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Science Fiction and Utopia in the Anthropocene

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It is still an open question whether man will be able to survive the exceedingly complex and unstable ecological conditions he has created for himself. If he fails in this task, interplanetary archaeologists of the future will classify our planet as one on which a very long and very stable period of small-scale hunting and gathering was followed by an apparently instantaneous efflorescence of technology and society leading rapidly to extinction. 'Stratigraphically,' the origin of agriculture and thermonuclear destruction will appear as essentially simultaneous.

—Richard B. Lee and Irven DeVore, *Man the Hunter* (1969)

In her book *The Human Condition* (1958), Hannah Arendt takes up the twentieth century's development of a "cosmic standpoint outside nature itself,"¹ which is tokened in her introduction by the Soviet Union's 1957 launch of Sputnik. She argues that we now see ourselves through Sputnik's eyes, an interplanetary, alienated gaze from nowhere rather than from the grounded, terrestrial standpoint that had constituted "the human condition" through all of previous human history.² Arendt further argues that such a universal cosmic standpoint—the Earth as viewed from space, a scale from which both human lives and human accomplishments are utterly invisible—is a deep and abiding threat to "the human" as such: an obliteration both of humanity's place in its material context (a biological species living temporally bonded lives on a planetary ecosystem) and of humankind's potential to undertake effective and meaningful action towards its own betterment.³ Here Arendt finds the real world playing catch-up to science fiction: "What is new is only that one of this country's most respectable newspapers finally brought to its front page what up to then had been buried in the highly non-respectable literature of science fiction (to which, unfortunately, nobody yet has paid the attention it deserves as a vehicle of mass sentiments and mass desires)"⁴; the writers and readers of science fiction, she suggests, had perfected this more cosmic way of thinking long before the Sputnik launch.

More recently, Ursula Heise has taken up this cosmic standpoint in a more positive register, noting the way that visual images of the Earth from space have helped to focalize and spur global environmental consciousness. The spatial separation of the viewer's gaze from the planet—as in the 1968 "Earthrise" photograph taken by the Apollo 8 crew or the 1972 "Blue Marble" snapped by Apollo 17, or even the "Pale Blue Dot" taken by *Voyager 1* in 1990, in which a 6-billion-kilometer-distant Earth is but a single pixel, barely visible against a field of total darkness—represents the Earth as an immediately graspable totality, in which all differences between race, class, gender, nation, ideology, and ecosystem have been completely smoothed away in favor of a new, cosmopolitan universality. "Set against a black background

¹ Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1998), 265.

² *Ibid.* 1-6.

³ *Ibid.* 268.

⁴ *Ibid.* 2.

like a precious jewel in a case of velvet,” Heise writes of “Blue Marble,” “the planet here appears as a single entity, united, limited, and delicately beautiful.”⁵ Here, too, of course, science fiction was first; science fiction had imagined the Earth as viewed from space from practically the moment it was first recognizable as a genre, in such still-famous works as Jules Verne’s *Around the Moon* (1870) and H.G. Wells’s *War of the Worlds* (1898).

The central argument of this chapter is that contemporary thought is undergoing a cosmic separation much like the one Arendt and Heise identify, similarly conversant in cutting-edge science and similarly conditioned by the science fictional imagination. The central division between that cosmic standpoint and our own is that the flattening power of contemporary universalism is predicated on temporal rather than spatial separation from the scale of human life: rather than the view of the Earth from the standpoint of *deep space*, ours is a view of the present from the standpoint of *deep time*. This is ultimately the view from a radically post-human (and anti-human) future in which the human race has entirely disappeared—a view, that is, from the standpoint of human extinction itself. I consider recent developments in literary science fiction and utopian thought in the face of the radical hollowing-out of futurity and utopian potential that scientists and ecological humanists are calling the “Anthropocene,” exploring ways in which the energizing potentiality of SF’s “utopian impulse”⁶ might yet be recovered out of a world-historical system whose coordinates now seem not just anti-utopian but out-and-out apocalyptic—an era in which the imminence of human extinction now seems a matter of scientific certainty, indeed, as an event which we have become so habituated towards that we imagine it as a catastrophe that has already happened.

Welcome to the Anthropocene

Geologists, climatologists, evolutionary biologists, and other scientists who study the “deep time” of planetary history use a geologic time scale to periodize the immense four-billion-year history of Earth as it appears to us through rock stratigraphy and the fossil record. The largest unit, the *eon*, can span an incomprehensible billions of years; eons are then progressively subdivided into *eras*, *periods*, *epochs*, and then *ages*, the last still numbering in the millions of years. These divisions tend to be organized around superhistorical ruptures: the first emergence of life approximately four billion years ago, for instance, marks the boundary between the lifeless Hadean eon and the Archean eon populated by single-celled organisms, while a mass extinction event that killed the dinosaurs punctuates the end of the Cretaceous period at the close of the Mesozoic Era, inaugurating the Cenozoic Era in which human life evolved. Our species took its present form in the Pleistocene epoch, which began approximately 2.5 million years ago and ended (just) eleven thousand years ago; the current geological epoch is the Holocene, dated to the retreat of the glaciers at the end of the last ice age.

To think at such scales is to radically decenter the human; from the perspective of geologic time the human species as a whole exists only in a sliver of a sliver of the most recent flash of time, with recorded history encompassing an even smaller instantaneous moment still. Rather than being the sacred heirs of the universe, beloved by God, *Homo sapiens* is recast

⁵ Ursula Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (New York: Oxford UP, 2008), 22.

⁶ This formulation is Fredric Jameson’s, from his influential *Archaeologies of the Future* (Durham, NC: Duke University Press, 2005); see 2-4.

instead as but its most recent epiphenomenon, as miniscule in the immensity of geologic time as Earth itself is with respect to the hundreds of millions of stars in the universe. Geologic time can thus be seen as the culmination of the cosmic decentering that began with Copernicus's proof that the Earth revolves around the sun, and not the other way around; the more we learn about the size of the universe (in both space and time) the more the time and space taken up by the human species is made microscopic and invisible.

But recent propositions in geologic thinking have suggested a philosophical countermove that reintroduces humanity as a collective actor who can be recognized on this kind of immense geological scale after all. Paul Crutzen's influential *Nature* article "The Geology of Mankind" (2002) proposed that the Holocene can now be said to have ended, superseded by the epoch he calls "the Anthropocene."⁷ The Anthropocene marks the moment that the activities of the human species become visible in the geologic record: the moment that the logic of Copernican decentering is reversed and we become geologic actors after all. *Homo sapiens* evolved in the Pleistocene, and gained its tremendous technological powers in the Holocene—but with the full realization of those powers towards total world-transformation we are now in the Anthropocene. While the Anthropocene of course remains a contentious taxonomic category, the concept has been embraced by many scientists, with such bodies as the Geological Society of London taking steps towards formal recognition of the Anthropocene as an official geologic epoch⁸—and despite its informal status the terminology already possesses a tremendous amount of currency, particularly among scholars working in the ecological humanities.

Crutzen's article suggests the Industrial Revolution of the late 19th century as the beginning of the Anthropocene, "when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane" as a result of human burning of fossil fuels.⁹ Another proposed date is 1945, when the beginning of the atomic age left radiological evidence of our existence that will last for millennia of years, or perhaps later still in the 20th century, when the widespread use of materials like plastic, glass, and Styrofoam in consumer objects created a stratigraphic layer of detritus and trash that will never break down.¹⁰ Still others have argued that the date of the Anthropocene should be much earlier, perhaps even almost completely coterminous with the Holocene itself, on the basis that such prehistorical event as the mass extinction of megafauna in the North American continent and the complex forestry practices of pre-Contact Native Americans will by themselves be recognizable to future observers as the handiwork of an intelligent species rather than autonomous natural processes.¹¹ A 2015 article in *Nature* suggests an unhappier middle option: c. 1492, when the first contact between Europe and America and the consequent death of tens of millions of Native Americans

⁷ Paul J. Crutzen, "The Geology of Mankind," *Nature* 415 (3 January 2002): 23.

⁸ Jan Zalasiewicz et al., "Are We Now Living in the Anthropocene?" *GSA Today* 18.2 (2008): 4-8.

⁹ Crutzen 23.

¹⁰ Different possible starting dates for the Anthropocene are discussed in Jan Zalasiewicz et al., "The New World of the Anthropocene," *Environmental Science & Technology Viewpoint* 44 (2010): 2228-2231.

¹¹ See, for instance, Christopher E. Doughty, Adam Wolf, and Christopher B. Field, "Biophysical feedbacks between the Pleistocene megafauna extinction and climate: The first human-induced global warming?" *Geophysical Research Letters* 37.15 (2010): 1-5, which traces human-induced climate change into prehistory.

led to reforestation across the Western Hemisphere, which, a century later, may have caused the significant dip in global temperatures often dubbed the “Little Ice Age.”¹²

The psychic benefit of the Anthropocene as a concept is an unexpected reversal of the deflationary logic of the Copernican and Darwinian Revolutions in thought: the Anthropocene and all its attendant ecological crises—climate change, mass extinction, ocean acidification, all the rest—is the “proof” that we as a species are not in fact insignificant but are instead the most important superhistorical force currently existing on the planet. But news of the Anthropocene, while from a certain perspective a perversely comforting reassertion of humanity’s cosmic importance, carries with it some steep philosophical costs. First, the version of human superhistorical activity it foregrounds is almost exclusively a negative one: to the extent that human activity is visible in the fossil or stratigraphic records, it is through destructive anti-ecological acts of mass pollution and mass extinction. It is for this reason that Jason W. Moore has proposed the alternative name *Capitalocene* for the Anthropocene, both to highlight *what* is to blame (a particular system of social organization, using particularly toxic sources of energy and producing particularly permanent types of goods) and *who* is to blame (the rich Western nations, which have inflicted ecological degradation upon the rest of humanity without even allowing them to share in what now seems like a very temporary period of extreme wealth).¹³ Donna Haraway, in a 2014 talk, goes further still, adapting the name of H.P. Lovecraft’s incomprehensible elder gods to suggest the name “Cthulhuscene” to describe the world Capital is creating: monstrosity on an unthinkable large scale.¹⁴

Second—and perhaps worse still for any human-centered analysis of the concept—the Anthropocene implies *post-human time*; the Anthropocene is not simply the moment that we recognize ourselves in the fossil record but the moment that *other* observers, looking backwards from many thousands or millions of years in the future, would be able to “see” us as well, without having already known we were here. In this sense the Anthropocene can be thought to be worse than a view from nowhere; it is a view from the standpoint of human extinction as such. To say “the Anthropocene” is to name ourselves and our society as all already dead.

I would suggest the Anthropocene in this way as a kind of neo-Romantic revival of the melancholic fascination with death, illness and morbidity, ruin, and a vanishing natural world that characterized so much English and American literature (especially poetry) in the 19th century. The Anthropocene is in fact the perfection of the Romantic way of thinking, allowing us access to a version of the temporal sublime that goes beyond any Grecian urn, ruined monastery, or shattered colossus in the desert—and, like the Romantics’ use of the sublime, the assertion of the Anthropocene seeks to re-introject an appreciation for the sacredness of life into a world that seems to have entirely crushed such valuation. However, the shock of the sublime in the Anthropocene has a somewhat different affect than the one Romantic poetry activates: rather

¹² Simon L. Lewis and Mark A. Maslin, “Defining the Anthropocene.” *Nature* 519 (March 2015): 171-180.

¹³ See jasonwmoore.com, “The Capitalocene: On the Nature & Origins of Our Ecological Crisis.” On the uneven distribution of wealth and ecological degradation in the age of capital, see my article “Debt, Theft, Permaculture: Justice and Ecological Scale,” in *Debt: Ethics, the Environment, and the Economy*.

¹⁴ Donna Haraway, “Anthropocene, Capitalocene, Cthulucene: Staying with the Trouble” (5/9/14), <https://vimeo.com/97663518>. I will return to discuss the more utopian dimensions of this framing in my conclusion.

than seeing ourselves as divine, or a necessary and organic part of a holistic tapestry of life, the recognition of the Anthropocene tends to figure the human as a cancerous *deviation* from a unifying natural order—the nightmare kings of a horrid empire of plastic trash and toxic poisons.

The depressive logical consequences of embracing the Anthropocene as a framing for understanding our time can be seen clearly in Margaret Atwood’s recent flash fiction “Time Capsule Found on the Dead Planet,” published in *The Guardian* on the occasion of the Copenhagen climate conference in 2009.¹⁵ Atwood’s very short story traces a history of human beings that undercuts both the familiar rhetoric of inevitable historical progress and science fictional discourses of interstellar colonization. From the first age, in which we “created gods” and during which “a million birds flew over us . . . a million fish swam in our seas,” the human story is recast instead as a narrative of degeneration and mass death. In the second age “we created money”; in the third age “money became a god.” And the money god is ravenous: “It began to eat things. It ate whole forests, croplands and the lives of children. It ate armies, ships and cities. No one could stop it. To have it was a sign of grace.” Finally the age of the money god creates the fourth age, our time, the Anthropocene, in which human creative potential can only be turned towards the production of death:

In the fourth age we created deserts. Our deserts were of several kinds, but they had one thing in common: nothing grew there. Some were made of cement, some were made of various poisons, some of baked earth. We made these deserts from the desire for more money and from despair at the lack of it. Wars, plagues and famines visited us, but we did not stop in our industrious creation of deserts. At last all wells were poisoned, all rivers ran with filth, all seas were dead; there was no land left to grow food.

The wise men of the fable turn to “the contemplation of deserts” and find them “tidy”; the absence of all life from deserts makes them an appropriate vantage point for cosmological speculation that seeks to “apprehend the absolute.”

But such apprehension takes us nowhere, and salvages nothing; and so the fifth age is an age of total silence. The address of the short turns from “we” to “you,” as “we” have all died. “You who have come here from some distant world, to this dry lakeshore and this cairn, and to this cylinder of brass, in which on the last day of all our recorded days I place our final words.” These unknown and unknowable aliens are the full gaze of the Anthropocene, discovering in the Earth a world that has been absolutely ruined by human activity. These aliens have achieved the dream of science fiction that the twentieth century placed so much imaginative investment in: they have traveled from their home world to others and accessed the full wonders of the cosmos. But humans didn’t. Those last words, inscribed on the capsule, are a bitter rebuke to a civilization that fantasized about progress but was able to produce only death: “Pray for us, who once, too, thought we could fly.”

Parables of the Anthropocene

A similar deconstruction of the Star Trekian “consensus future”¹⁶ of social and technological progress culminating in interstellar colonization can be found in Octavia E. Butler’s *Parable of*

¹⁵ Margaret Atwood, “Time Capsule Found on the Dead Planet,” theguardian.com (25 September 2009), <http://www.theguardian.com/books/2009/sep/26/margaret-atwood-mini-science-fiction>.

¹⁶ The term dates to Donald A. Wolheim’s *The Universe Makers: Science Fiction Today* and traces the development of this “consensus future” from Golden Age science fiction writers,

the Sower, a novel that attempts to wed utopian thinking with the bleak near-term prospects for global capitalism and U.S. civic institutions. The two novels in the Parables series are Butler's most predictive works of science fiction; she says she wrote them in the speculative spirit of Heinlein's famous "if this goes on." ("And if it's true," she adds, "if it's anywhere near true, we're all in trouble.")¹⁷ The situation of the novel and its sequel is a slow-motion apocalypse that, early in the second book, is called "the Pox"—global warming, economic depression, and neoliberalism's accelerative hollowing-out of the public sphere have conspired to leave America in a state of near-total collapse.¹⁸ As the first novel (*Parable of the Sower*) opens, heavily armed, once-suburban gated communities offer the only refuge from the disastrous decline of late capitalism—and as the novel begins even these havens are beginning to be breached. The protagonist of the Parables is Lauren Olamina, a woman suffering from a psychological disease that causes her to experience other people's pleasures and pains. But this empathic weakness is simultaneously her strength—it opens up the possibility of new and genuine ethics, and of a better world than this one. Over the course of *Sower* Lauren Olamina—driven from her home into the ruined highways of America following the raiding and burning of her home suburb by "pyros"—develops and begins to evangelize a new religion called Earthseed, which attempts to foster livable lives in this fallen world; insisting that both "Life is Change" and "God Is Change,"¹⁹ it takes its name from a redemptive belief in that oldest and most cherished of science fictional dreams, the colonization of the stars.²⁰ Earthseed is constituted by a Darwinian recognition of the eternal flux of life as well as a *post*-Darwinian attempt to seize control of that flux and put it towards human ends, first and foremost the long-term longevity of the species as such.

The stars provide us a number of things that Lauren (and, judging from her interviews around *Sower*, Butler herself) thinks we need. The stars provide us safety from local disaster; a humanity spread across many worlds is free from fear from the extinction threat of rogue asteroids, or nuclear war, or superdisease, or supervolcanos, or climate change, or anything else you could name—a human species spread safely across many worlds could perhaps survive as long as the universe itself. Earthseed both exceeds and subverts the Anthropocene by turning human beings into *galactic* actors, not limited to any one particular world's history or ecology. Additionally, the struggle involved in the flight to the stars—the struggle to build the spaceships in the first place, the struggle to get there, the struggle to adapt the new environment to our needs, the struggle to adapt ourselves to the new environment—will spur humanity's growth as a species and prevent us from exploiting, raping, killing, and otherwise immiserating each other in

particularly Isaac Asimov. Kim Stanley Robinson analyzes the "consensus future" as a future that failed in the introduction to his edited anthology *Future Primitive*, discussed in more detail below.

¹⁷ Octavia E. Butler, "'Devil Girl from Mars': Why I Write Science Fiction" (4 October 1998), http://web.mit.edu/m-i-t/articles/butler_talk_index.html.

¹⁸ Octavia E. Butler, *Parable of the Talents* (New York: Warner Books, 1998), 8-9. The language here, written from the perspective of a character born in the 1970s writing after the 2030s, is an attack on ecological denialism; while most take the Pox as "accidentally coinciding" crises, he understands them instead as the product of a "refusal to deal with obvious problems."

¹⁹ Octavia E. Butler, *Parable of the Sower* (New York: Warner Books, 1993), 3.

²⁰ *Ibid.* 74-75. "The Destiny of Earthseed / is to take root among the stars."

the meantime (as Butler misanthropically believes we will do, in the absence of some larger common purpose).²¹

But despite the strong utopian valence of Lauren's plans, which would be familiar to any fan of science fiction, the book is filled with paradoxical indications that her vision may be fundamentally flawed, beginning with the opening pages of *Sower*. The opening sequence of *Sower* describes a recurring dream in which Lauren is learning to fly, but becomes trapped in a burning house before she is able to master it, ultimately succumbing to the flames.²² This is a barely sublimated version of the conflict that drives political debate in both books in the series: first, can you get off the planet before humanity destroys it (through war or climate change or stupidity or anything else), and, second, *should* you get off the planet before humanity destroys it, that is, should your ambition be to escape in a tiny utopian enclave called "the Earthseed rocket" while the rest of humanity burns and chokes and starves and dies.

This problem, an undercurrent throughout *Sower*, becomes totally inescapable for us when we get to *Parable of the Talents*, which functions as a total deconstruction of the commitments of the first novel. Characters in both books, but especially in *Talents*, repeatedly demand from Lauren an answer as to how she can possibly justify any expenditure on a blue-sky project like Earthseed at all when the entire planet is in ruins and everything is getting worse. The second book hits us over the head with this problem, over and over again—why, Lauren's daughter asks, can she not see her dreams of a heaven in outer space are "pathetically unreal"?²³ "The Earthseed Destiny," another character denounces, "is an airy nothing. The country is bleeding to death in poverty, slavery, chaos, and sin. This is the time for us to work for our salvation, not to divert our attention to fantasy explorations of extrasolar worlds."²⁴ Her own husband cannot tolerate Lauren's "immaturity, my irrational, unrealistic faith in Earthseed, my selfishness, my shortsightedness."²⁵ There's dozens of incidents like this across the text and none of them is ever really answered; in fact Lauren's daughter, the bitter narrator of the text who is gathering all these voice together, agrees wholeheartedly with her attackers.

It is common of course for narratives to contain antagonists, even strong and convincing antagonists, to be overcome. But the totality of the events of *Talents* leave us with the sense that these antagonists have a compelling case that Lauren has simply not made convincingly. Even in the moment of Lauren's triumph, there is an inescapable sense that Earthseed has turned its back on something that is also vital and necessary and important; that the realization of the Earthseed destiny entails the necessary and unhappy tradeoff of a retreat from real-world political struggle that concretely make actual people's actual lives actually better (even while little in the novel suggests real-world struggle might be effective in averting continued disaster). There is thus no

²¹ In an interview with Larry McCaffery in *Across the Wounded Galaxies*, she makes all this explicit: "I think we humans need to grow up, and the best thing we can do for the species is to go out into space. . . . we can use the stresses of learning to travel in space and live elsewhere--stresses that will harness our energies until we've had time to mature." McCaffery, *Across the Wounded Galaxies: Interviews with Contemporary American Science Fiction Writers* (University of Illinois Press, 1990), 69-70.

²² *Sower* 4.

²³ *Talents* 150.

²⁴ *Ibid.* 170.

²⁵ *Ibid.* 145.

real, collective future for humanity in either direction.²⁶ At the end of the novel, Lauren’s last journal entries reads as much as an exercise in convincing herself than any of us that she has done the right thing and lived the right kind of life. Her last journal entry in the present action line of the story (2035) has her giving up on any purpose but the Destiny, including finding her kidnapped daughter: “I’ve always known that sharing Earthseed was my only purpose.”²⁷ Then the narrative jumps sixty years, to the launch of the first Earthseed ship, conveniently skipping over the years in which Lauren toiled endlessly to make this happen. Her last journal entry (dated July 20, 2081) begins and ends with her assertion that “I know what I’ve done”—an assertion of pride that concedes a nagging doubt. The ship, with its crew in cryogenic hibernation, is leaving Earth for a distant star, never to return; it has left human history (on all scales, from individual life to the life of societies and nations to the geological Anthropocene in all its yawning totality), for something else that no left behind will ever know. Even the name of the spaceship rings a sour note: against Lauren’s wishes the ship has been christened the *Christopher Columbus*, suggesting that the Earthseeders aren’t escaping the nightmare of history, but are bringing it with them instead—not solving the problem, but simply starting the Capitalocene all over again somewhere else.²⁸

The Fermi Paradox and the Great Filter

That Butler was never able to complete the novels that would have followed *Talents*, beginning with her long-awaited *Parable of the Trickster*,²⁹ suggests that the consensus future of interstellar colonization may no longer be cognizable to us in concrete terms, or as anything but pure fantasy. Despite its prevalence in NASA’s branding and self-promotion, manned space flight is no longer a priority for the organization; the missions to the moon stalled after only a few years, and the anticipated follow-on missions to Mars, the asteroid belt, and beyond have remained only dreams. Current plans for Mars space missions, only fragmentary, typically involve one-way trips—hardly the stuff of an intergalactic “Federation” or space empire—and such trips very rarely describe anything like a rational cost-benefit analysis in terms of what we back on Earth might get out of such projects. Travel *beyond* the solar system, as so commonly depicted in 1950s and 1960s science fiction, has become almost unthinkable in the years since the ecological turn of the 1970s and after; as Kim Stanley Robinson writes in his recent *2312*, debunking the consensus future: “Sorry, but it’s true. It has to be said: the stars exist beyond human time, beyond human reach. We live in this little pearl of warmth surrounding our star; outside it lies a vastness beyond comprehension. The solar system is our one and only home.”³⁰ Human history is earthbound—and so Earthseed’s ambition to conquer the stars (and its myriad echoes across

²⁶ This is unhappily true in a metafictional sense as well; despite dozens of attempts to write a sequel over nearly a decade, Butler found herself completely unable to continue the story.

²⁷ *Talents* 430-431.

²⁸ *Ibid.* 444-446.

²⁹ I discuss Butler’s plans for the post-*Talents* Parables at the Los Angeles Review of Books, ““There’s Nothing New / Under The Sun, / But There Are New Suns”: Recovering Octavia E. Butler’s Lost Parables” (9 June 2014). While she started and restarted the third novel in the series multiple times, all of her notes indicate that ecological themes would have been prevalent in the series as it followed the development of Earthseed as a religion on the extrasolar colonies.

³⁰ Kim Stanley Robinson, *2312* (New York: Orbit Books, 2012), 328.

the history of science fiction) is in the end as much the *nullification* of the possibility of historical change as it is any type of realization of it. We live on the Earth; if there's any change, it's got to happen down here, not out there.

However, within the logic of the Anthropocene, a terrestrial-bound species appears to us just as much a nullification of history as an intergalactic one. For humanity to flicker and die on Earth, and to leave no trace of itself save its garbage and the geological echo of incomprehensible mass extinction, reads to us as a crime against the specialness of our species (not to mention all the other species we've made extinct just to get this far). As H.G. Wells's characters put it at the end of his film *Things to Come* (1936):

Raymond Passworthy: Oh, God, is there ever to be any age of happiness? Is there never to be any rest?

Oswald Cabal: Rest enough for the individual man, too much and too soon, and we call it death. But for Man, no rest and no ending. He must go on, conquest beyond conquest. First, this little planet and its winds and ways. And then all the laws of mind and matter that restrain him. Then the planets about him, and, at last, out across immensity to the stars. And when he has conquered all the depths of space, and all the mysteries of time, still he will be beginning...

Raymond Passworthy: But... we're such little creatures. Poor humanity's so fragile, so weak. Little... little animals.

Oswald Cabal: Little animals. And if we're no more than animals, we must snatch each little scrap of happiness, and live, and suffer, and pass, mattering no more than all the other animals do or have done. It is this, or that. All the universe or nothing. Which shall it be, Passworthy? Which shall it be?³¹

The burning need for species immortality through interstellar colonization—to “annex the planets,” as British imperialist Cecil Rhodes so famously dreamed³²—is so naturalized that it has even become a research problem in speculative science. Enrico Fermi's famous articulation of the so-called “Fermi Paradox”—*where is everybody?*—remains unsolved. Given our assumptions about the age of the universe, the likely prevalence of life in the universe, the likelihood of an intelligent species like human beings evolving on a vital world, and the ease with which even a single intelligent species could “colonize” the entire galaxy (if only using self-replicating machinic drones), why do we appear to be alone?³³ Why haven't the aliens shown up, or, rather, why haven't they been here all along? The answer must be somewhere in our assumptions—and the most likely answer, according to many who read the problem, is that some blockage must

³¹ *Things to Come*, directed by William Cameron Menzies and written by H.G. Wells (United Kingdom: United Artists, 1936).

³² Qtd. in Istvan Csicsery-Ronay, Jr., “Science Fiction and Empire.” *Science Fiction Studies* 90 (July 2003): 231-245 (234), who in turn finds the quote in Hardt and Negri's *Empire*.

³³ Although commonly attributed to offhand, conversational remarks by Fermi, the first formal writeup of the paradox was Michael H. Hart's “Explanation for the Absence of Extraterrestrials on Earth” in *Quarterly Journal of the Royal Astronomical Society* 16 (1975): 128–135.

inevitably intervene before species achieve their “destiny” in the stars. This “Great Filter”³⁴ might be located in humanity’s evolutionary past—making us the first possible inheritors of the galaxy—but there is no particular reason to think this is the case. And, if it lies in our future, then within the logic of the Fermi Paradox some sort of near-term catastrophe seems inevitable—a sense of impending doom that not only accords with every indication from the scientific community but is also strongly reinforced by mass-culture ideological messaging about the imminence of nuclear war that dates back to the 1940s. The “solution” to the Fermi Paradox thus universalizes our society’s sense of crisis as a law of civilization as such: civilizations all destroy themselves, and so our time must be coming any day.

The Anthropocene/Capitalocene is, therefore, the realization that humans are causing the disaster of their own extinction through the very technological innovations that seemed, for a time, like it was going to save us from this extinction. Oil capitalism and all its attendant prosperity becomes revealed as, in fact, an unthinkable disaster, the “resource curse” that plagues oil-rich nations on a planetary scale. Technological modernity, in Lauren Berlant’s well-known terminology, is a cruel optimism: “A relation of cruel optimism exists when something you desire is actually an obstacle to your flourishing.”³⁵ Here the attachment is to that “consensus future” of ever-increasing social and technological progress, which have been linked historically to carbon-based energy resources that are both known to be running out and, at the same time, dangerously destabilizing the climate.³⁶ Because we now face a problem so immense, so intricate, and so massively distributed in time and space that there seems nowhere we could begin to unravel it, even if we had the political will to do it, which we don’t, the future seems to us now like a series of ever-escalating near-term disasters threatening not only our individual lives but the existence of civilization as such. This “all-in” character of climate change (and its associated crises like ocean acidification, ongoing mass extinction, food shortage, and massive drought) is such a radical destabilization of the usual stakes of politics and history, as we have experienced them up to now, that it reveals itself to us, when we allow ourselves to think of it as all, as a sublime terror. Hence the popularity in our time of zombie worlds, what I have elsewhere called *necrofutures*:³⁷ anticipatory premediations of a coming collapse that range from the immensely popular comic and television series *The Walking Dead* to Cormac McCarthy’s Pulitzer-Prize-winning *The Road* to Alfonso Cuarón’s *Children of Men* (2006), Wanuri Kahiu’s *Pumzi* (2010), and Bong-Joon Ho’s *Snowpiercer* (2014), to Suzanne Collins’s young-adult trilogy *The Hunger Games*, to even a children’s films like *WALL-E* and *9* (and on and on). Trapped within a cruelly optimistic attachment to a consensus future that no longer seems viable, the only remaining alternative seems like a world of universal death.

³⁴ Robin Hanson, “The Great Filter - Are We Almost Past It?” (15 September 1998), <http://www.webcitation.org/5n7VYJBUD>.

³⁵ Lauren Berlant, *Cruel Optimism* (Durham, NC: Duke University Press, 2011), 1.

³⁶ “The nightmare, in good nightmare fashion, has something absurd and nearly inescapable about it: either we will begin running out of oil, or we won’t.” Benjamin Kunkel, Forum: War on Global Warming/War on Terror (Winter 2008), <https://nplusonemag.com/issue-6/politics/forum-war-on-global-warming-war-on-terror/>.

³⁷ See “If the Engine Ever Stops, We’d All Die: *Snowpiercer* and *Necrofuturity*,” *Paradoxa* (forthcoming).

Anthropocene Utopias

Where then does the idea of utopia persist in the Neo-Romantic melancholy of the Anthropocene, an era where the extinction and disappearance of human beings now seems so inevitable, and has been so thoroughly rehearsed, as to be a catastrophe that has already happened? One response has surely been a retreat into pure fantasy: the recasting of the ecological crisis into fantastic monsters that rise out of the ocean in such films as *Pacific Rim* (2013) and the new *Godzilla* (2014). In such films we have a phenomenon that arises out of the ocean—relics of an earlier, hotter age, or born in the intense heat of some hellish alternative dimension—to threaten coastal cities: a plain allegory for rising sea levels. And the terms of the threat is explicitly our extinction; the stirring call to arms from Idris Elba’s character in *Pacific Rim*, echoed in the viral art that promoted the film before its release, is the heroic announcement that we are in fact “cancelling the apocalypse.”³⁸ Utopian and anti-utopian frames stack uncomfortably over each other in such escapist texts. First, there is the utopian kernel: the fantasy at the heart of *Pacific Rim* is the dream-wish that climate change could be transformed something we could *literally* fight. Much of the film luxuriates in this fantasy, from the construction of the giant Jaeger robots used to fight back against the kaiju monsters to the repeated scenes of battle in which they slug it out to the scenes of wartime collectively, solidarity, and human cooperation that occur both within and in between the violence. (The central trope of the film, after all, is the neural collection that allows people to work in perfect synthesis for a common goal, without all those messy debates and competing interests.) If the threat of climate change were an alien invasion we could just build weapons and armies to fight it, and maybe we could win. That utopian vision is matched immediately by the anti-utopian realization that in fact *this is the only type of problem we know how to solve*. We have endless amounts of money in our society for the military, for police, for jails, for violence; we have an established procedure for developing and constructing superweapons; in fact we insist that the military invent and mass-produce new weapons even when it says it doesn’t want them. But there is no such leverage point against an immaterial, inhuman, and geologically sublime problem like climate change; rather, climate change requires such a multitude of changes on every level of our society, all requiring massive government intervention in the market of the sort neoliberalism tells us is simply inconceivable, that we have nowhere to begin and no political will to try. Thus, even “happy crisis” figurations of climate change like *Pacific Rim* collapse in the end into cosmic pessimism, as we realize that the dream logic of the fantasy solution has no analogue in reality.

Another recurrent vision of utopia, which also unravels as a political project, might be called *the utopia of the animals*: Quiet Earth stories where human beings deliberately exterminate themselves in order to save the rest of the planet from destruction. “The Last Flight of Dr. Ain,” by Alice Sheldon (writing as James Tiptree, Jr.), from 1969, is an early example of the form; more recent examples include *Twelve Monkeys* (1995) and the titular first book in Margaret Atwood’s *Oryx and Crake* series (2003), both of which also see scientists deliberately releasing superviruses in the name of killing off humanity before it has permanently destroyed the environment. As Christina Alt notes in a recent essay, in H.G. Wells’s fiction the extinction of other animals was once taken as a marker of the future’s utopian potential, a token of humanity coming into its full powers as ruler of the planet, a logic that has recurred across

³⁸ *Pacific Rim*, directed by Guillermo del Toro (Burbank, CA: Legendary Pictures, 2013).

twentieth and twenty-first century attempts to eradicate undesired pests.³⁹ In the Anthropocene, however, this logic is now reversed; it is *we* who are the planetary disease that needs to be removed in order for life to continue. Ramin Bahrani's "Plastic Bag," narrated in the wonderfully melancholic register of Werner Herzog as the interior voice of the bag, is a particularly evocative example of this kind of fantasy. The plastic bag is acquired at a typically late capitalist superstore (a Wal-Mart, perhaps) to carry the customer's goods home; used briefly to carry food to and from work or tennis practice, the bag is ultimately used to pick up a dog's excrement and discarded into the trash and taken to a landfill. But the bag is immortal, as the plastic it is made of will never disintegrate—and so the film takes us on a million-year tour of the Anthropocene, through the total disappearance of human beings into the next age, as the bag is blown by the wind through a now-empty earth before ultimately coming to rest in the Great Pacific Garbage Patch. The bag, initially horrified by animal life, eventually comes to value animals more than even itself—and so in the film's stunning final moments calls back through time to its creators in the name of its own negation, saying "I wish you had created me so I could die."⁴⁰ In such texts as these the neo-Romanticism of our moment reigns supreme, producing a depressive utopian vision of a particularly anti-humanist sort; our recognition of the sacredness of animal life and our guilt over mass extinction leads to a anguished desire for collective suicide, as the only way to stop us from killing again and again and again and again.

Two related subgenres of utopian speculation offer us a way out of this seemingly hopeless impasse. The first is another twenty-first-century recast of a familiar science fictional fantasy, this time the fantasy of the transformed post-human. The sequels to Atwood's *Oryx and Crake* (*The Year of the Flood*, 2009, and *MaddAddam*, 2013) ultimately take such a tack. In the original *Oryx and Crake* the mad scientist Crake eliminated humanity via a supervirus in the name of preserving the planetary future. He allowed only a tiny reserve of humans to continue in the form of his "Crakers," creatures who had been genetically engineered to live in only ecologically sustainable and to never overrun their niche. The Crakers are so limited and uncreative, so bound up in the animalistic instincts Crake has programmed into them, that they at first seem totally alien, even inhuman—and it is only as we discover that Crake has effectively failed in his mission to engineer out the spark of human creativity that they begin to seem like worthy successors to humanity. In the sequels the overarching pessimism of the first novel is dulled by positing the possibility of a union between a small number of old-style humans who survived the plague and the Crakers, offering a new direction for the future beyond the ceaseless, self-defeating accumulation of the Capitalocene. In *Maddaddam*, a third utopian term is added: the pigoons (pigs spliced with human and baboon DNA that unexpectedly possess the ability to communicate with the Crakers telepathically), a form of animal life given voice and able to advocate for itself directly—calling not for our deaths, as with the utopia of the animals, but for our cooperation, and for an ethics of mutual care.⁴¹

A parallel fantasy, albeit one retaining a somewhat more Mephistophelean edge, occurs at the end of Paolo Bacigalupi's *The Windup Girl*. *The Windup Girl* is a post-Peak-Oil novel; the

³⁹ Christina Alt, "Extinction, Extermination, and the Ecological Optimism of H.G. Wells," in *Green Planets: Ecology and Science Fiction*, ed. by Gerry Canavan and Kim Stanley Robinson (Middletown, CT: Wesleyan University Press, 2014): 25-40.

⁴⁰ "Plastic Bag," directed by Ramin Bahrani (Futurestates.tv, 2009).

⁴¹ Margaret Atwood, *Oryx and Crake* (New York: Anchor Books, 2003); *The Year of the Flood* (New York: Doubleday, 2009); *Maddaddam* (New York: Anchor Books, 2013).

world has been destroyed by climate change, the loss of oil, and the loss of agricultural diversity abetted by genetically modified foods, leading to a long period of crisis. The novel depicts an attempt to jumpstart the resumption of global capitalism by a Western agricultural corporations looking to raid Thailand's "food bank," a narrative that only ends in yet another apocalyptic vision, the flooding of Bangkok. But the epilogue of the novel points us in a different direction. Emiko, the "Windup Girl" of the title, is another genetically engineered human—here, a sex slave. But the destruction of Bangkok opens up new space in which New People like Emiko might thrive, abetted by the book's own Crake-like mad scientist, Gibbons. And like the Crakers the New People can live in the broken, disease-ridden world that the humans have created, when even we cannot; the animal traits spliced into their genome make them faster, smarter, more observant, disease resistant, even more loyal: "Someday, perhaps, all people will be New People and you will look back on us as we now look back at the poor Neanderthals."⁴²

In my longer reading of Atwood's *Oryx and Crake* series I make reference to the famous Franz Kafka quote that comes down to us by way of Walter Benjamin: "there is plenty of hope, infinite hope, but not for us."⁴³ We might recast this proverb as an opportunity rather than a curse: there *is* hope for us, so long as we become something other than the "us" we are now. Visions of posthuman ecotopias like the ones imagined by Atwood and Bacigalupi—or elsewhere in SF, as in the modified humans in the ecotopian future of Marge Piercy's *Woman at the Edge of Time*, or the all-female clones of Tiptree's "Houston, Houston, Do You Read?"—thus allegorize the amount both individuals and consumer society as a whole will have to change for there to be any kind of human future at all. This is the other face of Haraway's "Cthulucene," its unexpected utopian charge: the future will be monstrous, yes, but it will also be vital, explosively alive, all the more so for no longer being Capital- or Anthro-. One need think only the aliens Butler created in the series that preceded her *Parables*, the *Xenogenesis* or "Lilith's Brood" trilogy (a favorite of Haraway's), which sees the Cthulhoid "Oankali" actually achieve the Earthseed dream of traveling the galaxy over countless millennia that so thwarted Butler's attempts to write *Trickster*—a feat they are able to achieve precisely through their constant adaptability and pliability, which prevents them from ever becoming ossified in a particular set of cultural or biological assumptions.⁴⁴

Such allegorical texts invite us, in Fredric Jameson's well-known formulation, to "think the break itself"⁴⁵—to begin to imagine historical difference in an era that constantly asserts that

⁴² Paolo Bacigalupi, *The Windup Girl* (San Francisco: Nightshade Books, 2009): 358.

⁴³ Walter Benjamin, "Franz Kafka: On the Tenth Anniversary of His Death," *Illuminations* (New York: Schocken Press, 1969), 116. For the extended reading of Atwood, see Gerry Canavan, "Hope, But Not for Us: Ecological Science Fiction and the End of the World in Margaret Atwood's *Oryx and Crake* and *The Year of the Flood*," *Lit: Literature Interpretation Theory* 23.2 (2012): 138-159.

⁴⁴ Octavia E. Butler, *Lilith's Brood* (New York: Grand Central Publishing, 2000 (reprint)). Haraway discusses this trilogy at length in her Haraway, Donna. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century" in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1990).

⁴⁵ "For it is the very principle of the radical break as such, its possibility, which is reinforced by the Utopian form, which insists that its radical difference is possible and that a break is necessary. The Utopian form itself is the answer to the universal ideological conviction that no alternative is possible, that there is no alternative to the system. But it asserts this by forcing us to

the future has only one possible path. In an era variously marked as postmodernity, the end of history, and capitalist realism,⁴⁶ all of which amount to the hopeless unfurling of the same foreclosed future, such radically alternative futures perform a vital role of refusing the death sentence of “a History that we cannot imagine except as ending, and whose future seems to be nothing but a monotonous repetition of what is already here.”⁴⁷ The view from the Anthropocene looks back at us from a perspective entirely compatible with a capitalist realist future; science fiction’s definitional insistence on “historical mutability” and “utopian possibility”⁴⁸ can the potential to interrupt this spirit of inevitability and, as Jameson euphorically puts it, “jumpstart the sense of history so that it begins again to transmit feeble signals of time, of otherness, of change, of Utopia.”⁴⁹

What then of stories that attempt to imagine a post-capitalist future in terms that are not allegorical or fantastically posthuman, but are instead concrete and mundane? In Kim Stanley Robinson’s edited anthology *Future Primitive: The New Ecotopias*, the stories work as “thought experiments” and “historical simulations” that are utopian in the sense that they “assume that differences in our actions now will lead to real and somewhat predictable consequences later on—which means that what we do now matters.”⁵⁰ Science fiction—inflected by ecological rationality—is therefore an important part of “a race to invent and practice a sustainable mode of life before catastrophe strikes us.”⁵¹ These stories take up the gaze from the Anthropocene, but in a different mode than neo-Romantic melancholy, zombie pessimism, or unhinged fantasy. One in particular stands out as a response to the pessimism of the Anthropocene. Ernest Callenbach’s “Chocco” is an elegy for the “Machine People,” our society, which has been supplanted not by posthuman genomic chimeras but by resurgent primitivism. The story turns the logic of social and biological developmentalism on its head: “It is a daunting task to try and understand a people who lived almost a thousand years ago,” says the Memory Keeper of the River People. “But one thing we must keep uppermost in our minds: the Machine People were no less intelligent than we are. After all, they had the same brains we have, the same physiology exactly.”⁵² What has been transformed is not human biology but human systems of social valuation; the collapse of late capitalism and technological modernity more generally has not meant universal extinction but only the supersession of a particular, historically situated strategy for social organization. What differentiates the vanished “Machine People” from the surviving “River People” is only the willingness to change:

think the break itself, and not by offering a more traditional picture of what things will be like after the break” (*Archaeologies* 232).

⁴⁶ See especially Mark Fisher, *Capitalist Realism: Is There No Alternative?* (Washington: Zero Books, 2009).

⁴⁷ Fredric Jameson, “Future City,” *New Left Review* 21 (May-June 2003), <http://newleftreview.org/II/21/fredric-jameson-future-city>.

⁴⁸ The quoted terms are two of the three categories linking critical theory to science fiction in Carl Freedman’s essential *Critical Theory and Science Fiction*; the third of these is “material reducibility,” also a key component of ecological thinking in the Anthropocene. See Freedman, *Critical Theory and Science Fiction* (Hanover, NH: Wesleyan University Press, 2000), xvi.

⁴⁹ Jameson, *Future City*.

⁵⁰ Kim Stanley Robinson (ed.), *Future Primitive* (New York: Tor Books, 1994), 9.

⁵¹ *Ibid.* 11.

⁵² Ernest Callenbach, “Chocco,” in *Future Primitive*, 189-215 (193).

The Machine People flourished during the brief period when the conditions were right for their assumptions. Now that the earth is a different place, we who have survived rely on different assumptions, and we are managing to survive honorably, with gratitude to Gaia who supports us. . . . We must learn a hard and dreadful lesson from the example of the Machine People—that sometimes human beings would rather die out than change their cultural ways. So we should not be too certain that *we* have found the right ways.⁵³

The effect is similar to the sublime ending of George R. Stewart's classic apocalyptic novel *Earth Abides*, which sees straggling survivors in a plague-ravaged United States diverging over subsequent decades into culturally distinct tribes: here they are religious, here they fish, here they keep horses, here they use bows, here they don't...⁵⁴ These rejections of our all-or-nothing attachment to a monolithic present, as dually promoted by both the ideology of capitalist realism and by the assertion of the Anthropocene/Capitolocene, fracture a doomed *singular* future-history for humanity back into vibrant multiplicity. They also open up the happy possibility of a *non-extinctive* Anthropocene, one more resonant with an understanding of the concept that begins deep in prehistory rather than in the 19th century or 1945: the sustainable, indigenous Anthropocene of pre-Columbian forestry practices, an alternative framing of deep time which suggests the ingenious human capacity for world-transformation need not always be identical to destructive exploitative and global death.

In Robinson's own recent fiction his insistence on historical mutability and the ongoing possibility of utopian transformation of the social order has grown somewhat more jaundiced since his earliest novels, but it nonetheless remains a vitally important theme—and one much more focused on the exhilarating possibilities of technology than the neo-primitivist narratives he trumpeted in *Future Primitive*. His recent novel *2312* (2012) reflects a rewriting of the assumptions of his famously utopian Mars trilogy (1990s); the technological innovations of those books are retained, but the social revolutions have not occurred, resulting in a solar system much more class-divided and ecologically devastated than the earlier books. As a result the economy of the solar system is fractured: unfathomable wealth for those living in orbital satellites and on other planets, but misery for “Earth, the planet of sadness”:

Clean tech came too late to save earth from the catastrophes of the early Anthropocene. It was one of the ironies of their time that they could radically change the surfaces of the other planets, but not Earth. The methods they employed in space were almost all too crude and violent. Only with the utmost caution could they tinker with anything on Earth.⁵⁵

You can't terraform a planet where people are currently living; therefore Earth languishes, while humans aggressively remake the rest of the solar system in their image. The planets and asteroids are paradises, but on Earth billions starve; the terrestrial ecosystem sputters in the throes of climate change; in protected satellites, the last dredges of animal life orbits the planet in sanctuaries, the few scattered exceptions to a global mass extinction event.

But the novel dares its readers to refuse this sense of pessimism and premediated doom in favored of renewed optimism. Interstitial chapters throughout the novel read like fragmented

⁵³ Ibid. 205.

⁵⁴ George R. Stewart, *Earth Abides* (New York: Ballantine Books, 2006 [1949]), 331-332. To the people born in this future time “American” is a mythological term, denoting a mysterious and incomprehensible past.

⁵⁵ Kim Stanley Robinson, *2312*, 303-304.

encyclopedia entries, commenting on the events of 2312 from a perspective decades or centuries hence, trying to make sense of the radical historical break the era was on the cusp of. Over the course of the novel, characters from the solar system fulfill this encyclopedia's utopian historical memory, banding together to begin to undo the damage centuries of the Capitocene have wrought: the economic system of the solar system is reformed, environmental protection and restoration becomes a priority on Earth, the animals are returned in a wonderful scene that seems them descending from their orbital zoos back to Earth like a kind of reverse Ascension. Crucially, though, the book is not a fantasy of return, but rather an accelerationist fantasy of going further on, pushing *through* capitalism into some happier post-capitalist era beyond. *2312* is a relatively rare literary example of a "good" technofuture, a posthuman paradise characterized by implanted technology and wild body modifications (which are depicted as advancements and augmentations of freedom and creativity); an explosion in gender categories which doesn't result in homo- or transphobic panic and which in fact is essentially *irrelevant* to the plot, in the best possible sense; open experimentation with genetics in terrarium laboratories that is organicist and vital rather than Frankensteinian, and doesn't create monsters; hyperlongevity; post-scarcity; neosocialism—and the list goes on. The problem in *2312* isn't that the good future is somehow secretly bad but rather, as Gibson once said, that it isn't evenly distributed yet—and the struggle in *2312* is therefore the struggle to develop that most crucial "survival technology" of all, justice.⁵⁶

Of course none of the book's reforms is some magic bullet; all are bitterly contested; the work goes on, the encyclopedia from the future tells us, for decades or longer. It seems to continue still, even in that future, better time. In fact none of the encyclopedia entries offer narrative closure, even on the level of form; all are fragmentary, beginning in medias res and ending unpunctuated, cutting off before the moment of "culmination" or historical break can ever be described concretely or fully. The end of every thought remains always just out of reach, always pure potential, never actualized. What may be most radically utopian about *2312*, from our perspective at the so-called end of history, is precisely this absolute *refusal* of narrative closure. "There is still and always the risk of utter failure and mad gibbering extinction," the

⁵⁶ See Gerry Canavan, Lisa Klarr, and Ryan Vu, "Science, Justice, Science Fiction: A Conversation with Kim Stanley Robinson." *Polygraph* 22 (2010): 201-218 (213):

...in the climate crisis, we are saying, "we need to do good things or we won't survive—and we can make that case scientifically." Justice becomes a survival technology. Of course it's a little galling to treat justice as something that needs a more utilitarian reason to support it, but since as a good idea it has only gotten us so far—to an amount of justice more than none but not enough—we might as well take advantage of this extra notion of justice as survival, because it's true, whether we point it out or not. Justice stabilizes population growth, and reduces the discrepancies between rich and poor, which extremes are both very environmentally destructive among their other bad qualities. Real justice would alleviate the poverty that has desperate people stripping away forests and soil in much of the world, and it would reduce the hyper-consumption of the rich, which is equally or even more destructive of resources and excessive in carbon burn. The only possible road to sustainability's necessary carbon neutrality involves justice. We should insist on this at every opportunity. It points to a justice that is more than just a meaningless right to vote, but something far larger, something like a decent human existence for all.

book announces at its close; consequently, “There is no alternative to continuing to struggle”⁵⁷ The lack of a period here is a token of Robinson’s pointed denial of any final pronouncement about the human project, as the melancholy of the Anthropocene and the hopelessness of capitalist realism and all their related necrofutures prophesy; instead, somewhere in the muddled and disordered murk of history, one era ends, another begins, the story goes on.

⁵⁷ Robinson, *2312*, 553.