded as a community organization; according to Highland, once the organization was involved at Love Canal, it stuck around because it actually felt it could "help the people". Highland Interview.

⁴⁷⁵ Christopher Sellers, "Body, Place, and the State: The Makings of an "Environmentalism" Imaginary in the Post-World War II U.S.," *Radical History Review* 74 (1999), 58

demonstrated how grassroots activists used public health concerns, from suburban backyard septic tanks to ambient smog, as the basis for environmental activism in the postwar decades.⁴⁷⁶

Love Canal residents' over-riding preoccupation with their own health strongly mirrors the findings of Sellers, Rome and Dewey. The fact that residents' bodily concerns were much less visible in the mainstream environmental movement suggests that they formed their understandings of their environment outside of the discourse of professional environmental politics, but completely in line with contemporary grassroots activism. In the absence of a readily available environmental discourse, residents' statements evidence how, in striking parallel to how they spoke of their physical health and the responsibilities of government, their conceptions of the environment began from the deeply familiar contours of the neighborhood itself. From that familiar grounding, residents cast their attentions outward, embedding their neighborhood within a regional landscape and contextualizing its predicament within larger geo-political events.⁴⁷⁷

Locally, there was somewhat more intersection. The Niagara County Federation of Conservation Clubs awarded the LCHA its Award of Merit on February 23, 1980, "In recognition of dedicated efforts and outstanding contributions in helping to further the ideals of the conservation movement."⁴⁷⁸ Alongside labor unions and the local branch of the Sierra Club, the LCHA was a central participant in the Mothers' Day Coalition for Mother Earth, organizer of the 1979 Mothers' Day Parade and Rally for Mother Earth, the flyer for which read, "Because of

⁴⁷⁶ Rome, *The Bulldozer in the Countryside*; Dewey, *Don't Breathe the Air*.

⁴⁷⁷ As in the prior discussion of the language of refuge and refugees, there is a problem of historical memory with accessing how residents thought of their environment. That is, they only began to speak about their surroundings as an *environment* following the discovery of toxic wastes in it. Framed by such a momentous rupture, resident statements are potentially marked by a retrospective idealization of the pre-toxic environment, an idealization which casts what came before as a space of refuge, tranquility, and safety. This refuge contrasts with the post-discovery reality of wrack and ruin stretching interminably into the future. Taking this reality into account we can nonetheless glean the conceptual components which structured these pre and post-discovery environments.

⁴⁷⁸ Niagara County Federation of Conservation Clubs, Inc., "Award of Merit", February 23, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

corporate criminality and government irresponsibility, words like “radiation” and “dioxin” and terms like “chemical poisoning” and “birth defects” have become part of everyday speech.”⁴⁷⁹

Regionally, there was significant activism against radioactive wastes, activism that connected human health with foreign policy. Although the LCHA was not directly concerned with radioactivity, by 1979 it occasionally allied itself with local groups fighting the more than fifty radioactive waste disposal sites in western New York.⁴⁸⁰ In January 1979, the LCHA joined with the Coalition on West Valley Nuclear Wastes and the Western New York Peace Center to critique Carter’s proposed 1980 budget. The groups held a joint press conference to attack “continuing wasteful military expenditures while ignoring the health needs of the people of Western New York.”⁴⁸¹ In January 1980, the LCHA hosted a joint press conference by the Sierra Club Atlantic Chapter and the C.A.N.C.E.R. Coalition (Citizens Against Nuclear Contamination and Economic Restlessness) regarding radiation “hot spots” in Niagara County and the neighboring town of Tonawanda. The flyer emphasized that the conference would address the health implications of these spots, and the role of government agencies.⁴⁸²

Individually, Lois Gibbs was assiduously solicited to participate in meetings across the country. 1979 saw her speaking at the “Jobs, Inflation and Security: The Impact of the Arms Race on Western New York” hosted by the Western New York Peace Center and the

⁴⁷⁹ Mother’s Day Coalition for Mother Earth, “Mother’s Day Parade and Rally”. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁸⁰ For the LCHA this cooperation was occasional at best. Lois Gibbs recounted, “... we got involved in other things, but it really... was because they did something for us, we wanted to repay them. It wasn’t because we were really getting into the larger environmental movement and issues. It was more, you did this nice thing for us, so we’re going to do this nice, supportive thing for you.” As quoted by Blum, *Love Canal Revisited*, 113–114.

⁴⁸¹ “Local Groups Protest Carter Military Budget and Call for Transfer to Clean Up West Valley and Love Canal.” January 25, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁸² Sierra Club, “Announcement of Press Conference,” January 21, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

Connecticut Chapter of the Sierra Club concerning “What Shall We Do With the Poison?”,⁴⁸³ and in 1980, she presented at the National Citizens Conference on Toxic Substances Control concerning strategies for controlling toxic chemical problems on a local level.⁴⁸⁴

Given the Love Canal neighborhood’s isolation from Washington D.C.-based environmental lobbying, and its cross-pollination with regional politics against radioactive waste, how did its residents conceptualize their environment?

Fred Armagost described his moment of revelation, “I first became aware of the problem in our area by the disappearance of wildlife around the Bloody Run Creek, our backyard, and the chemical smells from the creek itself.”⁴⁸⁵ In testimony given to the House Subcommittees on Environmental Pollution and Resource Protection in 1979, PEOPLE organizer Ann Hillis evoked the sensory preponderance of the Canal, “December 8, 1978, I celebrated my 40th year by getting up at 5 a.m. and going out in zero weather to walk a picket. The air we breathed was cold and so heavy with chemical stink that you could taste it.” To this emphasis on the sensory Hillis added a note of negative revelation that would resound throughout resident statements, “We neighbors, out of desperation walked together to halt the movement of trucks from the canal site into our neighborhoods, for now we knew of over 200 chemicals brewing beneath our soil.”⁴⁸⁶

⁴⁸³ Western New York Peace Center, Letter to Lois Gibbs, March 26, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University; The Connecticut Chapter of the Sierra Club, “What Shall We Do With the Poison?”, October 30, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁸⁴ The Conservation Foundation, Memorandum to Lois Gibbs et al., October 30, 1980. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁸⁵ Fred Armagost, Testimony on “Future Uses of the Love Canal Hazardous Waste Site and Adjacent Property”, February 17, 1983. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

⁴⁸⁶ Ann Hillis, “Testimony to the Joint Hearings on Hazardous and Toxic Waste Disposal, Subcommittees on Environmental Pollution and Resource Protection,” March 28 and 29, 1979, 10. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo.

Armagost and Hillis focused on moments of revelation and transition, when their familiar environment became a space of threat. For Armagost this revelation occurred through the double disruption of his familiar landscape: the “disappearance of wildlife” and the intrusion of the “chemical smells” from the creek. For Hillis, the “chemical stink” from the Canal served as reminder of a knowledge that could not be erased, the knowledge of the toxic brew under the neighborhood’s soil. Each described their personal revelation through known spaces, whether Armagost’s backyard, the neighboring Bloody Run Creek, or “our soil”.

In her autobiography, Gibbs recounted the same picket line as Hillis,

It was eerie when I drove over to the gate on Frontier Avenue. I saw snow-covered, boarded-up houses. There were few tire tracks and footprints in the snow. I looked down 99th Street. It was so peaceful and quiet that I thought for a moment it was a ghost town. It was hard to believe that deadly chemicals were underneath those houses, that poisons were oozing up from under that pure-white snow. It was like a picture postcard of a winter wonderland – if I let myself forget about the boards on the doors and windows of the houses. It was beautiful. Yet the Love Canal chemical time bomb was ticking away, waiting for us, coming at us even if we lived two or three blocks away.⁴⁸⁷

Like Hillis’, Gibbs’ account is suffused with the duplicity of the neighborhood. Its picturesque beauty, the very reason most residents had chosen it, is betrayed by the “deadly chemicals” brewing underneath the snow and soil. Although Gibbs noted her incredulity, the markers of the neighborhood’s disrupted normalcy – boarded doors and windows, the absence of human traffic – were ultimately unavoidable and unforgettable.

Writing about the rhetoric of grassroots anti-toxics activists, literary scholar Lawrence Buell has observed that, “[Rachel] Carson and her populist successors...retell narratives of rude awakening from simple pastoral to complex.”⁴⁸⁸ He described this narrative process as, “an awakening – sometimes slow and reluctant – and a horrified realization that there is no protective

⁴⁸⁷ Gibbs, *Love Canal*, 85.

⁴⁸⁸ Lawrence Buell, “Toxic Discourse,” *Critical Inquiry* 24 (1998), 647.

environmental blanket, leaving one feeling dreadfully wronged”.⁴⁸⁹ For Love Canal residents, this awakening occurred through the abrupt revelation of the Canal’s toxicity: the disappearance of wildlife, the tastable chemical stink, and the interruption of their daily interactions. Following this awakening, Buell argues, come “totalizing images of a world without refuge from toxic penetration.”⁴⁹⁰ The oozing poisons of the “Love Canal chemical time bomb” were inescapable. The neighborhood’s ostensible former purity had been forever destroyed by the residents’ knowledge of its toxicity, a toxicity that, as Gibbs saw it, lay in wait for each and every resident.

Under the heading “HOW DO WE REACH OUR GOAL”, the LCHA newsletter of June 20, 1979 answered, “By being UNITED standing together and fighting as a whole... What is more important than your health and future. Look at your hedges or your neighbors, use that as an indicator, if your hedges are sick what is it doing to you!!!!!!”⁴⁹¹ Implicit in this exhortation was a definition of the environment as familiar and intimate. The newsletter used the hedge, that traditional manicured ornament which demarcated boundaries between homes, to epitomize the familiar environment. For the LCHA, the hedge offered a means for residents to understand what was happening to them (and to thereby be prompted to collective action). The hedge was a litmus test: the harm it belied marked the invisible, and presumably greater, harm being done to humans. In the ultimate act of destabilization, the Canal chemicals threatened the boundaries of the suburban neighborhood, the lines delineating one home from the next. In this sense, the chemicals blurred two sets of boundaries: those separating neighbor from neighbor, and those separating bodies from environment. While the reason for this blurring was ominous, it

⁴⁸⁹ Ibid, 646.

⁴⁹⁰ Ibid, 648.

⁴⁹¹ Love Canal Homeowner’s Association, Newsletter, June 20, 1979. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

nonetheless also yielded positive results: the coming together of previously disparate neighbors to fight together for a livable neighborhood.

In her 1983 testimony against the potential re-habitation of Love Canal, Joann Hale elaborated upon this theme of interconnectedness. She critiqued the premise of the EPA's recently released habitability criteria,

The EPA release stating that Zone II was not habitable, but anywhere beyond that is, is ridiculous. The creeks are contaminated...and also the sewers have dioxin in them... The sewers lead to the Niagara River and so does the creek. So, we are still getting Love Canal toxins.⁴⁹²

Hale connected the contours of the Niagara region, its waterways in particular, to the health of Love Canal residents. She traced a persistent feedback loop between the Canal, the surrounding waterways, and region residents, a feedback loop that made EPA-drawn boundaries illusory. She argued for a “genuine clean-up”, to protect “the River, land and air and most of all the **PEOPLE.**” This common clean-up tied the human residents of Love Canal to their surrounding landscape. Hale, like the LCHA, believed that the end result of the wastes in the Canal was to dissolve the formerly known boundaries between human and natural bodies.

On December 9, 1978, the New York State Health Department confirmed the presence of dioxin in the Canal, at 5.3 parts per billion, a drastic number for a chemical whose toxicity is measured in parts per trillion. The State's announcement precipitated an apex of resident terror and outrage, and the complete collapse of their familiar surroundings. As they saw it, dioxin epitomized the inter-connection of human bodies with the natural environment. To draw attention to this, residents arranged for a picket line to stop the construction trucks from leaving

⁴⁹² Joann Hale, “Testimony to the Joint Public Hearing on the Need for Community Health Information on Toxic Substances and Hazardous Waste”, convened by the State of New York Office of the Assistant Majority Leader, Standing Committee on Health and Standing Committee on Environmental Conservation, November 15, 1983. MS 65, Ecumenical Task Force of the Niagara Frontier Records, 1946-1995 (1978-1990 bulk), University Archives, The State University of New York at Buffalo. Author's emphasis.

the remediation site. As Gibbs recalled, residents “wanted to emphasize the idea that... a chain-link fence couldn’t stop chemicals.”⁴⁹³ The LCHA picketed the construction site for six weeks, yet failed to stop the remediation.

The discovery of dioxin also threw the neighborhood into another military constellation, this time that of the Vietnam War. Dioxin, in the form of Agent Orange, the powerful herbicide sprayed by the U.S. military over twenty-four percent of South Vietnam as part of Operation Ranch Hand from 1962-1971, linked the Vietnamese landscape, returning Vietnam veterans who had been exposed to Agent Orange, Vietnamese refugees, and domestic “hot spots” like Love Canal, where dioxin ‘accidentally’ produced as a byproduct of industrial production had been disposed.⁴⁹⁴

In the wake of the dioxin discovery, the LCHA issued thirty-nine questions to be answered by the state, along with a formal statement of demands. Its questions returned over and over to the pervasiveness and incurability of dioxin exposure, its ability to cause “far-reaching effects” even in minute quantities, and the state’s complete lack of knowledge about how to properly handle and dispose of it. It connected the dioxin in the Canal with Vietnam, asking,

IS IT NOT TRUE THAT:

- that the “small” amount found here in Love Canal may be far more dangerous than tons of Vietnamese herbicidal warfare?
- That Paul Reutershan⁴⁹⁵ died at the age of 28 from Dioxin poisoning in Vietnam, 10 years after being exposed? That in that 10 years, he suffered terribly from stomach cancer?

⁴⁹³ Gibbs, *Love Canal*, 86.

⁴⁹⁴ The dioxin found in the Canal paled in comparison to that found in the neighboring Hyde Park landfill, where more dioxin had been disposed of in total than was used by the United States in the Vietnam War. Blum, *Love Canal Revisited*, 112.

⁴⁹⁵ Paul Reutershan founded Agent Orange Victims International, Inc., upon his return from Vietnam and subsequent diagnosis with cancer. Reutershan linked his diagnosis to his daily spraying of Agent Orange over the Vietnamese countryside as a helicopter chief in the U.S. Air Force.

- That LCHA has fully grounded reasons for being deeply perturbed about the casual attitude of the State in regarding our lives; that we are right to picket and have been and will continue to perform what we believe is a vital and important public service to the whole of Niagara Country and Canada in alerting everyone to the dangers of the deadly poison Dioxin?⁴⁹⁶

The organization demanded three “human rights”: evacuation and housing, medical care, and reparation and restitution. It called for immediate evacuation to “environmentally-safe housing” of the affected families’ choosing, and for full payment of past and present medical expenses for residents as well as construction workers involved in the remediation effort.

The LCHA’s demands internationalized the disaster, describing the Canal as a “crime against humanity and an internationally acknowledged disaster area”, framing it as an issue of human rights, and comparing it with other situations, “The United States government refuses to upholds (sic) its own reparation agreement with countries where it is abundantly clear that the - same criminal poisons have been unleashed on the residents of the Love Canal area...”. It concluded with the assertion that “the world is designed to exist in its interconnections.”⁴⁹⁷ The government’s paltry response to the toxins harmed residents’ rights as both citizens and humans. The LCHA held the United States accountable to an international framework of human rights, and argued that its responsibilities, both at home and abroad, had been avoided equally. Human rights, as an international framework for claiming and adjudicating governmental responsibilities, enabled the LCHA to fully articulate its connection of the war in Vietnam with its domestic byproducts.

The discovery of toxic wastes, dioxin in particular, dramatically altered how Love Canal residents thought of their lived environment. Resident conceptions of the pre-toxic environment

⁴⁹⁶ LCHA, “Questions to be Answered by the State”. Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

⁴⁹⁷ Ibid, author’s emphases.

had three components: their bodies, their homes, and an external world of backyards, hedges, and creeks. Among these three components, the primary relationship was between the body and the home. The natural world, which began with the backyard garden and extended to the creeks, was a familiar presence but also a known intruder, whether as the yearly flooding of Hillis' cellar, or the wildlife that ran through Armagost's backyard and Bloody Run Creek.

The post-discovery environment reconfigured these three elements. The body, its domestic habitat, and the natural world, each threatened by the chemicals, became one and the same. Canal chemicals harmed indiscriminately: withering hedges, eradicating wildlife, killing house pets, rendering basements unusable and sickening residents and their children. The LCHA's appeal to assess hedges and neighbors alike evidenced this unity through suffering, as did the feedback loop Hale envisioned between the Canal, the Niagara River, and regional residents.

Love Canal residents did not reference an abstracted or globalized environment to describe their surroundings. Rather, the pre-toxic environment was an intimate, personal space, defined by regular sights and habitual activities. The discovery of Canal toxins acted as a moment of negative revelation, which recast everything once familiar as threatening. In this sense, the environment came into relief through the intrusion of the unfamiliar, an intrusion which rendered the boundaries between humans and non-humans highly permeable. It was this blurring of boundaries which cast residents' attentions outward, connecting human and non-human bodies, domestic with international responsibilities, and present inactions with future consequences.

Conclusion

This chapter has examined how Love Canal residents contended with and gave political expression to their immediate, local experience of illness and environmental degradation, as well as how their responses articulated different global imaginaries. This conclusion will briefly suggest five ways in which Love Canal continues to influence the landscape of environmental politics.

First, how Love Canal residents organized themselves and fought the state and federal government has continued to structure environmental justice activism. The manner in which the community, the LCHA most notably, argued its case through the media, designed and conducted a health study with the assistance of sympathetic epidemiologists, and argued that human experience should trump established scientific methodology, remain key tactics for the environmental justice movement. To a large extent this influence was cultured; following the neighborhood's permanent evacuation in 1981, Lois Gibbs moved to Arlington, Virginia, and established the Citizen's Clearinghouse for Hazardous Wastes (CCHW), an organization that provided information and organizational support to communities fighting against hazardous wastes.⁴⁹⁸

Second, how residents understood the health of the human body in relationship to its surrounding environment, and their uneasy combination of epidemiological, toxicological, and anecdotal explanations for disease, continue to define the environmental justice perspective. As historian Linda Nash has argued,

Environmental justice advocates reterritorialized disease while reappropriating diseased bodies as indicators of particular landscapes. Bodies themselves became (again) a means

⁴⁹⁸ For more on the CCHW see Mark Dowie, *Losing Ground: American Environmentalism at the Close of the Twentieth Century* (Cambridge, MA: The MIT Press, 1996), and Temma Kaplan, *Crazy for Democracy: Women in Grassroots Movements* (New York: Routledge, 1997).

for visualizing the unseen and ultimately intimate processes of pollution...that certain communities experienced.⁴⁹⁹

While environmental justice activism, in contrast to other forms of environmental politics, places a heavy emphasis on toxicological and epidemiological analyses, it invariably asserts the primacy of anecdotal and experiential knowledge of health and disease.

Third, the identity of American citizenship strongly shaped how many residents felt the crisis should properly be handled by the government, and provided a justification for becoming involved to residents who otherwise avoided political engagement. As Gibbs observed, “Law abiding, tax-paying citizens were forced to move from the anonymity of their homes out into the streets.”⁵⁰⁰ Mobilized to action through a sense that their rights as citizens had been abridged, Love Canal residents contributed to a re-activation of the role of citizens vis-à-vis government policy; strikingly, much in the way that the Coalition of Ten urged in its 1985 report. Contemporary environmental justice rhetoric foregrounds the *right* of all humans to healthy workplaces, homes, and food. Yet as we saw in residents’ divergent interpretations of rights, environmental justice is torn between a conviction that everyone has the right to health, and the belief that the disproportionate impacts of industrial civilization demand that certain community’s rights be prioritized.

Fourth, Love Canal and subsequent environmental justice battles further divided an already fractured environmental movement. This was a mutually reinforced distance. Large environmental organizations were neither staffed nor organized to give serious support to localized struggles, nor, as we saw in the case of Friends of the Earth, did they particularly believe that environmental battles should be fought locally. In turn, grassroots activists at Love Canal were quick to condemn established environmentalists for their seeming blindness to issues

⁴⁹⁹ Nash, *Inescapable Ecologies*, 204.

⁵⁰⁰ Gibbs, *Love Canal*, 7.

of environmental discrimination.⁵⁰¹ By the late 1980s and early 1990s, this condemnation would escalate into a heated battle over the lack of racial diversity within the staff of mainstream environmental organizations.

Fifth, Love Canal marked the emergence, within environmental politics, of a different understanding of the relationship between local experience and global politics. From its local experience of illness and environmental degradation, the Love Canal community, as well as the environmental justice movement, came to see the entire world as poisoned. This idea of an entirely poisoned world has been described by Lawrence Buell as “the spectacle of communities, population groups, and finally the whole earth contaminated by occult toxic networks”⁵⁰², and is in marked contrast to FOE’s understanding of a world on the brink of demographic and economic overshoot, or Gary Snyder’s belief that the wild will soon rise up to defend itself. The belief that no one is immune from the by-products of industrial civilization – that everyone is potentially a refugee – has been modified in recent years by research on environmental inequity, yet for environmental justice activists the perception of pervasive environmental threat constitutes the grounds for solidarity between communities.

⁵⁰¹ For a thorough discussion of the mutual hostilities and resentments between environmental justice activists and national environmental organizations, see Dowie, *Losing Ground*, 125–174.

⁵⁰² Buell, “Toxic Discourse,” 648.

Chapter V

Planetary Health in the Age of Climate Change:

James Lovelock, Gaia, and Bill McKibben

“Gaia theory forces a planetary perspective. It is the health of the planet that matters, not that of some individual species of organisms. This is where Gaia and the environmental movements, which are concerned first with the health of people, part company.”⁵⁰³

- James Lovelock, 1988

In 1975, the *Co-Evolution Quarterly*, then under the editorship of Stewart Brand, published an article co-authored by physicist James Lovelock and microbiologist Lynn Margulis entitled, “The Atmosphere as Circulatory System of the Biosphere – the **Gaia** Hypothesis”.⁵⁰⁴ The two announced their intention to discuss the Earth’s atmosphere “from a new point of view” that saw it as “an integral, regulated, and necessary part of the biosphere.” Comparing their work to 17th century English physician William Harvey’s once-radical concept of the circulation of blood in the human body, Lovelock and Margulis described the Earth’s atmosphere as the “circulatory system of the biosphere.”

A remarkably technical paper for the *Quarterly*, the article set forth the basic assumptions of the Gaia hypothesis. The chemical balance of the Earth’s atmosphere is maintained within the improbably narrow parameters necessary for planetary life; the Earth’s atmosphere is a product

⁵⁰³ James Lovelock, *The Ages of Gaia: A Biography of our Living Earth* (New York: W.W. Norton & Co., 1988), xix.

⁵⁰⁴ James E. Lovelock and Lynn Margulis, “The Atmosphere as Circulatory System of the Biosphere – the **Gaia** Hypothesis,” *Co-Evolution Quarterly*, Summer 1975.

of millennia of evolution; the Earth's atmosphere and biosphere form a closed circulatory system; and, most importantly, that all life on Earth constituted a single organism: Gaia. Pointing to the fossil record, the authors observed that the Earth's troposphere had maintained remarkable consistency in the face of dramatic changes, from an increase of twenty-five percent in solar radiation output to the transition to an oxygen-rich atmosphere.⁵⁰⁵ Moreover, in contrast to the atmosphere on all other known planets, Earth had maintained a chemically impossible disequilibrium of atmospheric gases.

How, Lovelock and Margulis asked? How was it possible that the planetary atmosphere had maintained a consistent disequilibrium in the face of such drastic change? The answer they proposed was bold and speculative,

Is it not reasonable to assume that the lower atmosphere is maintained at an optimum by homeostasis and that this maintenance...is performed by the party with the vested interest: the biosphere itself?⁵⁰⁶

The answer was both scientifically and politically bold. The suggestion that planetary life controlled the atmosphere signaled an interconnected approach to the biotic and a-biotic aspects of Earth, and approach which offered to take environmentalism well beyond the ecological.

Why did the *Co-Evolution Quarterly*, an essential publication for many West Coast environmental activists, publish this article?⁵⁰⁷ A self-described "California-based peculiar magazine", the *Quarterly* catered to those interested in crafting an alternative environmentalism centered at the juncture of humans, low-impact technology, and "off-the-grid" lifestyles. Yet in their article, Lovelock and Margulis made no overt political or social claims, they did not urge readers to alter their interactions with the Earth, nor did they name any ongoing forms of

⁵⁰⁵ The troposphere is the lowest portion of the Earth's atmosphere, responsible for the majority of the planet's weather.

⁵⁰⁶ Lovelock and Margulis, "The Atmosphere as Circulatory System," 40.

⁵⁰⁷ David Brower, Raymond Dasmann, Stephanie Mills and Gary Snyder all published in the *Quarterly* in the 1970s and 1980s. Mills served as an editor for various periods in the 1970s and early 1980s.

environmental destruction. Nevertheless, as historian Andrew Kirk has noted, their article prompted a long-lasting debate in the pages of the *Quarterly* that spilled over into college classrooms and the media.⁵⁰⁸ Rhetorically at least, Gaia gained traction within environmental politics. In 1975, FOE was immersed in anti-nuclear activism, Peter Berg and Raymond Dasmann were fleshing out the Planet Drum Foundation, Gary Snyder was building a life at Kitkitdizze, and residents of Love Canal were unknowingly being sickened by the chemicals underneath their homes. How, if at all, did Gaia theory come to matter for these diverse environmentalists?⁵⁰⁹

This final chapter argues that Gaia theory came to matter because it offered scientific synthesis and framing for two beliefs shared by most environmentalists: the first, that the Earth is deeply and fundamentally alive; the second, that tangible ecological limits constrain the human species. Beginning in the 1970s and continuing until the present day, Lovelock and his various collaborators have refined a scientific embodiment of these beliefs. Although environmental activists took umbrage with Lovelock's oft-repeated assertion that Gaia could withstand anything humans threw at her (as Margulis would phrase it, "Gaia is a tough bitch"), and although Lovelock was highly critical of environmental activism, Gaia theory nonetheless found a receptive audience among environmentalists seeking in their own ways to express an understanding of the relationship between the Earth and its human inhabitants, and to get a broader audience to consider imposing constraints on unfettered economic and demographic growth.

⁵⁰⁸ Kirk, *Counterculture Green*, 169.

⁵⁰⁹ In the late 1980s, following a meeting of the American Geophysical Union dedicated to Gaia, many scientists began referring to the hypothesis as a theory. Stephen Bede Scharper, *Redeeming the Time: A Political Theology of the Environment* (New York: Continuum, 1997), 60. In this chapter I will refer to Gaia theory.

This chapter has three goals. The first is to trace the broader political and environmental context in which the Gaia hypothesis was put forth and received. This section will travel through the formulation and refinement of Gaia theory by Lovelock and Margulis, and survey its reception and interpretation by environmentalists, deep ecological philosophers in particular. It will conclude with an examination of the Lindisfarne Association, a New York City-based congregation of intellectuals with the set goal of creating a “planetary culture”, for which Gaia was a guiding metaphor. The second goal is to come to terms with how, in the 1990s, Lovelock developed a system of “planetary medicine” for diagnosing and treating Gaia as a doctor treats a human patient. The third is to bring Gaia theory into the present day politics of climate change. To accomplish this final goal, the chapter turns to Bill McKibben, presently one of the most prominent climate change activists, and examines how Gaia – in particular, Lovelock’s diagnosis of a planetary fever – has informed and shaped the politics of his organization, 350.org.⁵¹⁰

This chapter contends that Gaia theory’s emphasis on the connection between physical and ecological planetary processes enabled environmentalists to turn from wilderness, human health, and animal species towards fundamentally a-biological processes: the ozone hole, acid rain, and climate change. This chapter will illuminate this turn, and moreover, argue that this transition and the internationalization of environmental politics proceeded apace.

Owing to the nature of the available sources, this chapter is more speculative than its predecessors. James Lovelock’s archives are not yet publicly available, and Bill McKibben’s are

⁵¹⁰ The metaphor of global warming as a planetary fever is widespread within both climate change science and activism, both as a rhetorical device and as a means of understanding what the steady rise in global temperature will do to the patient Earth. Some examples of the use of this metaphor include: Ross Gelbspan, “Rx for a Planetary Fever,” *The American Prospect* November 30, 2000, accessed January 15, 2013, <http://prospect.org/article/rx-planetary-fever>.); Lee R. Kump, “The Last Great Global Warming,” *Scientific American*, July 2011, 55-61; and Congressional testimony by Albert Gore, Jr. in March 2007.

limited.⁵¹¹ To date, little historical scholarship has been directed towards Lovelock or Gaia theory; what has been written is focused exclusively on Gaia theory's reception within the scientific community.⁵¹² No historical scholarship has addressed McKibben. As such, this chapter is based upon Lovelock and McKibben's books and articles, the only primary sources now available.⁵¹³

Gaia or Spaceship Earth?

“If it offends the moral sense to be born into some cosmic Las Vegas with unbreakable house rules and with no chance of escape, think instead how wonderful it is that we have survived as a species in a world of one-arm bandits and still have a chance to take stock and plan our future tactics.”⁵¹⁴

- James Lovelock, 1979

In 1961, James Lovelock began work with the NASA Jet Propulsion Laboratory in Pasadena, California. Trained as a biophysicist, a chemist, and a doctor, Lovelock was hired to act as consultant to a team charged with inventing technologies for detecting life on Mars. His team members were firmly convinced that whatever life did exist on Mars would look identical to life on Earth. On these grounds, they designed experiments to test the Martian soil for the forms of life found on Earth: bacteria, microbes, fungi, proteins and amino-acids.

⁵¹¹ Lovelock's papers are currently being catalogued by the London Science Museum. It is my hope that they will soon be available to researchers.

⁵¹² Eileen Crist and H. Bruce Rinker, eds., *Gaia in Turmoil: Climate Change, Biodepletion, and Earth Ethics in an Age of Crisis*, (Cambridge, MA: MIT Press, 2010); Lynne Elisabeth Stark, “The Gaia Hypothesis and the Re-animation of Nature,” (PhD diss., University of California, Santa Barbara, 1998); Jon Turney, *Lovelock and Gaia: Signs of Life*, (New York: Columbia University Press, 2004). On the few instances that Gaia or Lovelock are mentioned in an environmental history text, they are uniformly associated with the “New Age” movement of the 1970s.

⁵¹³ I had the opportunity to converse with Bill McKibben via email in December 2012. Although he was generous with his time, his answers were highly rehearsed and polished, much different from those given by many others I interviewed for this project. Certainly this doesn't diminish the value of his answers; rather, it was simply apparent that there were certain questions he was not interested in engaging with.

⁵¹⁴ James Lovelock, *Gaia: A New Look at Life on Earth* (London: Oxford University Press, 1979), 118.

Lovelock was skeptical that life-forms were identical across planets. Rather, he put forth the possibility that life was a matter not of form, but of behavior. In other words, life on Mars as on earth would exert similar effects on the atmosphere. Lovelock became increasingly convinced that the presence of life fundamentally entailed a reduction or reversal of entropy, and that, “the atmosphere of a life-bearing planet [was] recognizably different from that of a dead planet.”⁵¹⁵ Following this premise, he asserted that NASA should assess the Martian atmosphere for “entropy reduction”: a balance of gases different from their natural equilibrium.

With colleague Dian Hitchcock, Lovelock began to examine how the chemical composition of the Earth’s atmosphere might provide evidence for life. The two noted that the composition of gases in the Earth’s atmosphere was “improbable” by at least 100 orders of magnitude. Just to maintain the balance of methane and oxygen alone required the active introduction of 500 million tons of methane and twice as much oxygen annually; neither of these gases, they argued, could be produced a-biologically. Building on this evidence, they hypothesized that the atmosphere was being “manipulated on a day-to-day basis from the surface, and that the manipulator was life itself.”⁵¹⁶ Indeed, as Lovelock would argue several years later, were all life to cease on Earth, the chemical composition of its atmosphere would gradually stabilize, coming to rest somewhere between that of Mars and Venus, “appropriate to its station in the solar system.”⁵¹⁷

Hitchcock and Lovelock’s hypothesis was wildly outside of accepted geochemical theories, which held that the atmosphere was the inert and unchanging product of planetary outgassing, and that life “merely borrowed gases from the atmosphere and returned them

⁵¹⁵ Ibid, 5.

⁵¹⁶ Ibid, 6.

⁵¹⁷ James E. Lovelock, “Letter to the Editors: Gaia as Seen Through the Atmosphere,” *Atmospheric Environment* 6 (1972), 580.

unchanged.”⁵¹⁸ In 1967, the two outlined their findings in theoretical physicist Carl Sagan’s journal *Icarus*.⁵¹⁹ They asserted that the most basic feature of life, generalizable to all planets in the solar system, was its tendency to maintain its own existence at the expense of the surrounding, nonliving environment.

Lovelock moved on to work in the research division of Shell Oil, studying the global consequences of air pollution from fossil fuel combustion. While at Shell, he focused exclusively on the Earth’s atmosphere. Observing that Earth’s atmospheric composition is kept in a delicate range, outside of which life as we know it would be impossible, Lovelock put forward the hypothesis that everything on the planet – whales, viruses, oaks, algae – “could be regarded as constituting a single living entity, capable of manipulating the Earth’s atmosphere to suit its overall needs and endowed with faculties and powers far beyond those of its constituent parts.”⁵²⁰

He began to describe this hypothesis as the “Gaia hypothesis”. Suggested by his neighbor, author William Golding, Gaia was the Greek Earth goddess whose name was also the root word for the sciences of geography and geology.⁵²¹ He formally presented the hypothesis at the 1968 meeting of the American Geological Union. It was poorly received, with the exception of biologist Lynn Margulis, who thenceforth became Lovelock’s closest collaborator. In 1974, again in *Icarus*, the only scientific journal then interested in printing Gaia research, they defined Gaia as,

A complex entity involving the Earth’s biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic system which seeks an optimal physical and

⁵¹⁸ Lovelock, *Gaia: A New Look*, 7.

⁵¹⁹ Dian R. Hitchcock and James E. Lovelock, “Life Detection By Atmospheric Analysis,” *Icarus* 7 (1967).

⁵²⁰ Lovelock, *Gaia: A New Look*, 9. Lovelock is frequently guarded about his exact job function while at Shell.

⁵²¹ *Ibid*, 10.

chemical environment for life on this planet. The maintenance of relatively constant conditions by active control may be conveniently described by the term ‘homeostasis’.⁵²²

Lovelock and Margulis’ use of the term homeostasis was significant. First used in the 1860s by French physiologist Claude Bernard, the concept described an opposition between two environments: the internal environment (*milieu intérieur*) in which the animal’s “tissue elements” lived, and the external environment (*milieu extérieur*) in which the animal lived. Bernard had theorized that the animal existed primarily in its internal environment, and moreover, that this internal environment was inhabited by “anatomical elements”. Bernard’s ideas about the multiplicity of the internal environment were refined in the 1920s by American physiologist Walter Bradford Cannon, who described homeostasis as the dynamic process of interaction between the body’s organs, the “coordinated physiological processes which maintain most of the steady states in the organism.”⁵²³

The Gaia hypothesis integrated both concepts of homeostasis. She was a unitary body comprised of multiple diverse organs, including the atmosphere, forests, oceans, and coastal zones; she had little interaction with the external environment (i.e., the solar system); and her physiological processes were delicate, complex, and in a constant state of management and refinement.⁵²⁴ Essentially, Lovelock and Margulis were putting forth a *physiological* explanation for the totality of life on Earth.⁵²⁵

⁵²² Ibid

⁵²³ Walter Bradford Cannon, *The Wisdom of the Body* (New York: W.W. Norton & Co., 1939).

⁵²⁴ For the sake of consistency with Lovelock and Margulis’ work, this chapter will refer to Gaia as female. Lovelock intentionally feminized the concept by invoking the Greek name for Mother Earth. There have been extensive critiques of the gender politics of Gaia. See: Marcia Bjornerud, “Gaia: Gender and Scientific Representations of the Earth,” *NWSA Journal* 9 (1997); Ellen Cronan Rose, “The Good Mother: From Gaia to Gilead,” *Frontiers: A Journal of Women Studies* 12 (1991).

⁵²⁵ Indeed, Lovelock came to describe Gaia theory, over the course of its development, as geophysiology, and there are many scientists today who consider themselves geophysicologists. A full discussion of this is outside the scope of this chapter, and has been well covered already by Lynne Stark and Jon Turney.

Gaia hypothesis was symptomatic of the holistic tendencies of 1970s environmental politics. From the idea of Earth as a spaceship to the publication of *Limits to Growth* (1972), the decade was heavily focused on the Earth as a single whole, and on the limits that planetary life was and would be increasingly subjected to. Historian of science Peder Anker has traced the proliferation of the “Spaceship Earth” metaphor in the 1960s and 1970s. Possibly coined by systems theorist Buckminster Fuller in the 1950s, but popularized by vice president Adlai Stevenson, Spaceship Earth described a way of understanding life on Earth as a closed and imperiled ecological circuit. Speaking to the U.N. in 1965, Stevenson said,

We travel together, passengers on a little space ship, dependent on its vulnerable reserve of air and soil; all committed for our safety to its security and peace; preserved from annihilation only by the care, the work, and I will say, the love we give our fragile craft.⁵²⁶

The metaphor was widely promulgated. In 1966, economist Kenneth Boulding argued for a new economics based upon an ethic of “responsible management of the earth as a grand spaceship”; international economist Barbara Ward published *Spaceship Earth*, in which she sought to bring the planet under the astute management of science-based politics; Secretary General of the U.N. U Thant remarked on the first International Earth Day, “May there only be peaceful and cheerful Earth Days to come for our beautiful Spaceship Earth as it continues to spin and circle in frigid space with its warm and fragile cargo of animate life”; many environmentalists, David Brower especially, spoke of Spaceship Earth in order to argue for global leadership on environmental issues; and in 1968, Fuller published *Operating Manual for Spaceship Earth*.⁵²⁷

⁵²⁶ Adlai Stevenson, Speech to the UN Economic and Social Council, July 9, 1965.

⁵²⁷ Quote about Boulding is from Peder Anker, “The Ecological Colonization of Space,” *Environmental History* 10 (2005).

The publication in 1969 of the iconographic “Earthrise” photo, taken by the crew of the Apollo 8 mission from lunar orbit, seemed to give visual confirmation to this metaphor of Earth as an imperiled spacecraft. The photo, which showed a “lonely” Earth rising on the lunar horizon, quickly became a “reminder of our lonely planet’s splendid isolation and delicate fragility.”⁵²⁸ Geographer Denis Cosgrove has argued that the image resonated so poignantly in the public imagination because “the deathly lunar surface...suggests the complete isolation of terrestrial life in a black, sepulchral universe”.⁵²⁹ The photograph, combined with a similar image (“22722”) taken by the Apollo 17 mission in 1972, was serenaded as heralding a transformation in mankind’s self understanding, a realization that all peoples shared a single, lonely planet that required protection. For many, the two images, particularly the second, provoked a re-evaluation of the mid-twentieth century belief in endless progress (of which space exploration, and potentially colonization, was a central part), and a reconsideration of the ecological limits impending upon the human species.⁵³⁰

Lovelock was deeply opposed to the implications of Spaceship Earth: namely, that it held a crew capable of flying it, and that the biosphere existed solely as a life support system for that crew.⁵³¹ These assumptions, as he argued in 1972, were,

Both misleading and unnecessary as a replacement for the older concept of the Earth as a very large living creature, Gaia, several giga-years old who has moulded the surface, the oceans, and the air to suit her and for the very brief time we have been part of her, our needs.⁵³²

⁵²⁸ Steve Connor, “Forty Years Since the First Picture of Earth From Space,” *The Independent*, January 10, 2009. Available at: <http://www.independent.co.uk/news/science/forty-years-since-the-first-picture-of-earth-from-space-1297569.html>, last accessed January 18, 2013.

⁵²⁹ Denis Cosgrove, “Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs,” *Annals of the Association of American Geographers* 84 (1994), 275.

⁵³⁰ *Ibid.*, 284. For an illuminating analysis of the meaning of these images in the context of the American frontier narrative, see Neil Maher, “Gallery: Neil Maher on Shooting the Moon,” *Environmental History* 9 (2004).

⁵³¹ Turney, *Lovelock and Gaia*, 40.

⁵³² Lovelock, “Letter to the Editor”, 2.

According to Lovelock, Spaceship Earth was a flawed metaphor. Although intended to inspire a sense of global unity and cooperation, its repeated use spread two fallacies. First, it rendered the Earth an abstraction, upon which misguided parental and stewardly emotions could be laden. Second, given that every spacecraft required an operator, the metaphor implied that humans were the proper drivers of the craft.⁵³³

In the midst of the burgeoning popularity of the Spaceship Earth concept, 1972 marked the publication of *The Limits to Growth*.⁵³⁴ A report commissioned by the Club of Rome⁵³⁵ and written by a group of systems scientists at MIT, *Limits* was based upon elaborate computer models of population growth and resource use. It predicted that humanity was on track to collide with the planet's carrying capacity within a century, and would face ruin due to food scarcity and unmanageable increases in pollution.⁵³⁶ As historian Tom Robertson has argued, the report, which sold ten million copies in thirty languages, was symptomatic of mushrooming concern about the pressure which the human population, the consumption practices of its most affluent members in particular, was placing on the planet, as well as of growing confidence in the accuracy of computer modeling techniques.⁵³⁷

The 1970s was a decade obsessed with limits.⁵³⁸ Paul Ehrlich, the Stanford population biologist who had published *The Population Bomb* in 1968, had by the early 1970s refined his message to emphasize the need to restrict the excessive reproduction and consumption patterns

⁵³³ For a thorough critique of the Spaceship Earth metaphor, see William Bryant and C.S. Lewis, "The Re-Vision of Planet Earth: Space Flight and Environmentalism in Postmodern America," *American Studies* 36 (1995).

⁵³⁴ Donella H. Meadows et al., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972).

⁵³⁵ The Club of Rome, founded in 1968 by Italian industrialist Aurelio Peccei, was an informal think tank focused on the long-range effects of economic, demographic, and industrial growth.

⁵³⁶ Mauricio Schoijet, "Limits to Growth and the Rise of Catastrophism," *Environmental History* 4 (1999).

⁵³⁷ Tom Robertson, *The Malthusian Moment: Global Population Growth and the Birth of American Environmentalism* (New Brunswick: Rutgers University Press, 2012), 180.

⁵³⁸ See Robert M. Collins, *More: The Politics of Economic Growth in Postwar America*, (New York: Oxford University Press, 2000); James T. Patterson, *Restless Giant: The United States from Watergate to Bush v. Gore* (New York: Oxford University Press, 2005); Robertson, *The Malthusian Moment*.

of the world's most affluent. Kenneth Boulding, the economist so enamored with Spaceship Earth, published "The Shadow of the Stationary State" in 1973, an essay which inspired a number of economists, Herman Daly most notably, to develop steady-state, limits-to-growth economic models.⁵³⁹ British economist E.F. Schumacher published the wildly popular *Small is Beautiful: A Study of Economics as if People Mattered* (1973), in which he argued that the contemporary addiction to high growth economics exerted detrimental effects on the future of humanity and the planet.⁵⁴⁰

As the previous chapters have shown, this emphasis on planetary limits was shared by many environmentalists. Friends of the Earth made its start emphasizing the need for government-sanctioned limits on population growth; bioregionalists and Earth First!ers argued that humans had drastically exceeded their ecological niche; and by the end of the 1970s, a nascent argument was coalescing in Love Canal and other places about the proper limits on toxic exposure and disposal.

Although agreeing with this emphasis on limits, Lovelock had a conflicted relationship with the environmental movement and with what he perceived as its politicization in particular. (Anthropologist Stephen Bede Scharper has described Lovelock and Margulis as "reluctant eco-partners".⁵⁴¹) According to Lovelock, the environmental movement was born from the Cold War era nuclear disarmament movement. As such, environmentalism was a fundamentally humanistic movement, whose lineage lay in concerted efforts to eradicate the possibility that civilization would be destroyed. Anti-nuclear activists had villainized governments and multinational corporations alike, a practice adopted by the environmental movement, whose

⁵³⁹ Kenneth Boulding, "The Shadow of the Stationary State," *Daedalus* 102 (1973).

⁵⁴⁰ E.F. Schumacher, *Small is Beautiful: Economics as if People Mattered* (New York: Harper & Row Publishers, 1973).

⁵⁴¹ Sharper, *Redeeming the Time*, 61.

battle was “more against authority” than for the environment.⁵⁴² The problem, Lovelock wrote in his first popular explanation of Gaia theory, *Gaia: A New Look at Life on Earth* (1979), was that this emphasis on government and corporations elided the responsibilities which consumers shared for the resource extraction and environmental exploitation which the production of affordable and available goods demanded.

The multinational companies would not exist if we had not demanded their products and at a price that forces them to produce without enough care for the consequences.⁵⁴³

As Lovelock saw the matter, the humanistic focus of environmentalism prevented it from critiquing the lifestyle practices of its adherents, or from truly assessing the human activities which most threatened Earth. According to Lovelock, until the environmental movement shifted its emphasis from the protection of human welfare towards the recognition of Gaia, it would fail to protect the planet it so loudly proclaimed to defend.

For Lovelock, Gaia’s “true nature” had slowly revealed itself through the emergence of true threats to her well being - specifically, habitat destruction and greenhouse gas accumulation – rather than threats to the well-being of her human inhabitants, such as nuclear war. He described his initial perception of Gaia as anthropocentric, “When I started to write in 1974 in the unspoilt landscape of western Ireland, it was like living in a house run by Gaia, someone who tried hard to make all her guests comfortable”. Slowly, he began to abandon his loyalty to the “humanist Christian belief in the good of mankind”, coming instead to see humans as “part of the community of living things that unconsciously keep the Earth a comfortable home, and that we humans have no special rights only obligations to the community of Gaia.”⁵⁴⁴

⁵⁴² Lovelock, *The Ages of Gaia*, 233.

⁵⁴³ Lovelock, *Gaia: A New Look*, viii.

⁵⁴⁴ Lovelock, *Gaia: A New Look*, ix.

Viewed through the lens of Gaia's wellbeing, Lovelock argued that the ostensible ravages of industrial era pollution – a central focus of many environmental activists - were relatively minor. By far, he asserted, the greatest historical threat to Gaia had been the emergence of oxygen as an atmospheric gas. Earth's transition from an anaerobic to an aerobic state "must have been the worst atmospheric pollution incident that this world has ever known."⁵⁴⁵ Early forms of life were anaerobic, and the sudden increase of oxygen in the atmosphere heralded their death. He claimed that environmentalists' worries about pollution were fundamentally anthropocentric, concerned with damages befalling humans, and therefore symptomatic of industrial man's separation from the natural world. Lovelock went to great lengths to argue against any distinction between natural and unnatural sources of pollution, writing that every substance currently viewed as a pollutant has a natural background, and "may be produced so abundantly in nature as to be poisonous or lethal from the start." So-called industrial pollution primarily afflicts urban areas, areas which are "clearly expendable" from a Gaian perspective. The real threats to Gaia originate from those human activities which have altered the major chemical cycles of the planet, affecting Gaia's capacity for homeostasis. The real problems are not those created by "urban industrial man" in his zones of habitation, but rather, those which occur in relatively under-inhabited areas: the tropics and the continental shores, for "here man may sap the vitality of Gaia by reducing productivity and by deleting key species in her life-support system".⁵⁴⁶

Lovelock described his changing relationship toward Gaia in strongly biocentric terms. He critiqued mainstream environmentalism's anthropocentric focus, emphasized re-uniting

⁵⁴⁵ Ibid, 28.

⁵⁴⁶ Ibid, 114.

humans and the biosphere, and he believed that the Earth was alive. Nevertheless, he quickly attracted the ire of the deep ecologists.

George Sessions and Bill Devall, in *Deep Ecology: Living as if Nature Mattered* (1985), classified Lovelock as part of the “New Age/Aquarian Conspiracy”: the school of thought which viewed the Earth “as primarily a resource for human use”,⁵⁴⁷ and believed that human technological solutions could solve contemporary environmental problems. They criticized Lovelock’s excessive optimism about the ability of “industrial man” to solve his problems through technological and cybernetic advances.⁵⁴⁸ Fundamentally, they faulted him for upholding an instrumentalist perspective, in which humanity’s role was as steward and manager of the Earth’s resources, the ultimate expression of which was the metaphor of Spaceship Earth.

Most probably, Sessions and Devall drew their interpretation from Lovelock’s contribution to a 1984 volume entitled *Gaia: An Atlas of Planet Management*, edited by environmental consultant Norman Myers. The volume, dedicated to “the poor of the world, denied their share of the world’s rich resources” as well as to Lovelock, inventoried the world’s major natural resources: land, ocean, elements and evolution. Each section detailed these resources, surveyed their current imperiled state, and offered strategies for their management and improvement. As expressed by naturalist Gerald Durrell in the introduction, the volume embodied the conviction that the earth existed for the delight and provisioning of humankind,

The world is still an incredibly rich storehouse...most of nature is a resource that is ever renewing itself. It offers us, if managed wisely, a never-ending largesse.⁵⁴⁹

It is not hard to imagine Sessions and Devall cringing. The atlas’ central argument was that nature was mankind’s greatest possession, and deserved to be well managed. It asserted that the

⁵⁴⁷ Sessions and Devall, *Deep Ecology*, 5.

⁵⁴⁸ *Ibid*, 124.

⁵⁴⁹ Norman Meyers, ed., *Gaia: An Atlas of Planet Management* (Garden City, New York: Anchor Press/Doubleday & Company, Inc., 1984), 10.

Earth was now “under new management” – the sustainable management of humankind. Through and through, the volume was a deep ecologist’s (and Lovelock’s) worst nightmare: instrumental, anthropocentric, and present-oriented.

Despite his strident philosophical opposition to this managerial, instrumental worldview, Lovelock wrote an introduction to the volume’s section on elements. Taking a cautionary tone, he warned that, “we could wake one morning to find that we have landed ourselves with the lifelong task of planetary maintenance engineering”. Rather than realizing the fragility and limits of our spacecraft, and endeavoring to protect it, we might instead come to glorify in our helmsmanship of that craft.⁵⁵⁰ Yet notwithstanding this caution, Lovelock argued that our increasing harmonization with Gaia would happen through technological innovation, rather than through a return to the land or an embrace of pre-industrial ways. He closed cryptically, observing that “The elemental resources of Gaia...are so abundant and self-renewing as to make us potential millionaires.”⁵⁵¹

By the late 1970s, Gaia had drifted into the vocabulary of many environmental thinkers and activists. In 1979, Gary Snyder published *Songs for Gaia*. A slim volume of poems contrasting man’s transience with Earth’s permanence, *Songs* closed with “Gaia”,

Deep blue sea baby,
Deep blue sea.
 Ge, Gaia
Seed syllable, “ah!”⁵⁵²

⁵⁵⁰ Ibid, 100.

⁵⁵¹ Ibid

⁵⁵² Gary Snyder, “Gaia”, in Gary Snyder, *Songs for Gaia* (Port Townsend, WA: Copper Canyon Press, 1979).

Why Gaia? Snyder's poetry had been strongly ecological for two decades, yet he had never referred to the Earth as Gaia. Curiously, Lovelock wrote to thank Snyder, in the mid-1980s, for his help in clarifying the mythology and etymology of Gaia.⁵⁵³

Snyder and Lovelock met one another through their participation in the Lindisfarne Association. Founded in 1972 by former MIT professor of humanities William Irwin Thompson, the Association was a loose-knit gathering of intellectuals "dedicated to engendering a global culture".⁵⁵⁴ This gathering of "Lindisfarne Fellows" grew to include Mary and Gregory Bateson, Wendell Berry, Stewart Brand, Friends of the Earth energy consultant Amory Lovins, Gary Snyder, Lynn Margulis and James Lovelock. Explicitly modeled as a "contemplative community", the Association endeavored to define a new planetary culture, outside of the boundaries of state and economy,

Planetary culture... is a Pythagorean synthesis of science, religion and art; it is spiritual ecstasy **and** political economy, pre-industrial magic **and** postindustrial technology, myth **and** history; in short, it is an embodiment of transcendence.⁵⁵⁵

The Fellows met yearly on a variety of topics, ranging from "Economics and the Moral Order" (1976) to "The Cultural Contradictions of Power" (1978).⁵⁵⁶ These conferences were designed to model the new culture: thus, meditation, communal rituals, and shared meals were as important as formal presentations.

In 1979, Lovelock's first popular explication of the Gaia Hypothesis, *Gaia: A New Look at Life on Earth* was published. The book release party was held at the Cathedral of St. John the Divine, home of the New York branch of the Association, and Lovelock "preached" to the

⁵⁵³ James Lovelock to Gary Snyder, "Letter", July 1, 1986. Gary Snyder Papers, Series 2, Box 111, Folder 26. University of California, Davis.

⁵⁵⁴ Scharper, *Redeeming the Time*, 67.

⁵⁵⁵ Lindisfarne Association, *An Outline of the Lindisfarne Association* (Stockbridge, MA: The Lindisfarne Press, 1980). Emphasis in original.

⁵⁵⁶ Ibid

attendees on Gaia.⁵⁵⁷ Thompson became increasingly convinced that the key to forming this new planetary consciousness was Gaia, which “represents a concrete cosmology within which the antinomies of history become comprehensible.”⁵⁵⁸ Gaia became the fundamental concept for the Association’s work in the 1980s, resulting in two conferences: “Gaia: A Way of Knowing” (1981), and “Gaia 2: Emergence, The New Science of Becoming” (1988).⁵⁵⁹ Each conference was intended to highlight Gaia theory as the perfect intersection of myth and science. As Thompson asked in the introduction to the first conference’s proceedings,

Before Gaia was a hypothesis she was a goddess, so what more appropriate area could there be for an exploration of myth and science?⁵⁶⁰

Lovelock and Margulis spoke at both conferences, hewing closely to the explication of the scientific parameters of Gaia theory.⁵⁶¹ Yet the second conference made clear that for Thompson and many others, Gaia symbolized the emergence of a new planetary awareness, a new way of understanding life on Earth.

A planet, a brain, and a cell cannot be fully described as objects in Euclidian space, be they continents in a biosphere or genes within a molecule: rather, they have to be re-envisioned as dynamic processes emanating their own phase-space. “Gaia”, “Mind”, and “Life” are the emergent domains for the dynamics of Earth, brain, and cell. If you have already effected this transformation of mentality, you have already taken one step out of the era of the warring politics of the industrial nation-states and moved that much closer to the biospheric politics of a planetary culture.⁵⁶²

Lindisfarne was fully a product of the 1970s’ emphasis on consciousness transformation, the development of new metaphors, and the experimentation with different forms of community.

⁵⁵⁷ Alan AtKisson, “The Green Cathedral: The Dean of New York’s Cathedral of St. John the Divine remains at the cutting edge of ecology & spirituality,” *Earth & Spirit*, Winter 1990, 16.

⁵⁵⁸ *Ibid*, 68.

⁵⁵⁹ William Irwin Thompson, ed., *Gaia: A Way of Knowing. Political Implications of the New Biology* (Hudson, NY: Lindisfarne Press, 1981); William Irwin Thompson, ed., *Gaia 2: Emergence, the New Science of Becoming* (Hudson, NY: Lindisfarne Press, 1991).

⁵⁶⁰ Thompson, *Gaia: A Way of Knowing*, 10.

⁵⁶¹ At the 1981 conference, Lovelock spoke on “Gaia: A Model for Planetary and Cellular Dynamics” and Margulis on “Early Life: The Microbes Have Priority”.

⁵⁶² Thompson, *Gaia 2: Emergence*, 257.

Try as it might, it never succeeded at launching a new politics with Gaia at the helm; it remained an insular group, whose annual meetings served as a source of community and intellectual fodder for its participants rather than as the catalyst for a larger societal transformation. Perhaps the problem lay in the expansiveness of Gaia's potential: Thompson speculated in 1988 that the "Gaian School" could offer "a new understanding for complex dynamical systems in which opposed ideologies must co-exist to structure and ecology of consciousness."⁵⁶³ Concrete and effective political interventions are difficult to construct when one recognizes the opponent as equally necessary.

Apart from Lindisfarne, Gaia was pervasive in environmental writings throughout the 1980s and 1990s. Yet others were no more successful at giving it political bite. Bioregionalist and New York State Green Party co-founder Kirkpatrick Sale, in *Dwellers in the Land* (1984), wrote approvingly and at length about Gaia theory as an affirmation and confirmation of the earth as a living organism, concluding after a lengthy exploration of Gaia theory that, "It is not too soon, I believe, for us to acknowledge at least the highly probable existence of a biosphere working to adapt its environment in a myriad ways to assure the conditions for survival."⁵⁶⁴

Earth First! got involved as well. In an article entitled "Is AIDS the answer to an environmentalist's prayer?", published as part of a 1988 *Utne Reader* forum on population growth, Earth First! activist Daniel Keith Connor argued that AIDS was Gaia's "own response to human-created environmental problems such as the greenhouse effect." Faced with escalating threats to her well-being, threats generated and exacerbated by a single species, Connor asserted that Gaia had been forced to adopt increasingly extreme mechanisms for restoring homeostasis. "To restore ecological equilibrium on planet earth, disease agents are the best defenses Gaia

⁵⁶³ Ibid, 256.

⁵⁶⁴ Sale, *Dwellers in the Land*, 190.

has.”⁵⁶⁵ Dave Foreman argued in 1991 that in the context of Gaia, “humankind...resembles an acute epidemic disease”.⁵⁶⁶ Much like Connor, Foreman portrayed the relationship between humankind and Gaia as parasitic and pathological, and argued that Gaia was capable of developing antibodies (i.e., conservationists). Notwithstanding this pervasive talk of Gaia, no practical political interventions emerged based upon Lovelock’s work. This absence forms the substance of the following section.

Planetary Medicine: Gaia Becomes the Patient

“The concept of planetary medicine implies the existence of a planetary body that is in some way alive, and can experience both health and disease.”⁵⁶⁷

- James Lovelock, 1991

By 1991, Lovelock had become exceedingly pragmatic in his approach to Gaia, publishing *Gaia: The Practical Science of Planetary Medicine*, a handbook for diagnosing and treating Gaia’s ills.

He opened provocatively,

I speak as the representative, the shop steward of the bacteria and the less attractive forms of life who have few others to speak for them. My constituency is all life other than humans.⁵⁶⁸

Lovelock argued that the contemporary world was awash in hypochondria, an “ever-growing flood of “doom scenarios”” from nuclear winter to acid rain, and desperately in need of a doctor to determine whether these were real problems, or symptomatic of another underlying malaise.

⁵⁶⁵ Daniel Keith Connor, “Is AIDS the answer to an environmentalist’s prayer?” *Utne Reader*, May/June 1988, 82-3.

⁵⁶⁶ William R. McNeill quoted in Foreman, *Confessions*, 57.

⁵⁶⁷ James James Lovelock, *Gaia, the Practical Science of Planetary Medicine* (London: Gaia Books, 1991).

⁵⁶⁸ *Ibid*, 9.

The book was designed as a home medical encyclopedia – something which everyone could refer to when “some new or frightening phenomenon afflicts the region of the Earth where you live.”⁵⁶⁹ Lovelock argued that the time was ripe for abandoning concerns about human rights and human sufferings. The true patient was Gaia, and it was high time for humans to recognize that, “We are so tied to the Earth that its chills or fevers are our chills and fevers also.”⁵⁷⁰

This analogy between the human and planetary body bore great resemblance to the biocentric perspective and work: ecological restoration and land medicine most especially. However, Lovelock took a decidedly more material and less romantic approach, by enumerating the technical procedures for diagnosing the patient Gaia. While a family practitioner measures human temperature with a thermometer, a planetary physician uses a satellite radiometer; similarly, while a stethoscope measures human breathing, atmospheric carbon dioxide and oxygen monitors attend to the planet’s respiration.⁵⁷¹ (Ironically, of course, these are things only available to well-funded scientists, therefore preventing diagnosis by lay persons.)

Lovelock invited readers to consider that Gaia was a patient arriving at a clinic with disturbing medical records from her pathologist and dermatologist.

Atmospheric CO₂ and methane are above the patient’s normal range, and there is a suspicion of fever. Some skin damage is apparent – the land surface shows a number of bare patches. Most revealing are certain abnormal chemicals in the air – CFCs, substances that are never made by the natural chemistry of living organisms.⁵⁷²

The general practitioner, reading these reports, would not rush to conclusions, but know instead that “old planets” have the capacity to evolve intelligent species, species which also have the capacity to become pathogenic. The real threat posed by Gaia’s pathology (“the people plague”),

⁵⁶⁹ Ibid, 18.

⁵⁷⁰ Ibid

⁵⁷¹ Ibid, 13.

⁵⁷² Ibid, 153.

was not the presence of people, but rather, the effect which their presence exerted on Gaia's natural functions. Lovelock surveyed the multiple ways in which the human species was disrupting Gaia's homeostasis: industrial agriculture, deforestation, acid rain, the ozone hole, global warming ("Gaia's fever"). He charted a case history for her fever, arguing that whereas projected warming was less than previous episodes of "interglacial fever", the real concern was that humans had stripped Gaia of the forest ecosystems which normally performed the cooling action.

What constituted a suitable planetary prescription? Lovelock cautioned that humans knew virtually nothing about the Earth. "Keeping a healthy planet with an equable climate is as difficult for us as was keeping a healthy body free of disease for our forebears."⁵⁷³ Rather, the best cure, or beginning of a cure, is to live healthily and lightly, without excessive use of powerful medicines, acknowledging that the body is largely capable of healing itself. "A planetary physician can only prescribe for your relationship with the Earth that kind of love and benign neglect that characterizes the relationship of good parents toward their children."⁵⁷⁴ He warned harshly against "imprudent planetary medication or surgery": for example, geo-engineering proposals to seed the oceans with iron, for such interventions could only disrupt Gaia's capacity for self-regulation.

Lovelock picked up on a favorite theme of many biocentrists: humans as a plague upon the planet, a species that had become cancerous by virtue of exceeding its natural ecological limits. Counter to this, however, he wrote that,

It might seem so but leukemic cells do not debate their destructive role, nor consider a change of behavior that might curb their own numbers.⁵⁷⁵

⁵⁷³ Ibid, 174.

⁵⁷⁴ Ibid, 176.

⁵⁷⁵ Ibid, 16.

The planet was the proper patient, but luckily its current ailment possessed the foresight to curb its own onslaught. Indeed, Lovelock argued, this self-consciousness was a boon, for “even in ourselves some disease is a route to health”: for example, the repeated childhood illnesses which are necessary to constructing adult immunity.

Lovelock concluded with a plea to seriously consider whether humans wished to become stewards of the Earth; a fate which he argued was inevitable if Gaia’s natural cycles were disrupted to such a degree as to prevent her self-regulation. “There can be no worse fate for people than to be conscripted for such a hopeless task – to be made forever accountable for the smooth running of the climate, the composition of the oceans, the air, and the soil.”⁵⁷⁶ Rather, he mused, humans should understand themselves as representatives for the rest of life on the planet, life which was extremely angry at the “diabolical liberties” which humans had taken with the planet.

This representative role resonated strongly with calls both Gary Snyder and Dave Foreman had made to remember to represent the non-human in all human gatherings. In several ways, Lovelock’s system of planetary medicine intersected with biocentrism. Both emphasized humanity’s humble place *within* the ecosystem/planet; both urged humans to adopt a restorative and ameliorative role vis-à-vis the planet; and both argued that the planet was being sickened through human actions. However, the strategies they pursued towards rectification diverged. Bioregionalists worked to carefully restore an ecosystem to a historical state of being; Earth First! staged actions to protect particular wilderness areas from human encroachment; and conservation biologists endeavored to restore the wildness of human-occupied areas. Although Lovelock endorsed attempts to protect wilderness areas from further human activity, on the whole his argument about the role of humans with respect to Gaia’s health differed. To

⁵⁷⁶ Ibid, 186.

Lovelock, it was only human actions in the aggregate which mattered; the restoration of a particular ecosystem, or the migratory range of a particular predator, was irrelevant in the face of continued fossil fuel combustion. Lovelock's position was an uneasy synthesis of the biocentric belief in ecological egalitarianism with a positivist hope that humans would use their intelligence to self-correct.

Lovelock was scornful of many of the political solutions other environmentalists had developed, particularly those solutions which focused on the regulation of pollution. Lovelock was adamant that most sources of pollution were of natural origin, and attempts to separate man-made from natural sources would bear no fruit. It is likely that this scorn stemmed from his deep-seated ambivalence about human agency. Throughout his career, Lovelock bounced between two possibilities: that humans were subject to the decisions of Gaia, and that they were her consciousness. By contrast, biocentrists felt none of this doubt. For Snyder, Mills and Berg, human agency was not a paradox. Humans were an invasive species that would either clean up its own mess, or be eradicated. In Lovelock's writings, however, human agency remained paradoxical: can humans be part of Gaia yet its intelligence?⁵⁷⁷

This paradox was fueled by Lovelock's own conflicting statements on the relationship of humans to Gaia, and explains why Gaia, while rhetorically ubiquitous, has been such a problematic and largely ineffective concept on a political level. If one accepts, as Lovelock argued in *The Ages of Gaia* (1995), that, "one role we play is as the senses and nervous system for Gaia. Through our eyes she has for the first time seen her very fair face and in our minds become aware of herself,"⁵⁷⁸ a whole set of quasi-religious questions about agency and predestination arises. What does it mean for Gaia to become aware of herself? Is our self-

⁵⁷⁷ For an excellent exploration from a scholar of religion of the breadth of questions which Gaia theory raises about human agency, see Scharper, *Redeeming the Time*.

⁵⁷⁸ James Lovelock, "Gaia," *Orion*, June 1985.

perception the expression of Gaia's wishes? Should humans expect that Gaia will act through them when necessary? Are all of humanity's actions sanctioned by the fact that we are part of Gaia?

Alternately, one can begin with one of Lynn Margulis' memorable assertions, that "Gaia is a tough bitch".⁵⁷⁹ Lovelock echoed these sentiments,

Gaia is no doting mother, no fainting damsel. She is a tough virgin, 3.5 billion years old. If a species screws up, she eliminates it with all the feeling of the microbrain in an ICBM.⁵⁸⁰

Their meaning, that Gaia herself would withstand everything humans could throw at her, that she was "a system that has worked for over three billion years without people", and would "continue to evolve long after people and prejudice are gone"⁵⁸¹; indeed, that the worst consequence of nuclear winter, global warming, or ozone holes would be the extinction of humanity, itself raises a set of problematic questions. Is environmentalism entirely human-centered? Can there be a human politics which truly represents the interests of Gaia? When conceptions of health and disease are brought into the equation, as they are with planetary medicine, the picture becomes even muddier. Lovelock urged humans to become planetary physicians, but to what end? To protect the planet for our own survival? Of what use is the attempt to diagnose and treat Gaia if she will pull through anything we throw at her?

These are questions which Lovelock engaged with sporadically and ultimately academically. His two forays into heated environmental issues landed him on the opposite side of the aisle: although his scientific investigations had revealed the growing ozone hole over the Antarctic, he actively disparaged measures in the late 1980s to restrict the atmospheric release of

⁵⁷⁹ Lynn Margulis, "Gaia is a Tough Bitch," in John Brockman, ed., *The Third Culture: Beyond the Scientific Revolution* (New York: Touchstone, 1995).

⁵⁸⁰ Lovelock as quoted in Bill McKibben, *The End of Nature* (New York: Random House, 1990), 135.

⁵⁸¹ Margulis, "Gaia is a Tough Bitch".

chlorofluorocarbons, and he remains an ardent supporter of nuclear power to this day, through his work with Environmentalists for Nuclear Energy. In both of these engagements, Lovelock revealed his belief that Gaia was capable of withstanding threats to human wellbeing, and that his primary concern was with reformulating human patterns to alleviate Gaia's suffering.

“The planet has a fever”: Climate Change, Bill McKibben, and 350.org

“The single most special thing about it [the present] may be that we are now apparently degrading the most basic functions of our planet.”⁵⁸²

- Bill McKibben, 1998

In June of 1988, climate scientist James Hansen, director of NASA's Goddard Institute for Space Studies, announced to the Senate Energy and Natural Resources Committee, at a hearing on the greenhouse effect, that “global warming has begun”.⁵⁸³ Drawing upon computer models, Hansen made three claims: the Earth was warmer in 1988 than in any year for which measurements were available; global warming was obvious enough as to describe a “cause and effect relationship” between it and the greenhouse effect; and extreme climate effects, drought and heat waves in particular, were likely to increase in the near future.⁵⁸⁴

Hansen's dramatic testimony did not come out of the blue. As historians James Fleming and Spencer Weart have documented, scientists had been tracking planetary climate changes since the 1950s, and lay perceptions of a changing, warming climate trace back to the 1930s.⁵⁸⁵ Based upon climate data that showed increasing variability in the Earth's temperature normals,

⁵⁸² Bill McKibben, “A Special Moment in History,” *Atlantic Monthly* 281 (1998).

⁵⁸³ Philip Shabecoff, “Global Warming Has Begun, Expert Tells Senate,” *New York Times*, June 24, 1988, A1.

⁵⁸⁴ James Hansen, “Statement of Dr. James Hansen,” in Bill McKibben, ed., *The Global Warming Reader: A Century of Writing About Climate Change* (New York: Penguin Books, 2012).

⁵⁸⁵ James R. Fleming, *Historical Perspectives on Climate Change* (New York: Oxford University Press, 2005); Spencer R. Weart, *The Discovery of Global Warming* (Cambridge: Harvard University Press, 2008).

by the late 1960s many researchers became convinced that the Earth's climate was not immune to human intervention.⁵⁸⁶ Rather, Hansen's testimony was unique for technological reasons: it relied upon computer simulations of the Earth's climate. Hansen's testimony prompted a flood of news coverage, and subsequent polls demonstrated that half of Americans believed global warming was already underway.⁵⁸⁷

The following year, Bill McKibben published *The End of Nature*.⁵⁸⁸ The book was one of the first depictions of global warming for a general audience; much of the science that McKibben detailed was at that point speculative. Prior to its publication, McKibben had been a staff writer for *The New Yorker* (1982-1987), authoring many of the "Talk of the Town" articles. He left with the firing of his mentor, long-time editor William Shawn. It is unclear how or why McKibben turned his attention to climate change, although he had previously manifested a sporadic interest in environmental issues. While at Harvard as an undergraduate in the late 1970s, he covered the weekly meetings of the Cambridge City Council for *The Harvard Crimson*.⁵⁸⁹ The council was then wrestling with how to regulate the genetic engineering underway at both Harvard and MIT. Through this reporting, McKibben would have undoubtedly come into contact with Francine Simring, FOE's anti-biotechnology campaigner based in Cambridge.⁵⁹⁰ McKibben also covered the Clamshell Alliance anti-nuclear protests in Boston in the wake of the Three Mile Island meltdown, and was tear-gassed at the October 1979 occupation of the Seabrook nuclear facility.⁵⁹¹ While at *The New Yorker*, McKibben also

⁵⁸⁶ Weart, *Historical Perspectives*, 65.

⁵⁸⁷ Ibid, 184.

⁵⁸⁸ Like *Silent Spring*, *The End of Nature* was originally serialized in *The New Yorker*.

⁵⁸⁹ McKibben was a prolific contributor to the *The Harvard Crimson*, publishing more than 370 articles between 1978 and his graduation in 1982.

⁵⁹⁰ However, despite his intimations in *End of Nature*, McKibben did not write for the *Crimson* on biotechnology issues.

⁵⁹¹ William E. McKibben, "Boston Nuclear Fallout," *The Harvard Crimson*, April 7, 1979; William E. McKibben, "A Weekend at Seabrook: You Had to be There," *The Harvard Crimson*, October 10, 1979.

authored short political essays for the “Notes and Comments” section, explicitly modeled on the writing style of colleague Jonathan Schell. The author of *The Fate of the Earth*, the book which had inspired Friends of the Earth’s 1982 Conference on the Fate of the Earth, Schell wrote for the magazine on nuclear issues.⁵⁹² On the whole, McKibben’s turn towards environmentalism seems to be experiential in origin: an ascetic by nature, McKibben wrote a long essay for *The New Yorker* which detailed where everything in his apartment had come from, an experience which “open(ed) his eyes to the *physicalness* of the world, the fact that even Manhattan depended on nature, and consumed it, for its existence.”⁵⁹³ Shortly after his departure from the magazine, McKibben and his wife, Sue Halpern, moved to a cabin in New York’s Adirondack Mountains to begin “a new life, at home in nature”.⁵⁹⁴

The End of Nature was an impassioned plea for changing the course of human civilization. The crux of McKibben’s argument was that humans have come to constitute a geologic force, and that there is no aspect of Earth’s natural ecological processes and cycles which has remained apart from human activity.⁵⁹⁵ In Gaian terms, humans have altered the Earth to such an extent that they are now required to be its stewards. McKibben’s argument was fundamentally biocentric, and he used Gaia theory to make his point. As he wrote, the benefit of Gaia is its opportunity to “lead away from a defiant, human-centered attitude and toward intense respect and solicitousness for the rest of creation.”⁵⁹⁶ However, he was quick to distance himself from two interpretations of Gaia: the first, Lovelock’s own conviction that Gaia would survive no matter what humans inflicted upon her; the second, that as the brains of Gaia, humans should

⁵⁹² Matthew C. Nisbet, “Nature’s Prophet: Bill McKibben as Journalist, Public Intellectual and Activist,” Accessed March 7, 2013, <http://shorensteincenter.org/2013/03/natures-prophet-bill-mckibben-as-journalist-public-intellectual-and-activist/>, 13.

⁵⁹³ Bill McKibben, *The Bill McKibben Reader: Pieces from An Active Life* (New York: Henry Holt & Co., 2008), 3.

⁵⁹⁴ Ibid

⁵⁹⁵ Although McKibben did not use the term, what he describes resonates with contemporary discussions about the Anthropocene Era.

⁵⁹⁶ McKibben, *End of Nature*, 135.

radically increase their management of all her natural processes. As example of the latter, McKibben pointed with horror to Norman Myers' 1984 *Atlas*.⁵⁹⁷

Rather, McKibben's biocentrism was fueled by moral outrage, and defined by a sharp division between natural and artificial. "The problem", he wrote,

Is that nature, the independent force that has surrounded us since our earliest days, cannot coexist with our numbers and our habits. We may well be able to create a world that can support our numbers and our habits, but it will be an artificial world, a space station.⁵⁹⁸

His outrage echoed that of Sessions and Devall, who had indicted Spaceship Earth as the ultimate New Age fantasy, in which humans will move to "totally man-made and manipulated spaceships carrying colonies of humans to Mars, and the expert – the technologist – will be the hero."⁵⁹⁹ From a biocentric perspective, McKibben's conclusions were chilling. The end of nature meant the end of nature's separation from human society: exactly what the biocentrists were hoping to achieve. Yet that re-union happened in the worst possible way: through the complete destruction of the Earth's independence from humankind. "*We have ended the thing that has, at least in modern times, defined nature for us – its separation from human society.*"⁶⁰⁰

McKibben's solutions centered on how to change our habitual activities: how to lessen consumption and reproduction, and "to develop a philosophy that is the opposite of the defiant, consumptive course we've traditionally followed."⁶⁰¹

⁵⁹⁷ Norman Myers himself responded to McKibben in a 1990 review. Agreeing in essence with McKibben's argument that humans had destroyed the independence of nature, Myers took aim at McKibben's lack of solutions. Arguing that the world possessed the knowledge and the means of rectifying what it had undone, Myers indicted McKibben for self-indulgence, "McKibben's book is a disappointment. Read it for its gut message, its impassioned statement of innocence lost. But do not look for a concise analysis of why we got into our predicament, or how we can get out of it. McKibben is content to rail against our self-inflicted fate." Norman Myers, "Unnatural Conclusions," *BioScience* 40 (1990), 846.

⁵⁹⁸ McKibben, *The End of Nature*, 144.

⁵⁹⁹ Sessions and Devall, *Deep Ecology*, 6.

⁶⁰⁰ McKibben, *The End of Nature*, 55. Emphasis in original.

⁶⁰¹ *Ibid*, 146.

What would it mean to our ways of life, our demographics, or economics, our output of carbon dioxide and methane if we began to truly and viscerally think of ourselves as just one species among many?⁶⁰²

He portrayed such necessary change as radical, not piecemeal, entailing an entirely different attitude towards human identity. “We live in an extreme time”, on in which the window for compromise solutions had closed.⁶⁰³

One of the book’s central chapters, entitled “A Path of More Resistance”, examined individuals who had attempted to change course. Perhaps not surprisingly, the chapter primarily addressed Earth First! activists in the Pacific Northwest. To write it, McKibben had spent months traveling with and interviewing Earth First!ers, Dave Foreman in particular, seeking to understand and then depict their deep ecological worldview in a way that did not suggest they were “screwballs”. However, while professing a great sympathy for deep ecological philosophy, McKibben ultimately steered away from embracing the organization which gave it the most ardent political expression,

It is an intensely disturbing idea that man should not be the master of all, that other suffering might be just as important. And that individual suffering – animal or human – might be less important than the suffering of species, ecosystems, the planet.⁶⁰⁴

Despite its scientific clarity and moral urgency, *The End of Nature* was pre-occupied with a focus on defining identity through lifestyle choices that is characteristic of the educated middle class in the postwar United States. While McKibben professes to sympathize with deep ecology, he repeatedly described off-the-grid lifestyles as “screwball” and “oddball”. Despite his own relatively spartan existence in the Adirondack Mountains, he presumably used these terms to distinguish his agenda from a scarecrow “off-the-grid” lifestyle, which he seemed to feel still clung to all radical environmental paths. The book’s conclusion detailed McKibben’s own

⁶⁰² Ibid

⁶⁰³ Ibid, 158.

⁶⁰⁴ Ibid, 154.

lifestyle changes: he and his wife stopped taking long trips in the car; they reduced their home's temperature to 55 degrees; and most importantly, they delayed and re-evaluated their plans to have children. They began to “prune and snip their desires”, in ways which were for the most part “as much pleasure as sacrifice.”⁶⁰⁵ Adopting a confessional tone, he acknowledged that beyond those immediate personal changes, he struggled to imagine what a human society with a lighter footprint would look like, “I’ve spent my whole life wanting more, so it’s hard for me to imagine “less” in any but a negative way.”⁶⁰⁶

McKibben eschewed overtly political solutions. Echoing Lovelock, he argued against many of the central tenets of various environmentalists – limits on technology, reproduction, or economic growth – asserting that these solutions were premised upon advancing human happiness, felt to be infringed upon by the stress, unemployment, and food scarcity generated by overpopulation and industrialization. Nor did he make a call for his readers to join Earth First! in the Siskiyou National Forest. Rather, he made a plea for an “atopia” based upon the practical and moral tents of deep ecological philosophy as spelled out by Sessions and Devall in 1985. He then spent a significant amount of space detailing the paralyzing guilt of the middle class liberal environmentalist: on what grounds can a well-educated, affluent white man give reproduction and consumption prescriptions to the rest of the world? Closing with a plea to use our “special gift” of reason to decide against continued environmental destruction, McKibben wrote of his “hope against hope” that the world would choose self-restraint over instant gratification.⁶⁰⁷

⁶⁰⁵ Ibid, 159-60.

⁶⁰⁶ Ibid

⁶⁰⁷ Ibid, 183.

Over the subsequent decade, McKibben wrote prolifically on a wide range of topics, only a few environmental in nature.⁶⁰⁸ Despite the mournful overtones of *The End of Nature*, at the beginning of his career he was quite optimistic that humans could regenerate wild places, and restore their species to a semblance of balance with the natural world.⁶⁰⁹

Yet by the close of the millennium, McKibben had returned with a vengeance to the subject of climate change. In the *Atlantic Monthly* in May 1998, he argued that the central problem of the coming century would not be how to feed the projected ten billion people, but how to properly dispose of their wastes.⁶¹⁰ He asserted that humanity excels at finding new sources of sustenance (fossil fuels), but fails spectacularly at finding places to dispose of their byproducts (“atmospheric garbage dumps”). “If we had to pick one problem to obsess about over the next fifty years, we’d do well to make it CO₂.” It was in this article that he introduced an argument about planetary health.

The bottom line argument goes like this: The next fifty years are a special time. They will decide how strong and healthy the planet will be for centuries to come.

Dealing with these fifty years would require work on multiple planes: “on our ways of life, on our technologies, and on our population.”⁶¹¹

McKibben’s change of tone was undoubtedly fueled by the repeated failure of international climate conferences in the final decade of the twentieth century. In 1992, the “Earth Summit” - the United Nations Conference on Environment and Development - was held in Rio de Janeiro. Although the majority of attendees called for mandatory limits on greenhouse

⁶⁰⁸ Amongst a variety of other issues, he wrote about the corrupting effects of television, and the value of having one child. See *The Age of Missing Information* (1992); *Hundred Dollar Holiday: The Case for a More Joyful Christmas*. New York: Simon & Schuster, 1998; *Maybe One: A Case for Smaller Families*. Plume: 1999.

⁶⁰⁹ In a 1995 article, McKibben celebrated the reforestation of the Northeast. Bill McKibben, “An Explosion of Green,” *The Atlantic*, April 1995 (available at <http://www.theatlantic.com/magazine/archive/1995/04/an-explosion-of-green/305864/>, last accessed January 17, 2013).

⁶¹⁰ McKibben, “A Special Moment in History”.

⁶¹¹ Ibid

gas emissions, the United States, then under the George Bush administration and the world's largest emitter of greenhouse gases, was unwilling to sign anything concrete. The conference ended with a "framework convention" on climate change, a document so sketchy and noncommittal as to permit business as usual to continue.⁶¹² Five years later, the Climate Conference gathered again, this time in Kyoto, Japan. Despite strident calls by Western Europe to impose strict emissions limits, the final Kyoto Protocol, negotiated with the help of Vice President Al Gore, exempted developing countries and only required developed countries to reduce their emissions to 1990 levels by 2010.⁶¹³ The U.S. Senate categorically refused to ratify the Protocol, unanimously declaring before the conference had finished that it would reject a treaty from which developing countries had been exempted.

Regarding Kyoto, McKibben was largely dismissive. The conference, he wrote, was mostly "a meeting of Americans, a fight between Yanks."⁶¹⁴ Vice President Al Gore, environmental organizations, a cohort of Congressmen, labor unions, oil and gas lobbyists, and climate scientists were all in attendance, in contrast to the two or three delegates sent by most countries. To McKibben, the dominance of Americans did not indicate their willingness to change so much as the "essential fact" of the United States' "immaturity".⁶¹⁵ The United States had sent so many people as to drown out the voices of the rest of the world.

By 2006, McKibben began indicting U.S. environmentalists for missing the boat on climate solutions. In a profile piece in *National Geographic*, he offered a dire catalogue of "what we are in for" – widespread and untimely hurricanes, climbing temperatures, melting boreal permafrost and Arctic sea ice. He then turned approvingly to James Lovelock's recent

⁶¹² Weart, *The Discovery of Global Warming*, 161-162.

⁶¹³ Ibid, 166.

⁶¹⁴ Bill McKibben, "Warming Up to Kyoto," *Audubon* March/April 1998. In McKibben, *The Bill McKibben Reader*, 75.

⁶¹⁵ Ibid, 77.

declaration that humans had poured too much carbon dioxide into the atmosphere to escape runaway global warming,

The climate centres around the world, which are the equivalent of the pathology lab of a hospital have reported the Earth's physical condition, and the climate specialists see it as seriously ill, and soon to pass into a morbid fever that may last as long as 100,000 years.⁶¹⁶

Although "our planet has kept itself healthy and fit for life" up until the present, "We have given Gaia a fever and soon her condition will worsen to a state like a coma." Lovelock then detailed what was soon to befall Gaia, concluding that "before this century is over billions of us will die and the few breeding pairs of people that survive will be in the Arctic where the climate remains tolerable." Drawing a strange comfort from Lovelock's pessimism, as well as George W. Bush's contemporaneous admission that Americans were "addicted to oil", McKibben argued that people were coming around to the end of climate denial, facing the civilization-level challenge that climate change presented.

How people dealt with the challenge, McKibben asserted, depended largely on the guide provided by environmentalists. A movement with a relatively long history in the United States, environmentalism had nonetheless remained loath to tackle the systemic causes of environmental destruction. Its primary goals had been to preserve small areas apart from human influence, to ban certain chemicals, and to pass discrete pieces of legislation. In these goals, noted McKibben, environmentalists had been remarkably successful.

However, this environmentalism, whether bioregionalism, non-violent direct action, Congressional lobbying, or the environmental justice movement, was entirely focused on discrete substances, places, and problems. This singular focus is utterly unprepared to confront the global, "civilizational" challenge of climate change. McKibben pointed to the continued

⁶¹⁶ James Lovelock, "The Earth is About to Catch a Morbid Fever that May Last as Long as 100,000 Years," *The Independent*, January 16, 2006.

growth of American carbon emissions in the face of mounting scientific evidence about global warming as evidence for the inadequacy of existing forms of environmental politics to rally the public into concerted change.

The reason for environmentalism's inefficacy, McKibben posited, was its complicity in the paradigm of endless growth,

The old paradigm works like this: We judge just about every issue by asking the question: Will this make the economy larger? If the answer is yes, then we embrace whatever is in question – globalization, factory farming, suburban sprawl. In this paradigm, the job of environmentalism is to cure the worst effects, and endless economic growth makes that job easier. If you're rich, you can more easily afford the catalytic converter for the end of the tailpipe that magically scrubs the sky above your city.⁶¹⁷

Yet of course, all of the economic growth required to get to the stage of affording environmental protections was premised upon fossil fuel combustion. And that, McKibben argued, was precisely the paradigm that environmentalists had been on the losing end of. The failure of their attempts in the 1970s to halt the growth economy led them into retreat by the 1980s, to a belief that the best they could do was ameliorate the worst effects of Reagan and Bush-era economic expansion. By the early 2000s, this rear-guard position manifested itself in the most banal of lifestyle prescriptions: drive less, replace conventional light bulbs with CFLs, and switch to wind power.

“We need a new idea”, McKibben asserted. “We need to change as dramatically as our light bulbs. We'd need to see ourselves differently – identity and desire would have to shift. Not out of a sense of idealism or asceticism or nostalgia for the '60s. Out of a sense of pure pragmatism.”⁶¹⁸ In short: the local had failed. American environmentalism had been successful at preserving particular parks and wilderness areas, at saving certain areas from drilling at imposing restrictions on specific substances. Yet this form of environmentalism was totally

⁶¹⁷Bill McKibben, “A Deeper Shade of Green,” *National Geographic*, August 2006.

⁶¹⁸ *Ibid*

ineffective when faced with climate change. McKibben recommended a “deeper environmentalism”, a “convivial environmentalism” based upon re-localizing: food grown locally, houses built compactly, neighborhoods generating their own wind power. He claimed that environmentalists need to care as much about changing culture and consumer choices as about preserving endangered species. Echoing *The End of Nature*, he detailed his own efforts to live this new identity through a practical experiment to survive on locally produced food during the winter in Vermont.

In many ways, McKibben was correct. Environmentalists, whether grassroots or Capitol-Hill based, had not developed any concerted campaigns to demand action on climate change. While continuing to urge the world to transition to renewable sources of energy – sun and wind – on the whole they had remained largely immune to the immediacy of climate change. Instead, professional environmental organizations in particular continued to concentrate on “personal greening”; what environmentalist Mike Tidwell has described as “faddish emphasis on small, voluntary actions.”⁶¹⁹

Although his perspective harkens to the biocentric critique of American environmentalism, McKibben took pains to distance himself from his predecessors. He forcefully rejected the idealism and counter-culturalism of the 1960s, arguing that the only way forward is “pragmatic”.⁶²⁰ His assertion was that climate change – an absolute, global, deathly phenomenon - necessitated an international movement unlike anything which had come before.

This chapter has argued that Gaia theory paved the way for climate activism in its expansion of ecology to include a-biotic planetary processes. It failed to galvanize concrete political solutions in the 1980s and 1990s until climate change became a tangible threat. The

⁶¹⁹ Mike Tidwell, “To Really Save the Planet, Stop Going Green,” in McKibben, *The Global Warming Reader*.

⁶²⁰ However, it is arguable whether large-scale shifts in identity and lifestyle are solely pragmatic. While such changes may be demanded by circumstance, they require an alternative imagination of existence.

principal connection between Lovelock and McKibben is in their focus on planetary-scale phenomena. While Lovelock uses health in very concrete and practical terms, explicit about the relationship between the doctor (humans) and the patient (Gaia); McKibben's use of health is much more qualitative and moral. A healthy planet is one which is allowed to maintain its natural cycles. A healthy relationship between humans and the planet is one in which humans have not overstepped their ecological niche.

McKibben has wholeheartedly embraced the metaphor of the Earth having a fever. "I think for those of us working on global warming, fever is a pretty compelling metaphor-- especially since the damage clearly mounts as the temperature rises."⁶²¹ In his latest book *Eaarth: Making A Life on a Tough New Planet*, McKibben connects the planet's fever to the immediate and future health of humans, closing the loop in a way that had not yet been done. He devotes significant space to discussing the dramatic expansion of the habitable range for the dengue fever carrier *Aedes aegypti* mosquito, now able to occupy higher altitudes, as well as rising rates of malaria, cholera, Lyme disease, and West Nile virus, each of whose reproduction is assisted by rising temperatures and heavier rainfalls.⁶²²

Conclusion

In 2006, McKibben made the leap from writer to activist. He described this transition in revelatory language, noting that he "became aware" of two things: first, that sixteen years of prolific writing had failed to catalyze political solutions; and second, that there was no climate

⁶²¹ Email conversation with Bill McKibben, December 11, 2012.

⁶²² Bill McKibben, *Eaarth: Making a Life on a Tough New Planet* (New York: Times Books, 2010), 72-75.

movement.⁶²³ Coming to terms with these two absences, in the late summer of 2006 McKibben and several of his neighbors began an impromptu five-day walk across Vermont. When the group reached Burlington, it had grown to 1,000; once there, it succeeded in convincing all of Vermont's elected and campaigning officials to agree to support carbon dioxide emission reductions of 80% by 2050 if elected.⁶²⁴

Shortly thereafter, McKibben and six undergraduates from Middlebury College, where McKibben was a scholar-in-residence, founded an online organization called "Step it Up", which in April of 2007 organized 1400 simultaneous demonstrations around the country calling for climate legislation based upon the goal of reducing U.S. emissions by 80% by 2050. Events were more symbolic than confrontational: they included a human chain symbolizing the new boundaries which rising sea levels would impose on New York City, rallies, film screenings, and many photo-ops. It was heralded at the time as the largest international day of environmental action.⁶²⁵

By 2008, in the face of mounting warnings, by James Hansen in particular, that 350 parts per million of CO₂ in the atmosphere is the highest permissible limit to avoid catastrophic global warming, McKibben and his collaborators founded 350.org. A web-based organization, 350's primary focus is raising awareness and fostering connections amongst different groups.

McKibben has explained the organization's name in explicitly physiological terms.

Scientists are now telling us that 350 parts per million [of carbon] in the atmosphere is the upper limit. We're at 387 parts per million now, and we're up in that zone where the risk of going past irrevocable tipping points is elevated. It's no different than going to a doctor and learning your cholesterol is too high, and you're at risk for a heart attack. You

⁶²³ Bill McKibben, "Interview: Bill McKibben on Building a Climate Action Movement," *Yale Environment 360*, April 23, 2009. Available online at: http://e360.yale.edu/feature/bill_mckibben_on_building_a_climate_action_movement/2143/ (Accessed January 14, 2013.)

⁶²⁴ Ibid

⁶²⁵ Manny Fernandez, "For the Environment, Rallies Great and Small (And Unusual Attire)," *The New York Times*, April 15, 2007.

have to work to lower your cholesterol and hope to get there before the heart attack comes.⁶²⁶

Until the summer of 2011, McKibben and 350.org remained, in their tactics, fairly anodyne. They focused on moral persuasion, raising public awareness of climate change science, and gaining media attention through staging photogenic international “days of action”. Yet in the summer of 2011, McKibben and more than one thousand others staged a rolling sit-in in front of the White House to protest the construction of the Keystone XL pipeline, intended to transport tar sands crude 1,700 miles from the sprawling Athabasca tar sands fields in northeastern Alberta, Canada, to the Gulf of Mexico for export. Each of the 1,253 present were arrested and jailed by the District of Columbia Park Police, although the charges were subsequently dropped.

The rolling, intentional arrests, staged over the course of several weeks, have inspired comparisons with the civil rights movement, and even dubious claims that it was the largest civil disobedience event since the nuclear protests of the 1980s.⁶²⁷ The attention garnered by the arrests offers a sobering commentary on the current state of environmental politics in the United States. Certainly, it is noteworthy that more than 1,000 individuals were willing to put aside other commitments, travel to Washington, D.C., and face certain arrest. To an extent, it harkens to the actions of Earth First!, whose members placed their physical bodies in harm’s way in order to prevent harm to the planet. However, the arrests were acts of indirect protest: done not at the site of the pipeline but at the site (the White House) of its approval. Moreover, they were scripted and symbolic: arrestees knew they would not be permanently detained.

⁶²⁶ Diane Silver, “Bill McKibben Interview,” *The Progressive*, January 2009, accessed January 17, 2013, <http://www.progressive.org/node/124963>.

⁶²⁷ For example of the latter, see Bill McKibben, “The Keystone Pipeline Revolt: Why Mass Arrests Are Just the Beginning”, *Rolling Stone*, September 28, 2011. It seems that McKibben does not consider the protests against the WTO meeting in Seattle, or the protests during the 2004 Republican National Convention in New York City, to constitute legitimate civil disobedience.

The accolades given to the arrests reveal the radically changed possibilities for environmental and other political activism in the United States. Since the 1990s, the federal government has enacted progressively stiffer restrictions on political protest and assembly. From the FBI's 2004 declaration that the Earth Liberation Front was the "number one domestic terrorist threat" to the recent passage by President Obama of H.R. 347, the "Federal Restricted Buildings and Grounds Improvement Act of 2011," which declares any gathering on a federal property to be a federal crime, environmental activists have been increasingly forced to circumscribe their tactics. With the post-9/11 collaborations between the Department of Homeland Security, the FBI, and police departments, law enforcement has targeted environmental activists with surveillance, counter-terrorism investigations, and infiltration.

Although activists continue to stage direct actions at sites of environmental destruction – most recently, the lock-downs along the Keystone XL pipeline; occupations of TransCanada's Houston offices; "die-ins" along the proposed Northeast pipeline route; and Earth First! actions against hydraulic fracturing in the Marcellus Shale – for the most part environmental protest has narrowed to a small set of internet petitions, Congressional lobbying, and public outreach. The conclusion will offer a reflection on these present political possibilities, connect them with the repertoire of environmental actions and understandings developed in the 1970s, and attempt to understand where, given these radically altered contemporary political boundaries, health and the environment will go.

Conclusion

Redefining Environmentalism, Moving Beyond Health

Redefinition One: “Pragmatic Environmentalism”

In October of 2004, public relations consultant Michael Shellenberger and environmental lobbyist Ted Nordhaus, co-founders of the Apollo Alliance, published an essay entitled “The Death of Environmentalism”.⁶²⁸ Despite fifteen years and hundreds of millions of dollars, the environmental movement had “strikingly little” to show in the battle against climate change, they argued, proposing that it was past time for a complete overhaul of environmental politics.⁶²⁹ They asserted that environmentalism had become a special interest movement which spent the majority of its time re-living and rehashing the stale legislative triumphs of the 1970s. Moreover, asserted the authors, environmentalism had become mired in a vicious cycle of “advocating technical policy solutions as though politics didn’t matter”. Environmentalists had failed to enact any significant brakes on greenhouse gas emissions because they had not tailored their message to reflect the growing conservatism of the American public. Technical fixes like higher vehicle emission standards and sulfur dioxide scrubbers were both bland and alienating. What was needed instead, they proposed, was a “marriage between vision, values, and policy”.

Shellenberger and Nordhaus’ challenge was fairly simple: environmentalists needed to come to terms with the political disposition of the public they were trying to influence. Every aspect of a political project, from the terms it employed to the tactics it pursued, needed to appeal to this constituency on its own terms. Yet despite its sweeping claims, the essay was based upon

⁶²⁸ Ted Nordhaus and Michael Shellenberger, “The Death of Environmentalism: Global Warming Politics in a Post-Environmental World,” *Grist*, January 14, 2005, accessed April 24, 2013, <http://grist.org/article/doe-reprint/>. The Apollo Alliance is a think-tank which produces research on ways to green a growing economy.

⁶²⁹ It is worth noting that the essay’s only operative definition for “politics” was legislative gain.

an extremely narrow set of data – opinion polls and interviews with 25 elite environmental leaders, as well as a very narrow construction of the American public as white, middle-class, non-urban, and increasingly conservative. The two did not talk to tree-sitters or environmental justice activists, or to anyone who could give a first-hand appraisal of environmental politics outside of Washington’s legislative politics.⁶³⁰ As a result of these limitations and provocative arguments, the essay caused serious upheaval amongst the environmental community. Most activists were defensive and critical, accusing Shellenberger and Nordhaus of factionalism, blindness to race, class, and gender issues, and ignorance of politics outside the beltway.⁶³¹ Their proposal for a new politics at the juncture of environmentalism, labor, and private industry, and guided by public opinion polls, was at its heart a reform-minded, nation-specific, and thus limited construction.

⁶³⁰ This fact was not lost on environmental activists. Both Lorna Salzman and Captain Paul Watson of the Sea Shepherd Society weighed in, indicting Shellenberger and Nordhaus for getting their facts wrong, relying on minimal and biased data, and themselves being more concerned about the economy than ecology. Lorna Salzman, “A Critique of the Shellenberger-Nordhaus report,” <http://www.lornasalzman.com/collectedwritings/Shellenberger-Nordhaus.html>, accessed April 23, 2013; Paul Watson, “Report on the Death of Environmentalism is Merely Wishful Thinking,” February 2005, <http://lowbagger.org/watson.html>, accessed April 23, 2013.

⁶³¹ *Grist* reporter Kate Sheppard critiqued the two for winning attention for “firing on their own”, Kate Sheppard, “Life After the Death of Environmentalism,” *The American Prospect*, October 11, 2007, <http://prospect.org/article/life-after-death-environmentalism>, accessed April 23, 2013. Environmental justice activist Ludovic Blain suggested that the article would have been more accurately entitled, “The Death of Elite, White, American Environmentalism”. Ludovic Blain, “Don’t Fear the Reapers: On the Alleged “Death of Environmentalism,” *Grist* June 1, 2005. <http://grist.org/article/blain-death/>, accessed April 23, 2013. Michael Gelobter, director of the think tank Redefining Progress, accused Shellenberger and Nordhaus of a myopic and misguided understanding of the forebears of environmentalism today. Michael Gelobter et al, “Why Race and Class Matter to the Environmental Movement,” *Grist* May 28, 2005. <http://grist.org/article/gelobter-soul/>, accessed April 23, 2013. Sierra Club director Carl Pope described their analysis as “shoddy” and “clinically insane”, while Mike Roselle of the Rainforest Action Network referred to the essay as a “kindly worded invitation for us to commit suicide.” Quotes taken from Michael Brune, “Environmentalism is Dead! Long Live Environmentalism!,” *Social Policy* Spring 2005, 39.

Redefinition Two: The New Abolitionism

Almost a full decade later, in March of 2013, journalist Wen Stephenson published “The New Abolitionists: Global Warming is the Great Moral Crisis of our Time” in the Boston weekly *The Phoenix*.⁶³² Subtitled “Why the Climate Justice Movement Must Embrace its Radicalism”, the article asserted that the contemporary climate justice movement is the re-incarnation of the nineteenth century trans-Atlantic movement to end slavery.⁶³³ In other words, global warming is a challenge to humanity as serious as slavery, and ending it will require actions as concertedly radical as those taken by the abolitionists.

As an example of this new abolitionism, Stephenson cited Tim De Christopher, a climate activist who, in December of 2008, submitted \$1.8 million in bids during a Bureau of Land Management oil and gas lease auction. De Christopher had neither the means nor the intention of paying for these bids; rather, he intended his actions, which resulted in his imprisonment for twenty-one months, to highlight the severity of our planetary predicament. As De Christopher put the matter to the judge at his sentencing,

This is not going away. At this point of unimaginable threats on the horizon, this is what hope looks like. In these times of a morally bankrupt government that has sold out its principles, this is what patriotism looks like. With countless lives on the line, this is what love looks like, and it will only grow. The choice you are making today is what side are you on.⁶³⁴

As Stephenson aptly observed, De Christopher’s words echoed those of abolitionists like William Lloyd Garrison; both made eminently moral arguments, both drew indelible lines between those who represented the good and those representing the status quo, and both cast

⁶³² Wen Stephenson, “The New Abolitionists: Global Warming is the Great Moral Crisis of Our Time,” *The Phoenix* March 12, 2013, accessed April 26, 2013, <http://thephoenix.com/boston/news/151670-new-abolitionists-global-warming-is-the-great/>.

⁶³³ Climate justice refers to a broad community of activists concerned with the implications of climate change on ongoing struggles for economic, gender, and racial justice. Largely it reflects the intersection of environmentalism with the anti-globalization organizations which arose in the 1990s.

⁶³⁴ Tim De Christopher quoted in Wen Stephenson, “The New Abolitionists”.

themselves (and their causes) as standing in for the good of the entire world. Stephenson continued on to write that global warming is “the great human, moral crisis of our time”, whose severity demands a resolve and radicalism on par with that of the abolitionist movement. Quoting Frederick Douglass’ famous statement that “Power concedes nothing without a demand. It never did, and it never will,” Stephenson reiterated the now-or-never, us-or-them logic of morally-driven radicalism.

Stephenson’s article was widely embraced by environmental activists, in particular those on the frontlines of the climate justice struggle. Although he was not the first to voice the comparison between climate justice and abolition,⁶³⁵ his article was the boldest attempt yet to define an over-arching identity for the climate justice movement and for environmentalism more broadly in the 21st century. In his eschewal of policy prescriptions, purposeful omission of any established environmental organizations, and focus on charismatic individuals rather than national and international bureaucracies, he cast environmentalism as a matter of both individual conscience and populist struggle against the state and entrenched economic interests (read: fossil fuel industries). Ultimately, Stephenson re-visited two central premises of American radical politics (which Shellenberger and Nordhaus had indicted as the central flaws of environmentalism). First, he made no distinction between activists and the radicalized public. Second, if only the people speak in a unified voice, power will listen.⁶³⁶

⁶³⁵ The connection between abolition and climate change has been debated at least since the Copenhagen Climate Conference in 2009. In particular, activists have stressed the need to shift from a reformist Civil Rights perspective to a radical Abolitionist one. Some examples include Bill Bigelow, “What Climate Activists can Learn from the Abolitionist Movement,” April 22, 2013, accessed April 26, 2013, <http://www.good.is/posts/what-climate-activists-can-learn-from-the-abolitionist-movement>; Majora Carter, et al, “Whose Survival: Environmental Justice as a Civil Rights Issue,” *New York City Law Review* 257 (2009-2010); Celia Deane-Drummon, “A Case for Collective Conscience: Climategate, COP-15 and Climate Justice,” *Studies in Christian Ethics* 24 (February 2011).

⁶³⁶ Shellenberger and Nordhaus had written that environmentalism suffered from “literal-sclerosis – the belief that social change happens only when people speak a literal “truth to power”. Shellenberger and Nordhaus, “The Death of Environmentalism”.

These two essays and their reception are representative of the broader debate now ongoing in the West about the politics which environmental activists should develop to mitigate anthropogenic climate change. Both embody the central conflicts which animate the current debate: reform versus radical action, breaking with the past versus embracing it selectively, policy programs versus populist fervor, and national action as opposed to international alliances.

I have introduced these two recent and intensely debated attempts to re-define environmental politics for a very specific reason: neither one speaks of health. Why has health disappeared from critical environmental debates? Both essays attempt to re-define environmentalism to aspire towards large, systemic, over-arching transformations in society and politics. Yet unlike the environmental politics of the 1970s and 1980s, similarly searching for systemic changes, health does not come into play as a way of describing their ideal world. Nonetheless, health continues to abound within contemporary discussions of the environment. In the remainder of this conclusion, I will offer my thoughts on this peculiar situation: why ongoing activist debates on how to reshape humanity's relationship to its environment no longer revolve around health, yet why health remains ubiquitous in colloquial conversations about the environment.

For many environmental activists, health is no longer a political concept, but instead, a rhetorical device. Health has waned in importance for precisely the reasons that Shellenberger and Nordhaus suggested in "The Death of Environmentalism": it is a big word, a value word, a type of word that environmentalists increasingly (at least in the 1990s and early 2000s) moved away from. It is a word which, as this dissertation has shown, once animated radically different visions of how the world could and should be. Unlike Friends of the Earth and bioregionalists in the 1970s, or Earth First! and the Love Canal Homeowner's Association in the 1980s, there is no

longer an active debate going on within environmental politics regarding the usefulness or meaning of health. This lack of debate is related to environmental politics general turn, by the late 1980s, away from systemic critiques. Such critiques – for example, of population and economic growth – which used to be part of a broader dialogue about what the health of the planet or the environment might mean, have, until the very recent attempts represented by Stephenson, Shellenberger, Nordhaus, and others been abandoned. The recent impulse to re-think environmentalism, to frame it within a broader context and enable it to re-articulate critiques of entrenched government subsidies or global inequality, have abandoned health as a language through which to make these arguments. As a result, health has become an empty signifier, a term which radically divergent contingencies can all invoke without fear of ideological taint.

I see three inter-related causes of this contemporary situation. The first relates to an overall shift within the landscape of environmental politics towards the global and abstract scale of the planetary climate. At the beginning of this dissertation's period of study, the various manifestations of environmental politics existed in a productive tension with one another. Yet in part because of the mounting urgency of climate change, environmental politics have shifted increasingly towards the scale of the planet. Although climate justice activists attempt to bring some notion of spatial and temporal differences into the equation through conversations about historical climate debt, abstraction rules the day.

Environmentalists have adapted health to this shift in concern towards the scale of the planet in a very uncritical way, and one which reflects the qualities of globalized capitalism: health is no longer anchored to any place or historical context, it can move freely from situation to situation, and it lacks conceptual disagreement. Thus, when Bill McKibben speaks of a

“healthy planet”, or Tim DeChristopher gestures towards a “healthy and just world”, it is unclear what they mean. A restoration of the planet to pre-industrial conditions? An erasure of all difference between humans? An embrace of an earth-based spirituality that would enable humans to feel the pangs of environmental destruction? As they use it, health seems to refer to an abstract global unit (the earth) occupied by a rapidly growing number of human inhabitants. These inhabitants are both the protagonist and antagonist of environmental politics.

This abstraction derives from how mainstream, professional environmental organizations spoke about health in the 1970s and 1980s; for example, Friends of the Earth’s concern with lead poisoning and the de-registration of dioxinated herbicides, and the Sierra Club’s discussion of the health of the wild. Ultimately, however, these were abstract concerns. As Christopher Sellers has observed, these organizations evidenced a “body-blindness”, that is, an unwillingness and/or inability to see and appreciate the ways in which the *individual* human body interacted with and was affected by *particular* environmental sites.⁶³⁷ This “body blindness” explains the extreme discomfort experienced by larger organizations when asked to ally themselves with communities such as Love Canal which faced the legacies of toxic waste disposal. Bodies are messy, and the political actions of individual communities are difficult to control: for these and other reasons, professional organizations preferred to advance arguments about health in the abstract.

What arose from this body blindness, as Chapter 2 argued, was a very strange politics, in which the primary subject position is held by an amorphous, undifferentiated, globalized, non-place specific “consumer” in need of governmental protection, yet who is nonetheless ultimately responsible for ensuring his or her own health through proper consumer choices. This dependence on the subjectivity of the consumer goes a long way towards explaining *Silent*

⁶³⁷ Sellers, “Body, Place, and the State,” 58.

Spring's lasting popularity; Carson's arguments about the consumer's right to know and control what he or she consumes have endured the translation into the politics of the late twentieth and early twenty-first century.

Environmentalism, particularly the mainstream environmentalism of D.C.-based lobbying organizations, has perhaps never been skilled at negotiating between the individual human and his or her particular ecosystem. This struggle to negotiate between the human and the environment relates to the second cause for the waning significance of health: the sheer complexity of the term itself. Just as health has the capability to describe abstract goals, it can describe minute differences. Thus, it can be used to construct a politics based upon difference; that is, a politics that emphasizes the difference between those advocating it and the rest of society (notable examples being the women's rights and queer rights movements of recent decades). Yet environmental activists have never managed to articulate a single subject requiring political voice, and for good reason: emphasizing difference is anathema to a movement whose success hinges on convincing the whole of society to become involved. Health, with its double capacity for describing individual and planetary predicaments, has proven to be a problematic term for environmentalists to employ. With the notable exception of the environmental justice movement, political projects which have used health as a matrix for assessing differences between bodies and environments, have today been relegated to the margins of environmental politics. While an emphasis on difference, expressed variously through a concentration on ecological specificities, the individual body, and temporal changes, once characterized a wide range of activisms, including that of Gary Snyder, bioregionalists, victims of pesticide exposure, and communities exposed to toxic wastes, what has triumphed

today are abstracted and globalized arguments for protecting the planet from the ravages of climate change.

The third cause for the disappearance of health lies with the dissolution of radical leftist politics in the United States. The outpouring of radical sentiment and action in the late 1960s and early 1970s was remarkably short-lived. By the close of the 1970s, most of the concrete manifestations of radical politics had vanished from the American political landscape. By mid-1972, the Black Panther Party had returned to its Oakland roots, the Weather Underground dissolved in 1976, and despite an increase in workplace radicalism at the opening of the 1970s, by the middle of the decade the labor movement was in freefall.⁶³⁸ Although this dissertation has gone to great pains to argue that the radical commitments of the 1960s continued on in the environmental politics of the 1970s and 1980s, environmentalism as a whole simply took too many different paths to sustain this radical impulse, much less to dismantle the economic and governmental structures which ensure that any change will be incremental.⁶³⁹ Lacking a larger radical movement with whom they could ally, more radical activists found themselves politically isolated, and as a result espousing purposely provocative and oftentimes symbolic positions.

Perhaps this outcome, in which health became incapable of tying together a broad community of activists with divergent political goals, was inevitable. Unlike “wilderness”, there has never been a coherent contingent of environmental activists who took health as their primary goal. Partly, this is because human health was a political cause already animating healthcare reformers, patient rights groups, and urban reformers. Partly, this is because the environmental justice movement gained such a coherent identity by the early 1990s, and has remained fairly

⁶³⁸ Joshua Bloom and Waldo E. Martin, Jr., *Black Against Empire: The History and Politics of the Black Panther Party* (Berkeley: University of California Press, 2013); Jefferson Cowie, *Stayin' Alive*; Jeremy Varon, *Bringing the War Home*.

⁶³⁹ Of course, this outcome is itself the product of the politics of difference.

distinct from other environmental organizations, mainstream and radical, to this day. And partly this is because, as this dissertation has demonstrated, just *whose* health was at stake was part of the original question.

The fundamental multiplicity of interpretations of health presented both challenges and advantages for activists. On the one hand, there was never any consensus on whose health should be protected and how. While many believed that Carson, in *Silent Spring*, had articulated a successful paradigm for health, others, like Dave Foreman, rightly pointed out that her book was fundamentally anthropocentric. While Gary Snyder and Peter Berg insisted that the health of the planet will grow out of the careful resuscitation of the health of place and community, James Lovelock scoffed that such a local perspective ignores Gaia's true physiology. This lack of a coherent definition meant that health never became the animating force for a single vision of environmental change. On the other, positive hand, the multiplicity of health allowed it to enable a wealth of political visions, each with a particular historical narrative and aspiration for the future. Unitary ideologies have a historical tendency towards moderation or dogmatism; conceptual debate, whether in environmentalism, civil rights, or workers' movements, invariably inspire more creative and radical political interventions.

The chief problem facing humanity and the planet today is not rising carbon emissions, toxic waste disasters, or over-population. It is the socio-economic structure that enables, sustains, and legitimizes these problems. We are faced with increasingly imminent and totalizing threats to human and planetary well-being, yet with the notable exceptions of the Occupy movement and the Arab Spring, we lack a political language and subjectivity of collective resistance. The promise of health was that it served as an umbrella which gave shelter to a host of visionary possibilities for changing the systems through which humanity interacted with the

planet and itself. The peril was that once these systemic changes failed to materialize, yet health persisted as a common language for describing the environment, the term came to conform to the requirements of contemporary capitalism: abstract, easily transferrable, lacking any specific attachment to time or place.⁶⁴⁰ This quality of easy transference is ultimately what enables President Obama's equation of the health of the economy with the health of the environment, or Stonyfield Farms' similar equation of the health of the person and the health of the planet.

Unlike this present constellation, activists, scientist, and philosophers in the 1970s were able to harness the concept of health to articulate critical responses to the situation humanity and the planet then found itself in. This is not a political project which should necessarily be rescued or resuscitated. The demise of health as an active and critical term was inevitable, given both its inherent multiplicity and changes within the American political landscape. Rather, what this dissertation has illuminated is the wealth of political visions which were enabled by a single concept. Some of these visions have survived, albeit in modified form, while others have been pushed aside, perhaps rendered irrelevant in the face of the changing nature of our current problems. That wealth is in itself something to be valued and sought after.

⁶⁴⁰ For much more on the connections between capitalism and environmentalism see Timothy W. Luke, "The (Un)Wise (Ab)use of Nature: Environmentalism as Globalized Consumerism," *Alternatives: Global, Local, Political* 23 (April-June 1998).

Sources Used

Archival Collections:

Rachel Carson Papers. Yale Collection of American Literature, Beinecke Rare Book and Manuscript Library, Yale University.

Center for Health, Environment, and Justice, records, 1978-2001, Digital Collections and Archives, Tufts University.

David Ross Brower Papers, BANC MSS 79/9 c, The Bancroft Library, University of California, Berkeley.

Friends of the Earth Records, BANC MSS 82/98 c and BANC MSS 86/104 c, The Bancroft Library, University of California, Berkeley.

Gary Snyder Papers, D-050, Department of Special Collections, General Library, University of California, Davis.

Love Canal Collections, State University of New York, Buffalo.

Bill McKibben Papers, 1971-2001 and undated, Southwest Collection/Special Collections Library, Texas Tech University, Lubbock, Texas.

Sierra Club Records, BANC MSS 71/103 c, The Bancroft Library, University of California, Berkeley.

Oral History Interviews:

George Alderson, Telephone Interview. February 8, 2012.

Joseph Browder, Telephone Interview. February 6, 2012.

Margaret Gable, Telephone Interview. January 27, 2012.

Joseph Highland, Skype Interview. October 23, 2011.

Luella Kenny, Telephone Interview. November 3, 2011.

Adeline Levine, Telephone Interview. October 29, 2011.

Pamela Lippe, Interview. New York, NY. January 17, 2012.

Bill McKibben, Email Correspondence. December 18, 2012.

Stephanie Mills, Telephone Interview. February 2012.

Reed Noss, Email Correspondence. November 13-14, 2012.

Lorna Salzman, Interview. Brooklyn Heights, NY. January 18, 2012.

Doug Scott, Telephone Interview. February 8, 2012.

Bob Scowcroft, Telephone Interview. February 16, 2012.

Ellen Silbergeld, Telephone Interview, October 7, 2011.

Eleanor Smith, Telephone Interview. December 16, 2011.

Tom Turner, Telephone Interview. December 2011.

Primary Sources:

"Court Backs Plea on Nuclear Blast." *New York Times*, October 6, 1971.

"Gary Snyder: The Catalyst Interview." *The New Catalyst* (January/February 1986): 10-11.

"Interview: Bill McKibben on Building a Climate Action Movement." *Yale Environment 360* (April 23, 2009).

"Movement of Survival." *The Ecologist* 2, no. 1 (1972): 23.

"The Proceedings of the First Biennial Conference on the Fate of the Earth: Conservation and Security in a Sustainable Society." New York, Earth Island Institute, 1982.

AtKisson, Alan. "The Green Cathedral: The Dean of New York's Cathedral of St. John the Divine Remains at the Cutting Edge of Ecology & Spirituality." *Earth & Spirit* 16 (Winter 1990).

- Bari, Judi. *Timber Wars*. Monroe, Me.: Common Courage Press, 1994.
- Berg, Peter. *Envisioning Sustainability* Subculture Books, 2009.
- . *Reinhabiting a Separate Country: A BioRegional Anthology of Northern California*. San Francisco: Planet Drum Foundation, 1978.
- Berg, Peter and Raymond Dasmann. "Reinhabiting California." *The Ecologist* 7, no. 10 (December 1977).
- Blain, Ludovic. "Don't Fear the Reapers: On the Alleged "Death of Environmentalism." *Grist*, June 1, 2005. Accessed April 23, 2013. <http://grist.org/article/blain-death/>.
- Boulding, Kenneth. "The Shadow of the Stationary State." *Daedalus* 102, no. 4 (Fall 1973): 89-101.
- Brockman, John. *The Third Culture*. New York: Simon & Schuster, 1995.
- Brower, David Ross, John Collier, Sierra Club, et al. *Wildlands in our Civilization*. San Francisco: Sierra Club, 1964.
- Brower, David Ross. *For Earth's Sake: The Life and Times of David Brower*. Salt Lake City: Peregrine Smith Books, 1990.
- Brune, Michael. "Environmentalism is Dead! Long Live Environmentalism!" *Social Policy*, Spring 2005, 39-45.
- Burks, David Clarke, ed. *Place of the Wild: A Wildlands Anthology*. Washington, D.C.: Island Press, 1994.
- Cahn, Robert, ed. *An Environmental Agenda for the Future*. Washington, D.C.: Island Press, 1985.
- Cannon, Walter B. *The Wisdom of the Body*. New York: W.W. Norton & Company, Inc., 1939.
- Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 1962.
- Catton, William Robert. *Overshoot: The Ecological Basis of Revolutionary Change*. Urbana: University of Illinois Press, 1980.
- Champion, Dale. "Redwood Cutting Provokes a Protest." *The San Francisco Chronicle*, October 23, 1984.
- Ciotti, Paul. "The Gold Mine Versus the Quail at Dawn: An Argument about Gold in the Sierra and the Way People Choose to Live." *The San Francisco Chronicle*, April 14, 1985.

- Cohen, Michael ed. "Proceedings of the Conference: Is the Earth A Living Organism?" Amherst, MA, August 1-6, 1985. National Audubon Society Expedition Institute, 1986.
- Connor, Daniel Keith. "Is AIDS the Answer to an Environmentalist's Prayer?" *Utne Reader* (May/June 1988): 82-3.
- Costanza, Robert, Bryan G. Norton, and Benjamin D. Haskell. *Ecosystem Health: New Goals for Environmental Management*. Washington, D.C.: Island Press, 1992.
- Cowan, Edward. "Shutdown of 20 Nuclear Power Plants as Threat to Life Asked in Suit." *New York Times*, June 1, 1973.
- Crist, Eileen and H. B. Rinker, eds. *Gaia in Turmoil: Climate Change, Biodepletion, and Earth Ethics in an Age of Crisis*. Cambridge, Mass.: MIT Press, 2010.
- Dasmann, Raymond. *Called by the Wild: The Autobiography of a Conservationist*. Berkeley: University of California Press, 2002.
- David, John and Dave Foreman. "The Wildlands Project." *Earth Island Journal* 8, no. 2 (Spring 1993).
- Davies, Lawrence E. "Naturalists Get a Political Arm." *New York Times*, September 17, 1969.
- Davis, John. *The Earth First! Reader: Ten Years of Radical Environmentalism*. Salt Lake City: Peregrine Smith Books, 1991.
- De Bell, Garrett. *The Environmental Handbook*. New York: Ballantine Books, 1970.
- Devall, Bill and George Sessions. *Deep Ecology: Living as if Nature Mattered*. Salt Lake City: Gibbs M. Smith, Inc., 1985.
- Dice, Lee Raymond. *The Biotic Provinces of North America*. Ann Arbor: University of Michigan Press, 1943.
- Dodge, Jim. "Living by Life: Some Bioregional Theory and Practice." *Co-Evolution Quarterly* 32 (1981): 6-12.
- Ehrenfeld, David W. *The Arrogance of Humanism*. New York: Oxford University Press, 1978.
- Ehrlich, Paul R. *The Population Bomb*. Rivercity, Mass.: Rivercity Press, 1971.
- Epstein, Samuel S., Lester O. Brown, and Carl Pope. *Hazardous Waste in America*. San Francisco: Sierra Club Books, 1982.
- Foreman, Dave. *Confessions of an Eco-Warrior*. New York: Harmony Books, 1991.

- . *Rewilding North America: A Vision for Conservation in the 21st Century*. Washington, D.C.: Island Press, 2004.
- Foreman, Dave. "Reinhabitation, Biocentrism, and Self-Defense." *Earth First! Journal* (August 1, 1987): 22.
- Foreman, Dave and Bill Haywood. *Ecodefense: A Field Guide to Monkeywrenching*. Tucson, Ariz.: Ned Ludd Books, 1987.
- Frisco Bay Mussel Group. *Living here*. San Francisco: 1977.
- Gelbspan, Ross. "Rx for a Planetary Fever." *The American Prospect* (November 20, 2000).
- Gelobter, Michael et al. "Why Race and Class Matter to the Environmental Movement." *Grist*, May 28, 2005. Accessed April 23, 2013. <http://grist.org/article/gelobter-soul/>.
- Gibbs, Lois Marie. *Love Canal: My Story*. New York: Grove Press, 1982.
- Gibbs, Lois Marie. *Love Canal: And the Birth of the Environmental Health Movement*. Washington: Island Press, 2011.
- Glendinning, Chellis. *When Technology Wounds: The Human Consequences of Progress*. New York: Morrow, 1990.
- Gyorgy, Anna. *No Nukes: Everyone's Guide to Nuclear Power*. Montreal: Black Rose Books, 1979.
- Haenke, David. "The North American Bioregional Congress." *In Context* (Summer 1983).
- Halper, Jon. *Gary Snyder: Dimensions of a Life*. San Francisco: Sierra Club Books, 1991.
- Henderson, Denise et al. "Proceedings of the First North American Bioregional Congress." Drury, MO, New Life Farm, 1984, 1984.
- Hitchcock, Dian R. and James Lovelock. "Life Detection by Atmospheric Analysis." *Icarus* 7 (1967): 149-159.
- Jansson, Erik. *Earth Baby's Ransom: How Business is Ruining its Prosperity and Ours by Not Maintaining A Better Environment*. Columbus, OH: Mulberry Institute, 1972.
- Kilgore, Bruce M. and Sierra Club et al. *Wilderness in a Changing World*. San Francisco: Sierra Club, 1966.
- Kump, Lee R. "The Last Great Global Warming." *Scientific American* (July 2011): 55-61.

- Leopold, Aldo. *A Sand County Almanac. With Other Essays on Conservation from Round River*. New York: Oxford University Press, 1966.
- Lindisfarne Association. *An Outline of the Lindisfarne Association*. Stockbridge, MA: The Lindisfarne Press, 1980.
- Lovelock, James. "Gaia." *Orion* (June 1985).
- . "The Earth is about to Catch a Morbid Fever that Will Last for 100,000 Years." *The Independent*, January 16, 2006.
- . *The Ages of Gaia: A Biography of our Living Earth*. New York: W.W. Norton & Co., 1995.
- . "Letter to the Editors: Gaia as seen through the Atmosphere." *Atmospheric Environment* 6 (1972): 579-80.
- Lovelock, James and Lynn Margulis. "The Atmosphere as Circulatory System of the Biosphere - the **Gaia** Hypothesis." *Co-Evolution Quarterly* (Summer 1975): 31-40.
- Lovelock, James. *Gaia: A New Look at Life on Earth*. New York: Oxford University Press, 1995.
- . *Gaia, the Practical Science of Planetary Medicine*. London: Gaia Books, 1991.
- Manes, Christopher. *Green Rage: Radical Environmentalism and the Unmaking of Civilization*. Boston: Little, Brown, 1990.
- McKibben, William E. "Boston Nuclear Fallout." *The Harvard Crimson*, April 7, 1979.
- . "You had to be there." *The Harvard Crimson*, October 10, 1979.
- McKibben, Bill. "A Deeper Shade of Green." *National Geographic* (August 2006).
- . "A Special Moment in History." *Atlantic Monthly* (May 1998): 55-78.
- . "An Explosion of Green." *The Atlantic* (April 1995).
- . "The Keystone Pipeline Revolt: Why Mass Arrests are just the Beginning"" *Rolling Stone* (September 28, 2011).
- . *The Age of Missing Information*. New York: Random House, 1992.
- . *Eaarth: Making a Life on a Tough New Planet*. New York: Times Books, 2010.
- . *The End of Nature*. New York: Random House Trade Paperbacks, 2006.

- . *The Global Warming Reader: A Century of Writing about Climate Change*. New York: Penguin Books, 2012.
- . "The Exxon Valdez as a Metaphor." *New York Times*, April 7, 1989.
- . "Is the World Getting Hotter?" *New York Review of Books*, December 8, 1988.
- . *The Bill McKibben Reader: Pieces from an Active Life*. New York: Henry Holt and Company, 2008.
- McQuiston, John T. "Shoreham Action is One of Largest Held Worldwide." *New York Times*, June 4, 1979.
- Meadows, Donella H. et al. *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New York: Universe Books, 1974.
- Mills, Stephanie. *In Service of the Wild: Restoring and Reinhabiting Damaged Land*. Boston: Beacon Press, 1995.
- . *Whatever Happened to Ecology?*. San Francisco: Sierra Club Books, 1989.
- Myers, Norman. "Unnatural Conclusions." *Bioscience* 40, no. 10 (December 1990).
- Myers, Norman, Uma Ram Nath, Melvin Westlake, et al. *Gaia, an Atlas of Planet Management*. Garden City, N.Y.: Anchor Press/Doubleday, 1984.
- Naess, Arne. "The Shallow and the Deep, Long-Range Ecology Movement. A Summary." *Inquiry* 16, no. 1 (1973), 95-100.
- Johnson, Huey D. ed. *No Deposit--no Return. Man and His Environment: A View Toward Survival*. Reading, Mass.: Addison-Wesley Pub. Co., 1970.
- Nordhaus, Ted, and Michael Shellenberger. "The Death of Environmentalism: Global Warming Politics in a Post-Environmental World." *Grist*, January 14, 2005. Accessed April 24, 2013. <http://grist.org/article/doe-reprint/>.
- Noss, Reed. "Can we Maintain Biological and Ecological Integrity?." *Conservation Biology* 4, no. 3 (September 1990).
- . "Deep Ecology, Elitism, and Reproduction." *Earth First! Journal* (May 1, 1984): 16.
- . "Who Will Speak for Biodiversity?." *Conservation Biology* 3, no. 2 (June 1989).
- Osborn, Fairfield. *Our Plundered Planet*. Boston: Little, Brown, 1950.

- Rawls, Wendell Jr. "65,000 Demonstrate at Capitol to Halt Atomic Power Units." *New York Times*, May 7, 1979.
- Reti, Irene and Scowcroft, Bob. *Bob Scowcroft: Executive Director, Organic Farming Research Foundation*. Santa Cruz, CA: University of California, Santa Cruz, 2010.
- Rosebraugh, Craig. *Burning Rage of a Dying Planet: Speaking for the Earth Liberation Front*. New York: Lantern Books, 2004.
- Sale, Kirkpatrick. *Dwellers in the Land: The Bioregional Vision*. San Francisco: Sierra Club Books, 1985.
- Salzman, Lorna. "Scientific Elite." *Bulletin of the Atomic Scientists* (November 1975): 2.
- . "The Decline and Fall of Friends of the Earth in the United States." *Philosophy and Social Action* 16, no. 3 (July-September 1990): 53-64.
- . "The Five Thousand Centuries of Nuclear Garbage." *Business and Society Review* 26, (Summer 1978): 9-15.
- . "Wasting Away." *The Ecologist* (November 1978).
- . "A Critique of the Shellenberger-Nordhaus report." Accessed April 23, 2013. <http://www.lornasalzman.com/collectedwritings/Shellenberg-Nordhaus.html>.
- Schrepfer, Susan. *Environmental Activist, Publicist and Prophet. Oral History of David R. Brower*. Berkeley: University of California, Berkeley, Regional Oral History Office, 1980.
- Schumacher, E. F. *Small is Beautiful: Economics as if People Mattered*. New York: Harper & Row, 1973.
- Shabecoff, Philip. "Global Warming has Begun, Expert Tells Senate." *New York Times*, June 24, 1988: A1.
- Sheppard, Kate. "Life After the Death of Environmentalism." *The American Prospect*, October 11, 2007. Accessed April 23, 2013. <http://prospect.org/article/life-after-death-environmentalism>.
- Silver, Diane. "Bill McKibben Interview." *The Progressive* (January 2009).
- Smith, Jeffrey. "EPA Halts most use of Herbicide 2,4,5-T." *Science* 203, no. 4385 (March 16, 1979): 1090-1091.
- Snyder, Gary. "Letter." *Earth First! Journal* (August 1, 1982).

- . *A Place in Space: Ethics, Aesthetics, and Watersheds*. Washington, D.C.: Counterpoint, 1995.
- . *The Practice of the Wild: Essays*. San Francisco: North Point Press, 1990.
- . *Turtle Island*. New York,: New Directions, 1974.
- Soule, Michael. "What is Conservation Biology?" *Bioscience* 35, no. 11 (December 1985): 730-1.
- Stafford, Charles. "Joe Browder: A Political Animal Who's at Home in the Swamp." *Floridian*, August 22, 1971.
- Straus, Donald B. "Lessons for the Resolution of Technical Disputes." *Annals of the New York Academy of Sciences* 365, no. 1 (April 1981): 334-341.
- Stephenson, Wen. "The New Abolitionists: Global Warming is the Great Moral Crisis of Our Time." *The Phoenix*, March 12, 2013.
- Thropy, Miss Ann. "Overpopulation and AIDS." *Earth First! Journal* (May 1, 1987).
- Turner, Thomas. "A Perspective on David Brower and the Sierra Club, 1968-1969." In *The Sierra Club Nationwide II*. Berkeley: University of California, Berkeley, Regional Oral History Office, 1984.
- . *Friends of the Earth: The First Sixteen Years*. San Francisco: Earth Island Institute, 1986.
- Van Strum, Carol. *A Bitter Fog: Herbicides and Human Rights*. San Francisco: Sierra Club Books, 1983.
- Vogt, William. *Road to Survival*. New York: W. Sloane Associates, 1948.
- Wagner, James R. "Friends of the Earth Staff Members Organize New Environmental Lobby." *National Journal*, February 5, 1972.
- Wald, Matthew L. "Silence Masks Shipment of Brookhaven's Nuclear Wastes." *New York Times*, May 13, 1984: M1.
- Ward, Barbara and René J. Dubos. *Only One Earth: The Care and Maintenance of a Small Planet*. New York: Norton, 1972.
- Watson, Paul. "Report on the Death of Environmentalism is Merely Wishful Thinking." February 2005. Accessed April 23, 2013. <http://lowbagger.org/watson.html>.
- White, Lynn Jr. "Historical Roots of our Ecologic Crisis." *Science* 155 (1967): 1203-7.

Wolf, Leonard. *Voices from the Love Generation*. Boston: Little, Brown, 1968.

Zakin, Susan. *Coyotes and Town Dogs: Earth First! and the Environmental Movement*. New York: Viking, 1993.

Secondary Sources:

Anker, Peder. "The Ecological Colonization of Space." *Environmental History* 10, no. 2 (April 2005): 239-269.

Ashbolt, Anthony. "'Go Ask Alice': Remembering the Summer of Love Forty Years on." *Australasian Journal of American Studies* 26, no. 2 (2007): 35-47.

Baldwin, Peter. *Contagion and the State in Europe, 1830-1930*. New York: Cambridge University Press, 1999.

Berger, Dan. *Outlaws of America: The Weather Underground and the Politics of Solidarity*. Oakland, CA: AK Press, 2006.

Berman, Paul. *A Tale of Two Utopias: The Political Journey of the Generation of 1968*. New York: W.W. Norton & Co, 1996.

Bjornerud, Marcia. "Gaia: Gender and Scientific Representations of the Earth." *NWSA Journal* 9, no. 3 (Autumn 1997): 89-106.

Bloom, Joshua and Waldo E. Martin, Jr. *Black Against Empire: The History and Politics of the Black Panther Party*. Berkeley: University of California Press, 2013.

Blum, Elizabeth D. *Love Canal Revisited: Race, Class, and Gender in Environmental Activism*. Lawrence, Kan.: University Press of Kansas, 2008.

Borstelmann, Thomas. *The 1970s: A New Global History from Civil Rights to Economic Inequality*. Princeton, N.J.: Princeton University Press, 2012.

Bryant, William and C. S. Lewis. "The Re-Vision of Planet Earth: Space Flight and Environmentalism in Postmodern America." *American Studies* 36, no. 2 (Fall 1995): 43-63.

Buell, Lawrence. "Toxic Discourse." *Critical Inquiry* 24 (Spring 1998).

Bullard, Robert D. *Dumping in Dixie: Race, Class, and Environmental Quality*. Boulder: Westview Press, 1990.

- Burnham, John C. "How the Discovery of Accidental Childhood Poisoning Contributed to the Development of Environmentalism in the United States." *Environmental History Review* 19, no. 3 (Autumn 1995): 57.
- Cohen, Michael P. *The History of the Sierra Club, 1892-1970*. San Francisco: Sierra Club Books, 1988.
- Collins, Jeffrey Hale. "Lindisfarne: Toward the Realization of Planetary Culture." PhD diss., University of Texas, Arlington, 1982.
- Collins, Robert M. *More: The Politics of Economic Growth in Postwar America*. New York: Oxford University Press, 2000.
- Connor, Steve. "Forty Years since the First Picture of Earth from Space." *The Independent*, January 10, 2009.
- Cosgrove, Denis. "Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs." *Annals of the Association of American Geographers* 84, no. 2 (June 1994): 270-294.
- Crane, Jeff and Michael Egan. *Natural Protest: Essays on the History of American Environmentalism*. New York: Routledge, 2009.
- Cronon, William, ed. *Uncommon Ground: Toward Reinventing Nature*. New York: W.W. Norton & Co, 1995.
- Crosby, Alfred W. "The Past and Present of Environmental History." *The American Historical Review* 100, no. 4 (October 1995): 1177.
- Dewey, Scott Hamilton. *Don't Breathe the Air: Air Pollution and U.S. Environmental Politics, 1945-1970*. College Station, TX: Texas A&M University Press, 2000.
- Egan, Michael. *Barry Commoner and the Science of Survival: The Remaking of American Environmentalism*. Cambridge, Mass.: MIT, 2007.
- Epstein, Barbara. *Political Protest and Cultural Revolution: Nonviolent Direct Action in the 1970s and 1980s*. Berkeley: University of California Press, 1991.
- Flader, Susan. *Thinking Like a Mountain: Aldo Leopold and the Evolution of an Ecological Attitude Toward Deer, Wolves, and Forests*. Madison, Wis.: University of Wisconsin Press, 1974.
- Fleming, James Rodger. *Historical Perspectives on Climate Change*. New York: Oxford University Press, 1998.

- Fletcher, Thomas H. *From Love Canal to Environmental Justice: The Politics of Hazardous Waste on the Canada-U.S. Border*. Orchard Park, N.Y.: Broadview Press, 2003.
- Fox, Stephen R. *The American Conservation Movement: John Muir and His Legacy*. Madison, Wis.: University of Wisconsin Press, 1985.
- Gitlin, Todd. *The Sixties: Years of Hope, Days of Rage*. New York: Bantam Books, 1987.
- Gottlieb, Robert. "Beyond NEPA and Earth Day: Reconstructing the Past and Envisioning a Future for Environmentalism." *Environmental History Review* 19, no. 4 (Winter 1995): 1-14.
- . *Forcing the Spring: The Transformation of the American Environmental Movement*. Washington, D.C.: Island Press, 2005.
- Graham, Frank Jr. *Since Silent Spring*. Greenwich, CT: Fawcett Publications, Inc., 1970.
- Grunenberg, Christoph, Jonathan Harris, and Tate Gallery Liverpool. *The Summer of Love: Psychedelic Art, Social Crisis and Counter-Culture in the 1960s*. Liverpool: Liverpool University Press, 2005.
- Hay, Amy Marie. "Recipe for Disaster: Chemical Wastes, Community Activists, and Public Health at Love Canal, 1945-2000." PhD diss., Michigan State University, 2005.
- . "Recipe for Disaster: Motherhood and Citizenship at Love Canal." *Journal of Women's History* 21, no. 1 (Spring 2009): 111-134.
- Hays, Samuel P. and Barbara D. Hays. *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985*. New York: Cambridge University Press, 1987.
- Hazlett, Maril. "The Story of *Silent Spring* and the Ecological Turn." PhD diss., University of Kansas, 2003.
- Heise, Ursula K. "Local Rock and Global Plastic: World Ecology and the Experience of Place." *Comparative Literature Studies* 41, no. 1 (2004).
- . *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. New York: Oxford University Press, 2008.
- Jenks, Andrew. "Model City USA: The Environmental Cost of Victory in World War II and the Cold War." *Environmental History* 12, no. 3 (July 1, 2007).
- Kirk, Andrew G. *Counterculture Green: The Whole Earth Catalog and American Environmentalism*. Lawrence, Kan.: University Press of Kansas, 2007.

- Langston, Nancy. *Toxic Bodies: Hormone Disruptors and the Legacy of DES*. New Haven: Yale University Press, 2010.
- Layne, Linda. "In Search of Community: Tales of Pregnancy Loss in Three Toxically Assaulted Communities." *Women's Studies Quarterly* 29, no. 1-2 (Spring-Summer 2001): 25-50.
- Lear, Linda J. *Rachel Carson: Witness for Nature*. New York: Henry Holt, 1997.
- Levine, Adeline. *Love Canal: Science, Politics, and People*. Lexington, Mass.: Lexington Books, 1982.
- Longhurst, James Lewis. *Citizen Environmentalists*. Medford, Mass.: Tufts University Press, 2010.
- Löwy, Michael. "The Revolutionary Romanticism of May 1968," *Thesis Eleven* 68 (February 2002).
- Luke, Timothy W. "The (Un)Wise (Ab)use of Nature: Environmentalism as Globalized Consumerism." *Alternatives: Global, Local, Political* 23, no. 2 (April-June 1998): 175-212.
- Lutts, Ralph H. "Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout, and the Environmental Movement." *Environmental Review* 9, no. 3 (Autumn 1985, : 210.
- Lytle, Mark H. *The Gentle Subversive: Rachel Carson, Silent Spring, and the Rise of the Environmental Movement*. New York: Oxford University Press, 2007.
- Maher, Neil. "Gallery: Neil Maher on Shooting the Moon." *Environmental History* 9, no. 3 (July 2004): 526-531.
- McGinnis, Michael Vincent, ed. *Bioregionalism*. New York: Routledge, 1999.
- McGurty, Eileen Maura. *Transforming Environmentalism: Warren County, PCBs, and the Origins of Environmental Justice*. New Brunswick, N.J.: Rutgers University Press, 2007.
- Mitchell, Robert Cameron. "From Elite Quarrel to Mass Movement (The Anti-Nuclear Movement)," *Transaction/SOCIETY* 18 (July/August 1981).
- Montrie, Chad. "Expedient Environmentalism: Opposition to Coal Surface Mining in Appalachia and the United Mine Workers of America, 1945-1977." *Environmental History* 5, no. 1 (January 2000): 75-98.
- Murphy, Michelle. *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers*. Durham N.C.: Duke University Press, 2006.
- Murphy, Patrick D. *Understanding Gary Snyder*. Columbia, SC: University of South Carolina Press, 1992.

- Murphy, Patrick D., ed. *Critical Essays on Gary Snyder*. Boston, Mass.: G.K. Hall, 1990.
- Nash, Linda Lorraine. *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. Berkeley: University of California Press, 2006.
- Newman, Rich. "Making Environmental Politics: Women and Love Canal Activism." *Women's Studies Quarterly* 29, no. 1/2 (April 2001).
- Newton, Julianne Lutz. *Aldo Leopold's Odyssey*. Washington: Island Press/Shearwater Books, 2006.
- Nisbet, Matthew C. "Nature's Prophet: Bill McKibben as Journalist, Public Intellectual and Activist," Harvard Kennedy School, Accessed March 12, 2013, <http://shorensteincenter.org/2013/03/natures-prophet-bill-mckibben-as-journalist-public-intellectual-and-activist/>.
- Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Cambridge: Harvard University Press, 2011.
- Patterson, James T. *Restless Giant: The United States from Watergate to Bush v. Gore*. New York: Oxford University Press, 2005.
- Price, Jennifer. "Stop Saving the Planet! - and Other Tips Via Rachel Carson for 21st Century Environmentalists," Keynote Address, American Society for Environmental History Annual Meeting, Madison, WI, March 29, 2012.
- Robertson, Thomas. *The Malthusian Moment: Global Population Growth and the Birth of American Environmentalism*. New Brunswick: Rutgers University Press, 2012.
- Rodgers, Daniel T. *Age of Fracture*. Cambridge, Mass.: Belknap Press of Harvard University Press, 2011.
- Rome, Adam Ward. *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism*. New York: Cambridge University Press, 2001.
- . "'Give Earth a Chance': The Environmental Movement and the Sixties." *The Journal of American History* 90, no. 2 (September 2003): 525-554.
- . "The Genius of Earth Day." *Environmental History* 15 (April 2010): 194-205
- Rose, Ellen Cronan. "The Good Mother: From Gaia to Gilead." *Frontiers: A Journal of Women Studies* 12, no. 1 (1991): 77-97.
- Rosenberg, Charles E. *Explaining Epidemics and Other Studies in the History of Medicine*. New York: Cambridge University Press, 1992.

- Russell, Edmund. "Lost among the Parts Per Billion: Ecological Protection at the United States Environmental Protection Agency." *Environmental History* 2, no. 1 (January 1997).
- . *War and Nature: Fighting Humans and Insects with Chemicals from World War I to Silent Spring*. New York: Cambridge University Press, 2001.
- Scharper, Stephen B. *Redeeming the Time: A Political Theology of the Environment*. New York: Continuum, 1997.
- Schoijet, Mauricio. "Limits to Growth and the Rise of Catastrophism." *Environmental History* 4, no. 4 (October 1999): 515-530.
- Sellers, Christopher C. "Body, Place and the State: The Makings of an "Environmentalism" Imaginary in the Post-World War II U.S." *Radical History Review* 74 (Spring 1999), 31-64.
- . *Hazards of the Job: From Industrial Disease to Environmental Health Science*. Chapel Hill: University of North Carolina Press, 1997.
- . *Crabgrass Crucible: Suburban Nature and the Rise of Environmentalism in Twentieth-Century America*. Chapel Hill: University of North Carolina Press, 2012.
- Souder, William. *On a Farther Shore: The Life and Legacy of Rachel Carson*. New York: Crown Publishers, 2012.
- Stark, Lynne Elisabeth. "The Gaia Hypothesis and the Re-Animation of Nature." PhD diss., University of California, Santa Barbara, 1998.
- Taylor, Bron. "Bioregionalism: An Ethics of Loyalty to Place." *Landscape Journal* 19, no. 1-2 (2000): 50-72.
- Taylor, Bron, ed. *Ecological Resistance Movements: The Global Emergence of Radical and Popular Environmentalism*. Albany: State University of New York Press, 1995.
- Turner, James Morton. "'Woodcraft to Leave no Trace': Wilderness, Consumerism, and Environmentalism in Twentieth Century America." *Environmental History* 7, no. 3 (July 2002): 462-484.
- . *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle: University of Washington Press, 2012.
- Turney, Jon. *Lovelock and Gaia*. Cambridge: Icon, 2003.
- Valencius, Conevery Bolton. *The Health of the Country: How American Settlers Understood Themselves and Their Land*. New York: Basic Books, 2002.

- Varon, Jeremy. *Bringing the War Home: The Weather Underground, the Red Army Faction, and Revolutionary Violence in the Sixties and Seventies*. Berkeley: University of California Press, 2004.
- Weart, Spencer R. *The Discovery of Global Warming*. Cambridge, Mass.: Harvard University Press, 2003.
- Wellock, Thomas Raymond. "The Battle for Bodega Bay: The Sierra Club and Nuclear Power, 1958-1964." *California History* 71, no. 2 (1992): 192-211.
- . *Critical Masses: Opposition to Nuclear Power in California, 1958-1978*. Madison: The University of Wisconsin Press, 1998.
- Woodhouse, Keith. "A Subversive Nature: Radical Environmentalism in Late Twentieth-Century United States." PhD diss., University of Wisconsin, Madison, 2010.
- Worster, Donald. *Nature's Economy: A History of Ecological Ideas*. New York: Cambridge University Press, 1985.