TWO

Climate Refugees in the Greenhouse World

Archiving Global Warming with Octavia E. Butler

After the groundwater has been sucked out of the Ogallala Aquifer in *Almanac of the Dead,* Silko's character Sterling imagines that "great herds of buffalo" will return and only "those human beings who knew how to survive on the annual rainfall" will remain. By making Sterling foresee the depletion of the aquifer, one of the world's largest underground sources of freshwater, Silko responded to late 1980s news stories about humans draining and contaminating it. Silko thereby extrapolates from her present and moves backwards, forwards, and around in time to create a powerful Indigenous futurism in the face of ongoing battles over resource extraction and the wastelanding of Indigenous places in the U.S. Southwest and elsewhere in the Americas.

In 1990, one of these stories reached the ears of the late, great science fiction writer Octavia E. Butler, who carefully took notes on it after listening to an audiotape of a 1984 PBS episode of the TV show *Nova* entitled "Down on the Farm," focusing on the dangers of the aquifer's depletion.[1] A year later, as she was finishing her classic science fiction novel *Parable of the Sower*

(1993), one of the first to imagine possibilities in the wake of climate change disaster, she reflected on the episode's significance in a large spiral-bound notebook, one of dozens she kept from the time she was a teenager until her untimely death in 2006. In these notes, she regrets that the aquifer "is ½ gone, and the going has been done this century."[2]

A big part of the problem, Butler speculated, was that humans aimed to "maintain a familiar standard of living" even when it was destructive and would cause problems in the future. In California, she theorized, lawns exist because "non-Hispanic whites from the east—from wetter climates" recalled them and "wanted the living green fragrant mats as bits of the homes they'd left." Critical of human efforts to remake places they settled in destructive ways, Butler charged it was stupid, wasteful, and utterly without foresight—this last an especially significant insult coming from her—to hubristically transform the desert into lawns, golf courses, and "power-eating cities of light and night" such as Las Vegas, Laughlin, and Phoenix.

"They spend their tomorrows today" is a critique Butler leveled repeatedly at neoliberals who sacrifice the future for short-term gains and economic growth in the present, prioritizing immediate profits over water, the climate, and the earth. Butler's lament that "all we do is destructive" presupposes the value of mutualism over the kinds of parasitism encouraged by neoliberalism, which imagines a world made up of isolated individuals competing with each other to turn resources into property and extract profit in ways that supposedly are best for everyone. As Donna Haraway suggests, many biologists have also used "possessive individualism" as a template for understanding nature. Indeed, Butler's interest in "symbiogenetic imaginations and materiali-

ties" makes her a theorist of what Haraway calls a "New New Synthesis" in "transdisciplinary biology and arts" that moves away from modern science's rooting in "units and relations, especially competitive relations" to explore "symbiosis and collaborative entanglements," the "vast worldings of microbes, and exuberant critter bio-behavioral inter- and intra- reactions."[3]

Butler often used the language of symbiosis to think about human and nonhuman animals' future on the planet. In 1990, while writing *Parable of the Sower,* Butler acknowledged humans "are symbionts upon the earth" but that "not all symbionts are alike." Although humans were presently "parasites, destroying our environment," she hoped we could "become mutualists—symbionts who truly partner the earth, benefiting it as it benefits us," or at worst, doing no harm to it. Butler believed "parasitism upon our environment" was "not sane behavior" but rather "greed, shortsightedness, denial, self-indulgence, indifference, death."[4] She understood this deathly parasitism and shortsighted, greedy indifference to be a defining feature of the neoliberal political world around her. Connecting this struggle over the planet's future to contemporary political questions, she predicted that "those who know best how to conserve, restore, enrich, recycle, are likely to be defeated and overrun by those who know best how to take, exploit, and cast off. Easier to steal than to conserve—though oddly, the takers, the destroyers, are frequently known as 'conservatives.'" On the other hand, she observed, those who oppose "forms of exploitation that bring short term gain and long term desertification are called 'short-sighted' (!), 'against progress,'" and worse.[5]

In this chapter I tell the story of the emerging U.S. climate change conversation in neoliberal times by turning to Butler's *Parable* novels and what I call her memory work in assembling

and organizing over the course of her lifetime a massive collection of clippings, reflections, and other writings, including many on climate change, the environment, and the destructive history of neoliberalism, especially during the Reagan era. Archivist Natalie Russell at the Huntington Library in San Marino, California, spent several years processing the collection, which ultimately filled more than 350 boxes, before opening it to researchers. Butler coined the word HistoFuturist to describe herself as a memory worker and "historian who extrapolates from the human past and present as well as the technological past and present."[6] In what follows, I argue that Butler's speculative archiving and imagining of worlds that were significant distortions of her present are connected and make her an important early climate change intellectual.

Butler's archive has recently inspired many people to produce projects in dialogue with her papers, including poetry, sound pieces, visual art, and theory. In 2016, the Los Angeles arts nonprofit Clockshop, founded and directed by Julia Meltzer, produced a "yearlong celebration of the life and work" of Butler entitled "Radio Imagination: Artists and Writers in the Archive of Octavia E. Butler," which included performances, film screenings, and literary events, including one I co-led with Ayana Jamieson, founder of the Octavia E. Butler Legacy Network, who is writing Butler's biography, and philosopher Amy Kind; as well as ten commissions by twelve contemporary artists and writers.[7] In this chapter, I join the conversation by emphasizing Butler's significance as a major climate change intellectual and by understanding Butler's collecting as a significant form of research or study.[8] As well, her archive reveals blind spots in discourses about the environment and climate change, partly through her angry annotations on newspaper and maga-

zine articles and extensive notes on her research, appearing in notebooks and clippings in manila envelopes under headings such as "The Environment," "Science," and "Disaster." At a time when many despair that climate change science is too difficult for people without advanced science degrees to understand, Butler's critical archiving activity as well as her imaginings of forms of symbiosis beyond possessive individualism are especially illuminating.

Over the course of her lifetime, Butler carefully preserved and annotated hundreds of clippings about scientific research on changing weather, the greenhouse effect, and alternative forms of energy along with news of the destructive neoliberal political and economic policies that were precipitating ecological collapse. Butler started doing this research when she was just eighteen years old, only a few years after the publication of Carson's *Silent Spring*. Over the course of the next four decades, she speculated at length in journals, on notecards, and in her notebooks about what the future would be like as she struggled to imagine alternatives to the greenhouse world she saw emerging around her. She also linked climate change decisively to economic and political neoliberalism as she analyzed the coming catastrophe and the possibilities that might emerge in its wake.

Butler's climate change research was deeply entangled with her research on political and economic neoliberalism: the idea that individual liberty and freedom can best be protected and achieved by strong private property rights, free markets, and free trade. Butler was harshly critical of this worldview, raising sharp questions about how to shape climate change in the context of neoliberalism's cruel near future within which we currently live. Indeed, Butler's life as a writer and her archiving work span roughly the same years as most periodizations of neo-

liberalism: from the late 1960s or early 1970s to the present. In strong readings of Butler's 1990s novels, Mike Davis, Tom Moylan, and others have analyzed how her vision of a near future was built up out of elements of her present, notably the spaces around her, and anticipated many of the neoliberal transformations on the horizon. In the *Parable* series, a right-wing utopianism generates dystopian spaces of disaster, neglect, and everyday misery familiar from the last quarter century, from Los Angeles's 1992 uprisings to New Orleans, Detroit, and beyond. David Harvey tells us that neoliberalism is before all else "a theory of political economic practice"; its utopian dimension is to imagine that "human well-being can best be advanced by liberating human entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade." Such right-wing utopian, "liberating" ideals justify the dystopian worlds in which more and more people now live.[9]

Butler's archive makes the concept of neoliberalism very concrete and material as early as the 1970s. That was the era when Butler performed "scut work," mostly done around Los Angeles's downtown Broadway Avenue as a temporary laborer.[10] She exulted at getting laid off because she hated her job and tried to make a living as a writer while making the downtown Los Angeles Public Library her office and second home. In the United States during Reagan's presidency, as in Britain under Thatcher, privatization, deregulation, tax cuts, budget cuts, and attacks on trade union and professional power carried the day in ways that still shape our present, and Butler responded to these changes both in her novels and through her memory work of archival preservation and organization.

RACE, COLONIALISM, AND THE ENVIRONMENT: IMAGINING OTHER WORLDS IN THE 1970S

Situating Butler's archive in relation to histories of not only neoliberalism and climate change but also science fiction from the late 1960s to the early 2000s also illuminates how the 1970s was a pivotal decade for people of color in science fiction. During that decade, the gatekeeping boundaries and uncomfortable position of being one of a few Black writers working in the field were often painful to Butler. This was true from the early days, even when she was having some of the most formative experiences in her career. Butler often said that an important event in her life as a writer was her attendance at the then-fledgling Clarion Science Fiction and Fantasy Writers Workshop, after being recommended for it by prominent science fiction writer Harlan Ellison, who had been impressed by her writing for the Open Door Workshop sponsored by the Screen Actor's Guild that he and others led for Black and Brown Los Angeles youth. When Butler traveled to Clarion, Pennsylvania, in the summer of 1970, she was leaving California for the first time, alone on a Greyhound bus. After she arrived, she was dismayed to discover there were very few other Black people in the town and none at all at the workshop itself, though Samuel Delany was an instructor one week. In a letter to her mother, she reported she was "surviving" though "it would be a little better if some of the other people in the workshop were Negro." To both her mother and her best friend back in LA, she implored, please "write me and prove there are still some Negroes somewhere in the world." She told her mother that there was only "one other nonwhite person" in the workshop, an "American Indian named Russell Bates."[11]

Bates was a young Kiowa man who was living in Andarko, Oklahoma when he was accepted to Clarion. He went on to coauthor an animated episode of *Star Trek* that won an Emmy, "How Sharper than a Serpent's Tooth." At Clarion, he and Butler became friends, exchanging letters after the workshop ended and sometimes getting together at science fiction conventions.[12]

Being the only Black student at Clarion at a time when the field was still mostly white and becoming friends with Bates at the workshop pushed Butler to reflect more on connections and differences between how Black people and Native Americans were positioned in the United States historically and at the time. In the journal she kept that summer, she wrote that she was "the token Negro," not in the way that "Russ was the token Indian because if he never told anyone he was Indian no one would ever know."[13] In the Clarion context, she felt her hypervisibility as a Black person was different from Bates's nonvisibility to those who had little previous contact with Native people and who might even misrecognize him as European. But Butler also recognized that this ignorant settler nonknowledge had pernicious power effects and contributed to myths of Native people as vanishing Americans. She wrote that Bates "had to take a lot more jokes than I did because no one has told our little white friends that Indians don't really like it any more than Negroes or Jews."[14] As late as 1978, Butler and Bates attended a science fiction convention together at the Los Angeles-area Leuzinger High School, where Bates was a guest of honor. The ephemera Butler kept are a small portal opening up onto a largely invisible history of Indigenous people's and people of color's participation in the field of science fiction in 1970s Los Angeles.

During that decade, Butler and Bates were living economically precarious lives, hoping to make it as science fiction writ-

ers when there were very few nonwhite people in the field. It was also in the 1970s that Butler's archiving of research materials on the environment, climate change, and science and technology intensified, including material referring to Native people's struggles over land and resources. In "The Environment" folder, Butler saved a 1971 *Los Angeles Times* editorial urging lands be returned to the Havasupai of Arizona as the National Park Service and the Sierra Club sought to incorporate Havasupai lands, thereby expanding the boundaries of the Grand Canyon Park. Butler's late 1970s "Subject Files" folder on Latin America includes several on Native people's struggles against colonizers and extractors, such as a 1977 *Los Angeles Times* article about Brazil, bearing the headline, "Amazon Land Boom Pushing Indians Out. Hunting Grounds, Traditions of 42 Tribes Threatened."[15] In her 1977–78 files on "Minorities," Butler also saved articles about Native people protesting the desecration of rock art sites, problems with federal policies towards American Indians, and efforts to save dying Indigenous languages.[16]

As well, Butler raised critical questions about white supremacy, Native people, and the genre of science fiction during this decade. In 1976, she wrote in her journal that often "whites write stories of prevailing over the natives of some new world they discover" and only rarely, "of the natives prevailing over them." She fantasized, on the other hand, about writing "a new beginning," an alternate history that would ask the question: "What would America have been like with European influence but without the continued contact—if the U.S. were somehow cut off as Greenland was at around 1650?" Butler speculated that "without a continued supply of white people," Natives would have been able "to keep more of their own land" and would have had "more time to replenish their numbers after smallpox." This

would truly be "a new start," she mused.[17] Butler's 1970s journals often include such small-scale visionary fictions, which as Walidah Imarisha has defined the subgenre, are oriented "towards building newer, freer worlds" and are distinct "from the mainstream strain of science fiction, which most often reinforces dominant narratives of power."[18] In this case, Butler turns the dominant imperial-colonial genre of science fiction on its head and uses it to imagine a different history in which whites never colonized the Americas and Native people remained in control of most of their lands.

A little over a decade later, in the 1980s, when Butler began writing the first *Parable* novel, some early fragments focus on Earthseed refugees traveling to the stars and colonizing another world. At times, Butler even imagines Lauren Olamina as a Harriet Tubman struggling to save her people from a "stagnant, rotting Earth" by leading them to "a promised land among the stars." While outlining the novel's plot, Butler wrote in her notebook that "Black Americans are the only truly stateless people," since "no African country is our home," while in United States, "our special 'history' sets us apart." In the same notebook, Butler mused that "Only Olamina's way has any possibility of working for black people" and added, "This is the story of one woman's effort to stake her people free of white domination, their own defeatism, and the limits of Christianity."[19] Some of these early fragments imagine Black refugees in space, while others focus on Earthseed as a heterogeneous movement devoted to making inventions and discoveries intended for space flight and planetary colonization, such as the DiaPause technology that allows travelers to survive decades of starship travel.

In some versions, Olamina tells readers that the Earthseed project, the scattering of humanity among extrasolar worlds,

was her response to the ecological crash she saw coming. Other fragments feature Olamina's children bitterly opposing her plans to go to the stars because they want to focus on helping Earth's people. In an earlier outline of the manuscript, entitled *God of Clay,* as well as in the published sequel, *Parable of the Talents,* Butler makes Olamina a much more problematic character in relation to her daughter, Larkin, who "ceases to believe in the Earthseed Destiny" and "focuses on the misery she sees among the free poor of her world," who are "victims of global warming and economic upheaval" and will not be helped by "extrasolar colonies."[20]

As early as 1986, Butler speculated about writing a "story taking place on a future Earth in Greenhouse Effect," where "ordinary people" struggle to "survive in new climatic conditions" in which "coasts" are "inundated" and worsening heat creates "deserts" in North America. What "extinctions and readjustments" would people face? What "societal changes" would follow? Butler wondered.[21] For several years, she debated the question of whether the first *Parable* novel should take place wholly on Earth or partly on other worlds and as late as October 1989, remained unsure how to begin.

As she struggled to see the shape of the first *Parable* novel, Butler wondered whether it might be possible to imagine the "World" as the main character and if so, whether she should focus on the "biological reaction of the world" to the people, depicting it as an "immune-transplant rejection."[22] Humans would have two basic ways of dealing with a truly living planet, she speculated: they could "learn to live with it in symbiosis" or they could "kill it" and "probably die with it."[23] Butler even drafted a section in which colonists debate the question of whether or not to create a bubble on a new world that will protect human life at the cost of "wiping out every living thing in the area." When they decide to

go ahead and do so, "wherever the membrane covered, the native life died" and began to rot in its own particular way."[24]

That same year, Butler wrote in her notebook about her desire to "write long horribly or beautifully seductive novels about Humans of Earth becoming true mutualistic symbionts of other individual worlds."[25] In 2001, when Butler returned to this novel, she reflected that it should include "stories of mutualistic symbiosis as well as of parasitism and commensalism," where one organism benefits from the other without affecting it.[26] Butler was unable to imagine such a truly mutualistic symbiosis in a novel about the colonization of other worlds, however, and she never published a book in which her Earthseed refugees live among the stars.

Although the protagonist of *Parable of the Sower,* Lauren Olamina, longs for her Earthseed community to fulfill what she sees as its destiny to go into space, in the first novel they never do. In 1989, Butler wrote in her notebooks that it was "all right" if her characters did not "go to the stars in this book."[27] In November of that year, she reminded herself to instead emphasize "the ecological catastrophe waiting in the wings or already in progress" and how it might lead to "new restrictions, fewer cars (mainly corporate), few free people—and those suspect."[28] By 1991, Butler had definitely decided that the first *Parable* novel focused on "a young girl in a grim near-future, impoverished world undergoing global warming." Lauren Olamina travels north from her lower-class gated community of Robledo, which has been destroyed by arson, and walks up the abandoned California freeway "with multitudes of others," assembling "a moving community, hunting a place to settle."[29] In the end, they finally reach the Northern California coast, where Lauren's lover Bankole owns a small piece of land, only to discover that Bankole's sister and all the people who lived

there have been killed. The novel concludes with a funeral. At the end of the 2000 sequel, *Parable of the Talents,* on the other hand, the community finally does take off for the stars, ominously enough in a ship called the *Christopher Columbus,* which suggestively warns of the dangers of seeking "empire" and transposing the tragic history of European colonialism in the Americas into space.[30]

I understand the unpublished fragments, blueprints, and drafts of these prequels and sequels as a kind of dreamwork or unconscious relative to Butler's published novels. They illuminate paths not taken, other possibilities, and knotty problems that could not be resolved to Butler's satisfaction. In the years that followed, Butler intermittently tried to make progress on a third novel, *Parable of the Trickster,* writing pages and pages of notes, fragments, and short incomplete drafts until she finally gave up and turned her attention to her last published vampire novel, *Fledgling.* In March 2000, she called *Trickster* her protagonist's "Struggle to defeat Quick and Dirty ecological methods, corruption, and tyranny in her colony's partnership with one another and with their new world."[31] But just a few weeks later she worried in her journal that *Trickster* might not be salvageable and in the months before she died, on the back of a piece of stationery for the cardiovascular department of a Seattle medical clinic, she wondered how to make the novel "whole and sexy and strong."[32] At the end of her life, however, she hoped to return to the series after finishing a sequel to *Fledgling* and even imagined she might be able to write four more Earthseed novels *(Trickster, Teacher, Chaos, Clay)* about "four generations on a new world," culminating in the story of the "non-humans who have developed from the human colonists."[33]

As Butler tries to imagine humans leaving Earth behind, she keeps stalling on the problem of whether Native life exists on

other planets and what it means for humans to impose their own way of life on other worlds. The latest extracts and drafts she saved for the archive dwell on the dangers and catastrophes that arise when humans begin to awaken each other after being placed in suspended animation for over one hundred years on a starship journey to settle new worlds. In some versions, her protagonist, Imara, is the community's archivist, librarian, and historian, while in others she is a cop, therapist, physician, scientist, or college professor who is a "female Stephen Gould"—"bright, tough, kind."[34] Butler situates humans in space but imagines them "fighting the misery of living for the rest of their lives on a world not their own," where "nothing at all is right." For a time, she played with the title *Xenograft,* rewriting the story as one of a doctor trying to help an extrasolar colony survive its infancy in the face of a disease called Graft-v-Host (GVH) that brings death to a third of those who contract it. Here, Butler extrapolates from James Lovelock's and Lynn Margulis's Gaia Hypothesis in a story of space colonists who "have torn ourselves away from the living tissue—the biota of earth—and (xeno)transplanted ourselves to a new world."[35]

While "striving toward utopias" and "trying as hard as they can to make societies that work," Butler's space colonists experience hallucinations and accidents, retreat into all-consuming religious practices, commit murder and suicide, walk away from the colony, go blind, and experience telepathy plagues.[36] Butler speculates that one faction might try to conquer the planet and seed the world with terrestrial plants while a second group "accepts the world and tries to learn more about it, partner it."[37] In *Trickster* fragments and plot brainstorming, Butler connected the story directly to the Reagan administration's dumping of "environmentalism, aid to education, health care," and "racial equality" in

favor of "grabbing money, squeezing the environment for the last penny, screw trees and animals, water and air, people and progress," reflecting that "on another world this is terrifyingly deadly in such an unforgiving environment."[38] Wondering briefly if her space colonists' experience might be like the settling of the United States if there had been no Native people, in the next sentence Butler acknowledged that settlers "would have died without Indians to help them learn to grow new crops" and thus the comparison did not work.[39] In some extracts, the settlers only imagine there is native life while in others "real natives show up," who look "not in any way ghostly or immaterial."[40] In all of these ways, intellectual, practical, and ethical questions about colonization and the difficulties of creating a truly mutualistic symbiosis between people from Earth and other worlds seemingly prevented Butler from finishing a story in which Earthseed refugees successfully spread throughout the galaxies. In her published visionary Earthseed *Parables,* except for the last novel's final chapter, Lauren and her people remain on a ruined Earth, looking for possibilities in the wake of the climate change disaster that Butler's research told her was already happening.

ARCHIVING GLOBAL WARMING AND CLIMATE CHANGE IN NEOLIBERAL TIMES

While most of the essential research proving that climate change was spurred by human activity had been completed by the 1960s, only when the mean global temperature began to rise in the late 1980s did climate change emerge as the subject of widespread concern in the scientific community and for social movements. Butler saved materials as early as 1965, but there is a significant uptick in her clippings in 1981 and 1982, when Reagan

was elected and began to make dramatic changes in U.S. environmental policies, and there are clusters of material about climate and the greenhouse effect in the late 1980s and 1990s, the years she was writing the *Parable* novels. Although earlier the state had responded to the emerging environmental movement by establishing new regulations, laws, and institutions, by the end of the 1980s, the Reagan administration rolled back and otherwise undermined many of them. Working on the neoliberal premises that governments should get out of the way of businesses and corporations and that citizens needed to be liberated from the nanny state to realize their potential as individual entrepreneurs, Reagan and his team were hostile to an environmental movement that warned of the costs to the planet and its people of unfettered capitalism and sought not only to regulate and control but also to imagine a collective good and create the solidarities and alliances necessary to realize it.

Butler's *Parable* novels introduce a core concern that deepens in her work over the course of time: ecological collapse and climate change, which she predicted would be major world problems. Butler understood both precisely as global forces whose damage would not be confined to a single part of the world though she also imagined that the worst of their impact would be unequally distributed and would hit the poor hardest. Butler's "Disaster" files include material from 1965 to 2005, including stories about tornadoes, hurricanes, floods, earthquakes, droughts, and fires, along with manifestly human-made disasters such as the 1995 Oklahoma City bombing and the 1992 Rodney King verdict.[41] "The Environment" folders, on the other hand, include dozens of newspaper and magazine articles published between 1965 and 2004 that overwhelmingly stress human agency in bringing about the catastrophic climate changes on the horizon. Butler saved a 1988 arti-

cle about ozone depletion that emphasized that its protection must be "international responsibility" as well as early 1990s stories about the coming extinction of millions of animals and the necessity of taking "prompt action to curb global warming." Late 1990s articles track melting Antarctic glaciers that "could flood coastal areas, scientists say," or "link" to "global warming" storms such as those so common in her "Disaster" files. Explaining the purpose of this research in an interview in 1993, Butler called herself a "news junkie who can't help wondering what the environmental and economic stupidities of the '80s and '90s might lead to."[42]

During the 1970s, Butler saved articles on "disastrous changes in the weather around the world" and on a "somber report on climatic change and global food production" issued by the National Academy of Science warning there was "general agreement that more erratic weather will make it difficult to sustain the consistently high yields of food" of the 1960s and 1970s.[43] She also kept a clipping on "the Aerosol Threat," that emphasized the dangers chlorofluorocarbons (CFCs) posed to the ozone layer. Many of these clippings focus on solar and other forms of renewable energy, including a 1977 *Los Angeles Times* piece on an innovative solar housing project in Davis, California.[44] That same year, Butler carefully preserved stories about how climate change was affecting California, including one criticizing the water-wasting southern Orange County Mission Viejo project in a context of extreme "drought emergency" in "what could be the driest year in the state's history."[45] Another story looked to solar as a form of renewable energy that could solve Southern California's energy problems in light of "the failure of the 'invisible hand' of the free market to govern successfully the national production and use of energy," which the author considered a "fault imposed on society."[46]

One context for these 1970s stories was what one writer called "the quest for alternatives to expensive, embargo-prone Arab oil."[47] Another 1970s story focuses on how "ecology" has become a new "industry" in the wake of new state and federal laws mandating environmental impact reports so that decision-makers must think twice before "plowing [the environment] under for progress." Many of the articles, however, even as early as the 1970s, warn of the "drastic warming" of the "climate," such as a story about the National Academy of Science report, which "reinforces some of the more dire warnings of those who worry about the greenhouse effect," stating that "the possible climatic consequences of relying on fossil fuels may be so severe as to leave no other choice" but to press "for the development of alternative energy sources."[48]

During the 1980s, many of Butler's climate change-related clippings continued to focus on the greenhouse effect, but there are also several on the political dimensions of the climate change crisis, especially on the damaging policies of the Reagan administration. Butler was moved to write annotations in red ink on a 1981 editorial published in the *Los Angeles Times* introducing the Reagan Administration's "Environmental Swat Team," led by Secretary of the Interior James Watt, whose main claim to fame before being appointed was representing "power companies, oil and gas interests, ranchers, and miners in the Sagebrush Rebellion against regulation of the development of Western resources." The piece refers to an important historical struggle that took place after Nevada passed a 1979 bill taking control of certain lands within its boundaries under the administration of the Bureau of Land Management. Several other Western states did the same, inaugurating conflict among states, landowners, and the federal government over jurisdiction and lighting a fire under

environmentalists, who worried public lands would be sold off and despoiled after their resources were extracted. Butler underlined in red a sentence stating that Watt's "grand design is to open up more 'locked up' government land to logging, mining, and petroleum development." She also scribbled "Profit in haste; Repent at Leisure" in the margins. As well, she underlined several sentences that emphasized the problems these policies would cause for people in the future, and wrote in large letters at the bottom of the page: "These are truly people who see the trouble they cause their children and grandchildren to be irrelevant."

The connections Butler made between the Reagan administration's neoliberal policies and imminent danger to the environment are also preserved in an *LA Times* editorial entitled "Nation's Leaders Must Remember Times to Come." Butler wrote "Environment" on the top along with the comment: "But instead they will sell our birthright for a quick profit." The story worried that Watt would make more Western lands available for oil drilling and strip mining, and asked "How long can we, in our arrogance, force the environment to meet our desires instead of fitting our desires to the environment"? In the margins, Butler wrote "Good Common Sense," after this question and added several comments in red ink a few months later, including her fear that "Watt's 'Fuck Tomorrow' attitude" will "destroy us." She also wrote angry red annotations on other articles about Reagan undermining the Air Quality Control Act and seeking to reduce "requirements on industry." Another article focuses on Watt's reopening of four California offshore basins for oil exploration leases and his opponents' criticisms of the Reagan administration's "almost religious zeal" in "promoting oil and gas development." By saving these 1980s clippings, Butler linked Reagan's effort to roll back new, post-1970 environmental regulations while

opening up lands to oil, coal, and gas extraction with concerns over global warming and ozone depletion. Butler observed that almost every person Reagan appointed to watch over a department wanted to destroy it, including Ann Gorsuch, the first female administrator of the EPA and mother of Trump' Supreme Court appointee Adam. In a 1982 notebook entry Butler showed her disdain for female neoliberals, writing: "Margaret Thatcher/ Ann Gorsuch females are deadly to the species."[49]

While attacks on environmental regulations intensified during the 1980s, new scientific research on ice samples and deep ocean histories impacted conversations about greenhouse gases and climate change. Butler carefully documented this science news while questioning the Reagan administration's ecological obtuseness and idealization of short-term profit. At the end of the 1980s, Butler saved articles about a French and Soviet study that used 160,000-year-old ice samples to provide "the strongest evidence yet to link an increase in atmospheric carbon dioxide to warming of the earth—the potentially catastrophic 'greenhouse effect.'" In 1979–80, the article stated, "studies of Antarctic ice indicated that carbon dioxide levels had increased about 40 to 50% as the last glaciers retreated about 10,000 years ago."[50] Butler also preserved a 1987 article titled "Antarctica's Ozone Shield Shrinks to Thinnest Ever," about government scientists' announcement that the previous month the ozone had grown thinner "than at any time previously recorded." In 1988, she added an editorial about "the startling discovery of a significant worldwide depletion of the Earth's protective ozone layer," which insisted addressing this problem must be an international responsibility and called for a phase-out of harmful chlorofluorocarbons.[51] Finally, in 1989, Butler annotated another article about how global warming would create super storms like Hurricane Hugo, which that year caused

fifty deaths, left one hundred thousand people homeless, and was the most expensive storm up to that point to hit the United States. Butler carefully underlined in green sentences that explained how a warmer ocean causes more evaporation and that warmer air can hold more water vapor, both of which increase the power of hurricanes. She also underlined the article's warning that warming ocean and air temperatures will increase wind speeds 20 to 25 percent and their maximum intensity by as much as 60 percent.[52]

Butler's creative collecting reveals how "climate" was increasingly imagined as a world problem during these years. Many of her 1990s clippings focus on major international meetings and agreements of the era regarding climate, including one about the 1990 Sundsvall, Sweden conference where the newly created International Governmental Panel on Climate Change (IGCC) released its First Assessment Report on global climate change. "Panel Warns of Disasters from Global Warming," the headline ominously declared, while the story reported on the "75-nation conference of scientists and government officials" that hoped to "set the stage for an international effort to combat pollutants that accelerate nature's 'greenhouse effect.'" Conference participants warned of "the potentially disastrous human and economic impact of global warming in generations ahead" and predicted that if no action was taken to curb emissions, "expanding seas and melting polar ice might produce sea level increase of as much as three feet by the year 2100," dramatically affecting 224,000 miles of coastline. That would render some island countries uninhabitable, displace tens of millions of people, threaten low-lying urban areas, flood productive land, and contaminate water supplies. The article also states that the United States "has resisted the idea of mandatory limits on carbon dioxide

emissions," putting it "at odds with European nations, several of which have already set targets and deadlines for restricting greenhouse gases."[53] The memory work that Butler did thus emphasized both the efforts to forge international agreements and how the United States often stood in the way because of its prioritization of economic growth, corporate profits, privatization, and other neoliberal values.

Other articles in Butler's archive include stories about how in 1991 the National Academy of Sciences declared that the United States could cut greenhouse gas production by 40 percent with little economic cost, reversing a "hands-off recommendation" made eight years ago and calling for "a far more aggressive posture" in confronting this problem than the George H. W. Bush administration eventually pursued. Warning that Earth's average temperature could rise 9 degrees Fahrenheit, "with potentially catastrophic results in the next century," the article faulted Bush for refusing to adopt targets for limiting carbon dioxide as much of the rest of the world had.[54] Butler also kept stories about how global warming was affecting the ocean, causing whole populations of sea creatures to migrate northward, along with a 1992 article predicting that as many as half of the planet's species could vanish or dwindle to nothing in the near future, with large animals still existing only in scattered preserves or zoos, their survival dependent on frozen embryos, sperm, and eggs.

As well, Butler preserved a 1992 special section of the *LA Times* entitled "A Day in the Life of Mother Earth: A Special Earth Summit Issue of World Report," so carefully that it still looks pristine. This historic meeting was the largest environmental conference ever held up to that time. The cover warned that on a typical day the earth experiences 250,000 people being added to its population; up to 140 species become doomed to

extinction; nearly 140,00 new vehicles join the road; deforestation of areas one-third the size of LA occurs; and "more than 12,000 barrels of crude oil will be spilled into the world's oceans."[55] Butler also saved a 1998 article entitled "Melting Antarctica Glacier Could Flood Coastal Areas, Scientists Say," which reported "Satellite images taken from 1992 to 1996 show the glacier is shrinking" and warned, "if it melted it could lead to the collapse of the West Antarctica Ice Sheet, causing global sea levels to rise as much as 20 feet."[56]

Butler documented most of the major flashpoints in the emergence of climate change as a world problem, driven by scientific research, social movements, and top-down neoliberal political and economic changes from the late 1960s through the early 2000s. Thus it is not surprising that in 1999 she also preserved an editorial called "Indifferent to a Planet in Pain," which Bill McKibben authored just as a new edition of his classic book *The End of Nature* was about to be published.[57] Reflecting on the decade since the book's publication, McKibben remembered how ten years earlier global warming had only been a "strong hypothesis." Now, however, "after a decade of intensive research," McKibben stated confidently, "scientists around the world" had formed an "iron-clad consensus that we are heating the planet." McKibben listed an array of disturbing facts in support of this consensus, including that spring now came earlier in the Northern hemisphere than thirty years before; that severe rainstorms had increased by over 20 percent, the result of warming air carrying more water vapor; that the Arctic ice sheet was in many places forty inches thinner; and that "warmer waters have bleached coral reefs around the globe," "glaciers are melting," and "sea levels are rising." Concluding "it's far too late to stop global warming," McKibben advised the best humans could do now was to "slow it down" through "stiff

increases" to the price of fossil fuels, by supporting and incentivizing more research on renewable energy technologies, and raising fuel efficiency standards. Worrying "we don't yet feel viscerally the wrongness of what we're doing," McKibben argued people needed a "gut understanding" of "our environmental situation" if they were "going to take the giant steps" that they "must take soon." In order to envision what life would be like a hundred years from now and make the necessary changes, McKibben concluded, people needed to feel and understand on a bodily level that "we live on a new, poorer, simpler planet and we continue to impoverish it with every ounce of oil and pound of coal that we burn."

CRITICAL DYSTOPIA IN THE FACE OF DISASTER

The dry, harsh, austere world too poor for lights, cell phones, public schools, and other things still essential to our world, and where water is a luxury to which the poor have only intermittent access looms ominously at the beginning of *Parable of the Sower,* which provides a visceral imagining of life on a poorer, simpler planet, the greenhouse world created by human-produced global warming. Perhaps giving her readers a gut understanding of life in such a near future was what she had in mind when Butler created large, color-coded notes exhorting herself to add "More Heat & dust & thirst & stench & misery & Fire" and "Show the Greenhouse World HOT POOR DRY—or Drowned or Blown Away or BURNED." Butler wrote that she was partly reflecting on conversations with close friends about imminent ecological disaster: "Consider: Olamina must live in the hellish world that Donna, Victoria, Maggie, and I have discussed." Maggie "sees economic devastation for all of America and lack of resources as

a result of the greenhouse effect, acid rain, and other ecological problems."[58]

This is the world Butler's protagonist Lauren inhabits at the outset of her novel, "an un-privileged enclave" as Butler called it in a 1988 notebook entry.[59] In the opening, Lauren dwells inside the ill-fated gated community with her parents and brothers, before fire is the phoenix that burns out the old way of life and forces Lauren to search for possibilities in the wake of disaster. As she moves north up abandoned highways, dressed as a man, she collects people to form a community of disposable, beaten down, vulnerable folks of many different races and national origins. Avoiding the transnational corporations ready to exploit especially white workers willing to endure new forms of slavery, Butler's roving, multiracial enclave of resistance knows better than to put its faith in nation-states or monsters of corporate capitalism. In 1990, Butler described the novel as "the coming-of-age story of a woman's struggle to help the free poor of her time to unite, help one another and partner the Earth—restoring it, not subduing it."[60]

Elsewhere in the archive Butler clarifies the stakes of writing these speculative fictions of climate change.[61] On a notecard for a speech, she wrote: "My novel shows us a society that did not prepare itself to deal with Global warming because the warming isn't just an incident like a fire, a flood, or an earthquake." Instead, she suggested, "it is an ongoing trend—boring, lasting, deadly—that feeds on itself." Even though it would not happen all of a sudden, however, Butler predicted that global warming would have dire effects: food and water prices would go up, sea level rise and greater coastal erosion would threaten places such as the Bahamas and Florida, and there would be severe drought, fire, and storms. "We can't avoid it and we aren't preparing for

it," she worried, fearing the addition of climate change to all the "usual stuff," including "racism" (which she crossed out), "earthquakes, social turmoil, etc."[62]

In earlier drafts, Butler was much more explicit about global warming, naming it as the precipitating cause of this harsh, austere, near-future world. "The country, the world, was in rapid, indisputable transition," she wrote in an early fragment, because "climate change was global, indisputable, and ongoing." Southern California is hit especially hard, its problems with water growing dramatically worse. Politicians finally begin to make laws restricting the burning of fossil fuels, but it is too late: "Climate change was well advanced and would not begin to retreat during the lifetime of anyone now suffering," even though people have been "frightened into" curtailing driving and other uses of "fossil-fuel generated power" (66). Although "obvious water and power hogs" such as Phoenix and Las Vegas suffer first, residents of Los Angeles, Orange County, and San Diego no longer have air conditioning or much water. Global warming explains why in the draft Butler's characters are walking from LA's Baldwin Hills down to Wilshire Boulevard, which is over four miles away. It also explains, as Butler put it, "why they are having so much difficulty with water." The heavily guarded water stations and itinerant water merchants who sell this increasingly precious and rare commodity to the roving poor were inspired by Butler's rigorous extrapolation from ominous trends in her present.[63]

In a 1989 fragment, she expanded on the history of the "drought that never ended," as Lauren's parents' generation thought of it. Even before she was born, Lauren recalls in a part Butler ended up cutting, "government, business, and agriculture" were forced to confront climate change disaster and so, in "grudging, uneven, uncertain, inadequate fashion, they dealt with shortages, crop

failures, transportation problems as river and lake levels dropped in some parts of the country and sea level rose in others." Inflation intensified, driven by food and fuel prices as people began to be charged "according to how much the fuel they bought would contribute to the ongoing global warming." Still "things changed slowly" and the situation had "become almost normal." People had known what was happening for a long time, Lauren remembers: she "read books about it from the 1980s and 1990s and they refer to even earlier books." Accurately predicting what science fiction writer Kim Stanley Robinson has named "The Dithering" over climate change that would ensue in the years after Butler's death, Lauren rhetorically asks "What did they do in response?" before supplying the answer: "Not enough."

In other unpublished fragments, Butler brainstorms about how climate change might shape class divisions in the future, speculating about the privatization of public education and the need for poor communities to produce their own foods by creating urban gardens such as those that Detroit activists Grace Lee Boggs and adrienne maree brown helped to create. While some people with money and connections in Butler's *Parable* are able to live in luxury as predicted by the futurisms of "late twentieth-century books," Lauren tells us, people like her father Lawrence, "a teacher at Robledo City College, still working in the public sector, were not paid enough to live." Because he couldn't support his family as a college professor, in one early variant Lawrence, who is Black and Mexican in several drafts, quits his job to work as a greenhouse gardener in nearby walled and gated communities. These gardens "were not in greenhouses or shelters of any kind," Lauren clarifies, but rather were "gardens grown to supply the table when markets offered little or charged outrageous prices for simple produce or canned goods." The "sparse

living" he earns as a gardener, along with the school-keeping of his wife, Cory, situates the Olamina family "among the more affluent of the working poor," while only "Lauren and her stepmother Cory could remember" when Lawrence "had taught history and political science at the local community college." In this variant, a corporation takes over the college, cuts wages, and fires people in what Lauren presents as a familiar pattern of neoliberal privatization: "Every time a government-run institution went private, wages dropped, and some people lost their jobs." The company asks Lawrence to stay but he walks away because he would be required to teach "bad history," including that "Asian, African, and old Soviet disregard for the environment"—but not that of the United States—"caused the worldwide warming trend that had brought so much scarcity." The corporation also wants professors to teach the lesson that "large numbers of Hispanic, Asian, and African Americans" have "little claim on the United States" and should therefore "be examined and expelled from the country if they could not prove their claims of citizenship." Lawrence does not want his children to grow up believing those lies and to become part of "a block of loyal, miseducated people," brainwashed by the company's network of schools, businesses, and housing, "who would be useful" in "any efforts it intended to control local, state, or even national government."[64] In other early fragments, Butler's Earthseed community operates desalination plants on the principle that "water's life, what's more precious than that?" (54) and parades of poor people march to protest water quality failures.[65]

Butler drew on her extensive research files on refugees and displaced people, notably including several articles about the resettlement of Vietnamese refugees in Camp Pendleton, California, in imagining Lauren as a kind of refugee. These materials

prompted her to think about how migration and demographic changes perpetuated new forms of slavery and disposable labor around the world. Her *Parable* novels are full of characters who have been forced to endure various kinds of slavery, from indentured labor to sex slavery to border-works where companies take advantage of the deregulated zone to push workers ever harder and authorize the worst abuses, in a significant distortion of labor conditions in the U.S.-Mexico borderlands in the wake of the 1993 North American Free Trade Agreement (NAFTA). Since Butler dreamed up Lauren Olamina over a quarter century ago, her concept of "climate refugees" has made its way into climate change discourse, partly because "predictions for climate change-induced displacement" range "from 150 to 300 million people by 2050, with low-income countries having the far largest burden of disaster-induced migration, according to the Internal Displacement Monitoring Center."[66]

When Butler called her protagonist Lauren Olamina a refugee back in the early 1990s, she had no illusions about whether humans had caused climate change: she was sure they had and were. She includes many anguished passages in her journals and notebooks on the lack of foresight of U.S. political leaders after Reagan in dealing with the imminent disaster of climate change. Reflecting in 1991 on George H. W. Bush's response, for instance, Butler wrote in obvious frustration that "his reply to people worried about global warming is, "Don't worry, it isn't going to happen." Because he was clueless about climatology and because it "threatens something he does know," she rightly feared, he would not take action to prevent a climate change dystopia. If "he lives to see any of it—flooding, drought, economic mayhem, etc.," she hypothesized, "he will not perceive his own responsibility for it."[67] On May 29, 1992, in the wake of the LA uprisings

of the previous month, as she was finishing *Parable of the Sower,* she speculated that "maybe the riots, the anti-green attitudes of the administration, and the general decline (economy, ecology, ethnic relations, etc) deepen my gloom, but that's all except the riot been around for a while."[68]

In keeping with the neoliberal accord between Democrats and Republicans despite Democrats' greater stated concern for the environment, the Clinton years (1993–2001) produced more attacks on welfare and the homeless as well as the establishment of NAFTA, which allowed corporations more freedom and flexibility than persons in crossing geopolitical borders. NAFTA also helped create infamously exploitative *maquiladoras* operating in environmentally reckless ways in borderland zones. Meanwhile, privatization continued apace and nation-states and fossil fuel interests failed to imagine alternatives to climate crisis and make necessary changes. This led Butler to predict that the 2020s would be the decade of collapse in which humans would witness sea level rise, dryness, heat, crop failures, institutions no longer working or existing only to collect taxes and fees and to arrest people to exploit their labor: "This is the story of 'The Burn,'" she wrote, "a period in history when old ways of life were dying as the climate changed, food and water became scarce, expensive, unsafe, and the focus of much criminal activity and new ways were being born." Calling *Parable* the "story of one woman who builds her 'new way' upon the ashes of the old," she imagined the near-future 2020s as "the Burn" and the Earthseed community as "the head of the Phoenix, rising."[69] In other words, Butler imagined neoliberal globalization from above as a kind of scorched earth disaster, one to which her imaginings of different worlds and communities and other, more sustainable ways of living responded.

Peering ahead into the near future, Butler saw the decade beginning in 2000 as a time of confused recovery from the 1990s, except that the "ecology does not truly improve. There is too much heat, too little water in one place and too much flooding somewhere else, crops do poorly" and "eco-hardship becomes a way of life while there is still money in denying" the catastrophic changes that are taking place. In the 2010s humans are still ignoring the "ecological holocaust," which means "Hell is at hand." By the 2020s, everything has to change and the old ways have to die, even as people "wall themselves in and suffer privatization." Even worse, "the seas are rising" and the "air is hot and dusty and brown." In the 2030s ecological changes cause truly hard times, with only a few rich people doing well: "Walled in, flying, boating, and tanking in supplies," they take on poor people as indentured servants in return for room and board. By 2040, companies have been given broader rights to continue the "slow environmental degradation" of "rising seas, searing deserts," cancer, unbearable heat, and more, while religious authorities promise "if we right ourselves" we can return to the old days "when God liked us best." In imagining the future, Butler kept returning to climate change disaster in decade after decade.

In speculative notes written at the end of the century in her journal, in response to her own question "What Would I Like the World to Be Like?" she wrote: "More solar, wind, water, and other renewable-energy sources put to use. Less fossil fuel use."[70] Emphasizing that "global warming is real" and it's going to cause "much misery, much suffering," she prophesied that the world would face slow violence, otherwise described as "a series of chronic problems, not a big, acute crisis," and that "we'll be dealing with it for a long long time—far longer than anyone alive now will live." Worrying over the "health aspects of global

warming" as "tropical diseases move north" and "sewers in coastal areas" are invaded by sea water," Butler also predicted problems with "supplying populations with potable water," and the necessity of working harder "to prevent insect-vectored disease." Thus she wrote she was glad to see the August 1999 issue of *Science News* explore "some aspects of learning to live with global warming, since it is too late to prevent it" and "it will affect every human being on Earth in more ways than we yet realize."

Instead of "storing up future disaster for immediate wealth" as neoliberals around the world did, Butler advised, we might instead start preparing people for the climate changes to come, partly by changing the ways we educate. "A school that teaches questioning and problem-solving must prepare people to deal with global warming," she mused in early nineties speculative notes. By significantly distorting her present to imagine a different future, Butler rigorously kept track of how even as the "old ways of life were dying" due to climate change, "new ways were being born." By imagining a community that makes "new ways" in "the ashes of the old" and by critically documenting the intersecting histories of climate change science and neoliberal politics from the 1960s through the early 2000s, Butler's visionary fiction and HistoFuturist archiving continue to illuminate the new inequalities, divisions, and solidarities created by climate change.