OUR MONSTROUS FUTURES: GLOBAL SUSTAINABILITY AND ECO-ESCHATOLOGY

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Apocalyptic fictions abound in contemporary culture, multiplying end-of-the-world fantasies of environmental collapse. Meanwhile, efforts toward global sustainability extrapolate from deep-past trends to predict and manage deep-future scenarios. These narratives converge in “eco-eschatologies,” which work as phantasms that construct our identities, our understanding of the world, and our sense of responsibility in the present. I critique eco-eschatology’s reliance on an interpretation of deep time that treats every temporal moment as interchangeable and projects the future as a chronological extension of the past. This enacts what Jean-Luc Nancy calls the “catastrophe of equivalence” by domesticating the future and obscuring the incommensurability of what resists substitution, conversion, or exchange. By contrast, the renewal of our responsibility toward the future, without apocalypse or apotheosis, requires an intuition of deep time that respects the singular anachronicity of the present and refuses the framing of existence against a background of annihilation.

Our culture is obsessed with imagining the end of the world, repeatedly and in endless variation, as any trip to the bookstore or box office will demonstrate. Apocalyptic narratives are not new, of course; they may be as old as civilization itself and probably exist in some form in every culture. But secular doomsday fiction is more recent, with Mary Shelley’s 1826 novel, The Last Man, usually consid-

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1 An earlier version of this essay was presented as part of a plenary panel on “Future Earth, Future Life, Future People: Environment and Values” at the Canadian Society for Continental Philosophy, Concordia University, 30 October 2015. I thank David Morris for the invitation and my fellow panelists, Matthias Fritsch and Lorraine Code, for their insightful remarks. A longer and substantially different version of this essay will appear as “Thinking After the World: Deconstruction and Last Things,” in Eco-Deconstruction: Derrida and Environmental Ethics, (ed.) Matthias Fritsch, Philippe Lynes, and David Wood (Bronx: Fordham University Press, 2017).
ered the first major example. Critics hated Shelley’s novel at the time, and it was soon forgotten, but the genre gained wide popularity in the 1890s that has continued to the present. At the turn of the 20th century, most doomsday scenarios imagined that humankind would be wiped out by natural causes: plagues, earthquakes, floods, giant storms, and so on. But since the first world war, most have imagined us destroying ourselves, usually in wars with technologically advanced weapons.

Since the 1960s, in the wake of Rachel Carson’s *Silent Spring*, our fictional visions of the end of the world have been increasingly inspired by anthropogenic ecological disasters, and with the end of the Cold War, these seem to have displaced nuclear catastrophe as our favorite doomsday scenario, with the currently popular sub-genre of “cli-fi” as the latest flavor. A long list of recent films might begin with *Mad Max, Waterworld, The Day After Tomorrow, Elysium, Snowpiercer, Into the Storm, Interstellar*. Many other films surely come to mind, and many more are sure to follow well after this writing.

Why do we take so much pleasure in these doomsday scenarios that we return to them again and again for yet another variation on civilization’s collapse? The answer is undoubtedly complicated and layered. There may be a bit of Schadenfreude at work, repressed hostility or misanthropy finding an outlet, or some righteous sense of retribution when the obligatory deniers get their “told you so” moment. But we also identify with the typically rag-tag band of survivors, the ones who get to start civilization over with a clean slate and finally get it right, as they rediscover true community in the face of overwhelming odds (much like the real-life disaster communities that Rebecca Solnit describes in *A Paradise Built in Hell*). Suddenly, our idiosyncratic skills and training, our unique contribution to the survival of the group and the species, our personal memories of what came before take on a magnified importance—if we are, indeed, one of the last humans left alive to rebuild the world. Or, at another level, perhaps, as Warren Wagar puts it, “Stories of the world’s end are something like Grimms’ Tales for grown-ups,” therapeutically build-

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ing our self-confidence so that we can face our fears when the “real thing” finally comes along.\(^4\)

So far I have been referring to dystopian fiction, but actual predictions of ecological disaster also share in the appeal of the apocalyptic narrative: the accumulating biotoxins of *Silent Spring*, the population “bomb,” the hole in the ozone layer, biodiversity collapse, genetic engineering gone awry, and so on. In fact, this narrative might be essential to environmentalism’s efforts to “save the world,” and the religious overtones here are not irrelevant. My favorite recent example is from journalist Bill McKibben, who has said in numerous interviews that mining the remaining bitumen from Alberta’s tar sands would mean “game over for the planet.” (McKibben attributes this line to climate scientist James Hansen, even though Hansen’s own published phrase was actually “game over for the climate.”\(^5\))

There are two distinct points to recognize here: First, environmental prophesies and eco-dystopian fiction share a common eschatological narrative with roots in shared cultural sources, and they have fed and borrowed from each other to the point where they can no longer rigorously be distinguished. I will call this the “eco-eschatological” narrative.

Second, whether presented as fact or fiction, such narratives are phantasms, fables that we tell ourselves about the future that reflect our investments and anxieties in the present, and that consequently construct our current identities and institutions. I am thinking here of a similar point made by Jacques Derrida at a colloquium on Nuclear Criticism five years before the opening of the Berlin Wall, where he characterizes the prospect of total nuclear war as a “phantasm of remainderless destruction.”\(^6\) By naming nuclear war a “phantasm,” Derrida was not at all denying the reality of stockpiled weaponry nor the plausibility that this weaponry might be deployed with catastrophic consequences. His point was rather that such a war is “fabulously textual”—not only because of the weapons themselves rely on

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\(^4\) See Wagar, *Terminal Visions*, 96.


codes and texts of all sorts, and because the strategies of deterrence were themselves textual games, but most importantly because total nuclear war has never yet taken place: in Derrida’s worlds, it “has existence only by means of what is said of it and only where it is talked about.” In other words, nuclear catastrophe is a tale that we tell ourselves, and nevertheless—or precisely for this reason—it effects a positive construction of present reality, so that all of human society is marked by it directly or indirectly, leading to what Derrida could, in 1984, call the “general institution of the nuclear age.” From Derrida’s point of view, the fact that nuclear catastrophe is fabulously textual means that humanists like ourselves, as experts on discourses and texts, are particularly responsible for thinking it through: as he writes, “The terrifying ‘reality’ of nuclear conflict can only be the signified referent, never the real referent (present or past) of a discourse or a text. At least today. And that gives us to think the today, the presence of this present in and through this fabulous textuality.”

My claim is that ecological disaster, including climate collapse, is fabulously textual in precisely this sense. Turning our attention, as humanists and philosophers, to eco-eschatology as a phantasm implies no skepticism, then, about the very real dangers that we face. Instead, it may be the only responsible way to think the present insofar as it is constructed through our fables about the future. That is, we must grasp how our thinking of the ecological present is shaped by eco-eschatological narratives.

One interesting characteristic implication of the eco-eschatological narrative is its suspension of the present between a geologically deep past and an indefinitely distant future. I have already mentioned Mary Shelley’s 1826 novel, The Last Man, as the first major work of secular eschatological fiction. Set in the late 21st century and putatively based on ancient prophetic writings, the novel tells the tale of the destruction of the human race by a global plague, leaving the last survivor, based autobiographically on Shelley herself, to wander the world alone. It is hardly coincidental that Shelley’s novel appeared just as biologists were coming to accept Georges Cuvier’s evidence, based on reconstruction of the fossilized skeletons of such creatures as mammoths and mastodons, that the world was once populated with creatures that had subsequently gone extinct. Cuvier intended these findings to “burst the limits of

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7 Ibid. 393
8 Ibid. 394
9 Ibid. 393
Our Monstrous Future

time," just as scientific genius had “burst the limits of space,” by providing a window into the “former world,” a world prior to all human history, that he believed had been catastrophically destroyed. Surely if a natural catastrophe could drive so many other species to extinction and bring their entire world to an abrupt end, then the same could be imagined for our species; our world must be equally precarious and finite, and our days on Earth similarly numbered. This construction of our present as suspended between prehistorical catastrophe and anticipated extinction continues to shape contemporary discussions of climate collapse, as we see, for example, in astrophysicist Neil de Grasse Tyson’s remarks on the National Geographic television series Cosmos:

[W]e’re dumping carbon dioxide into the atmosphere at a rate the Earth hasn’t seen since the great climate catastrophes of the past, the ones that led to mass extinctions. We just can’t seem to break our addiction to the kinds of fuel that will bring back a climate last seen by the dinosaurs, a climate that will drown our coastal cities and wreak havoc on the environment and our ability to feed ourselves... The dinosaurs never saw that asteroid coming. What’s our excuse?

As a more concrete example of what I am calling the “temporal suspension” of the present, consider current efforts toward global sustainability that extrapolate from deep-past trends to predict and manage far-future scenarios, thereby tacitly assuming that our responsibility toward future generations is to sustain the world in a state that as much as possible resembles our present. One example would be ongoing efforts to establish permanent repositories for radioactive waste, which must avoid human intrusion and environmental degradation on the scale of tens of thousands or even millions of years. The field of “nuclear semiotics” emerged from the efforts of the Human Interference Task Force, convened by the US Department of Energy in the 1980s with the charge of devising a warning system to dissuade future generations from tampering with repositories of toxic waste for at least the next 10,000 years, roughly

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11 Quoted in Chris Mooney, “Finally, Neil deGrasse Tyson and ‘Cosmos’ Take on Climate Change,” Mother Jones, 5 May 2014 [www.motherjones.com/environment/2014/05/neil-tyson-cosmos-global-warming-earth-carbon]
twice the length of written human history. Interestingly, the Task Force included speculative fiction authors alongside linguists, anthropologists, and natural scientists.\textsuperscript{12} Today, the Greenland Analogue Project studies the deep history of ice sheets on Greenland’s western coast to design the first operational geological repository for high-level radioactive waste, scheduled to open in Olkiluoto, Finland, within the next decade.\textsuperscript{13} In this case, the effort is to ensure that a human and geological situation far in the future is sustained according to standards and expectations projected today.

A second, well-known example would be the economic practice of “discounting the future” to assess how much we should spend today to limit the future effects of climate change. According to recent predictions, even if we stop emitting greenhouse gases immediately, we will already have changed the climate for the next 2000 years.\textsuperscript{14} But if we calculate the future growth of the world’s economy on the basis of past trends, then the people of the future will be increasingly richer than we are today. How much should we ask the (relatively) poorer people of today to sacrifice for the (relatively) richer people of tomorrow? The answer will vary depending on the “discount rate” that economists choose to apply, similar to money-market interest rates that track what investors are willing to pay today for a certain level of future benefits.\textsuperscript{15} My point is that policy decisions and resource allocations being made today on an international scale rely on what I am calling the temporal suspension of the present between the deep past and far future. This suspension is a temporal fermata, a pause or interruption of the unfurling duration of the present that holds it projectively immobilized between the immemorial past and far future. In other words, this suspension commits us to more than a mere anticipation of future events; it restructures our very experi-


\textsuperscript{13} For an interesting discussion of these efforts in relationship to deep time, see anthropologist Vincent Ialenti’s National Public Radio series on deep time from September 2014 [http://www.npr.org/tags/347050105/deep-time].


\textsuperscript{15} For an accessible overview of ethical factors involved in setting the discount rate for climate intervention, see John Broome, “The Ethics of Climate Change,” Scientific American (June 2008), 69–73.
ence of the singular present by silhouetting it against a background of geological eternity.

So, let me take a moment to tie things together a bit. First, I have suggested that our obsession with the end of the world, in the form of the eco-eschatological narrative that frames speculative fiction as well as environmental prediction, is a phantasm that reflects our desires and anxieties in the present, and that it leaves its mark, directly or indirectly, on our individual and collective identities, institutions, and sense of the world here and now. Second, I have proposed that this phantasm has a history, that it develops in parallel with the emerging conception of deep time: our awareness of an ancient geological past that precedes us opens our imaginations to an indefinitely distant future after us. And third, I have offered some contemporary examples of efforts to calculate and manage the distant future on the basis of the deep past. These examples tacitly embody an approach to time that is inseparable from the eco-eschatological narrative. That is, this conception of time lends our end-of-the-world fantasies their seductive force and ubiquity, even as, in return, these fantasies serve to perpetuate and reify this historically specific conception of time. My conviction is that these three points together raise some profound philosophical questions concerning how we understand the world, time, and responsibility. I turn now to a brief consideration of what I find troubling with this picture and then offer the barest hint for where we might start in formulating an alternative.

First, our efforts to calculate and manage the future by extrapolating from the past are an example of what Jean-Luc Nancy calls the "equivalence of catastrophes."\(^{16}\) To see what he means by this, let us first recognize that there is no such thing today as a purely "natural" disaster. Every disaster, whatever its underlying cause, is inextricably natural, technological, social, economic, and political. Nancy is writing specifically about the Fukushima nuclear disaster, but many have said similar things about, for instance, Hurricane Katrina's landing on the Gulf Coast. The entanglement of our disasters is just the obverse of the complex and ever-deepening interdependence and interconnection of all of these systems—ecological, economic, technoscientific, sociopolitical, cultural, logical, and so on. Globalization is precisely the process of this ever-deepening interdependence,

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which Nancy terms the “ecotechnical.” 17 Now, in order for these systems to become dependent on each other, their processes and terms must necessarily be amenable to conversion, translation, substitution, and exchange across these linked domains. As Marx already pointed out, money serves as a “general equivalent,” since every cost and benefit can be translated into monetary terms. Nancy’s claim is that ecotechnics has generalized this notion of equivalence even further, so that “the regime of general equivalence henceforth virtually absorbs, well beyond the monetary or financial sphere but thanks to it and with regard to it, all of the spheres of existence of humans, and along with them all things that exist.” (AF, 5) This is characterized, Nancy says, by a “limitless interchangeability of forces, products, agents or actors, meanings or values.” (AF, 6) Now, if this general equivalence makes greater interdependence of all of our systems possible, then it is the reason why are catastrophes are uncontainable in their effects. But more than this, it is the general equivalence itself that is catastrophic, insofar as it inspires a proliferation of means and ends that are ultimately oriented toward no final end, no ultimate goal other than their own continued expansion and proliferation. If any and every end can be exchanged or substituted for every other, and if all ends are interdependently bound within a system that treats them only as interchangeable for other means or ends, then no ultimate end orients the global ecotechnical system as such. It is this loss of any ultimate sense or direction that Nancy will call the “end of the world.” 18 What takes the place of this final end is precisely our constant awareness of the possibility of our own self-destruction. As Günther Anders writes, “Today, since the apocalypse is technically possible and even likely, it stands alone before us: no one believes anymore that a ‘kingdom of God’ will follow it. Not even the most Christian of Christians.” 19

Nancy recognizes that the regime of general equivalence has implications for how we relate to time and to the future, and the examples that I proposed above—the planning of nuclear waste repositories and economic discounting of future climate costs—illustrate his point perfectly. The absence of any end or goal for our ecotechnical interdependencies apart from their own self-perpetuation traps us in

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a cycle of planning and management of the future in general, although this future is itself characterized by no end or goal beyond "sustaining" further ecotechnical proliferation. Furthermore, the extrapolation of the past to calculate the future demonstrates the sway of general equivalence in our understanding of time, since each chronological present moment is substitutable for every other. As an example of technological interdependence, Nancy refers to the "determination of an 'atomic time' independent of earthly time and necessary for the worldwide synchronization required by the many digital activities of communication, calculation, exchange, and so forth." (AF. 31) But this ecotechnical innovation takes on eschatological implications once it rewrites our very relationship to past, present, and future. As Nancy puts it, "No culture has lived as our modern culture has in the endless accumulation of archives and expectations. No culture has made present the past and the future to the point of removing the present from its own passage." (AF, 40)

The alternative here is to recognize the non-equivalence of the singularities, the absolutely unique and non-substitutable events and moments, that compose our quotidian experience, and thereby to deepen our respect for the present. In Nancy's words again, "What would be decisive, then, would be to think in the present and to think the present. No longer the end of ends to come, or even a felicitous dispersion of ends, but the present as the element of the near-at-hand." (AF. 37) Since the aim here is to respect the non-equivalence of the present, we might call this a proposal for ontological or temporal justice. In other words, justice requires respecting the non-substitutability of the present, and this involves breaking the fermata that holds each moment indefinitely suspended along a continuum of geologically extended time.

I am not suggesting that deepening our respect for the present relieves us of the responsibility to plan, to anticipate the consequences of our actions, and above all to consider the singularity of all those, human and otherwise, whose existence has been put in jeopardy by the juggernaut of ecotechnical globalization. Temporal justice only makes sense alongside environmental justice. As Derrida has insisted on many occasions, the incalculability of the to-come does not eliminate the need for calculation (and David Wood has also made this point compellingly in his essay, "On Being Haunted by the Future"20). But Derrida is right to point out that there is an absolute interruption between what our calculations can predict and the

uncertainty of the events to come, and the ethical moment of decision lies in that interruption. To program the future based on calculations, as global sustainability has attempted to do, forecloses our responsibility toward the future as well as the present; it is precisely an ethical failure to respect the true monstrousness of the future. Yet this asks more of us than simply recognizing that the future will inevitably exceed whatever our eco-eschatological imaginaries project. It also concerns the way that these fantasies of the future, by lodging a temporal fermata over the present, foreclose our engagement with this world here and now.

One danger that such foreclosure introduces is the likelihood of an autoimmunitary response, by which our own efforts to manage the incalculable precisely bring about the worst. The Cold War provides plenty of illustrations of how this logic works. Our contemporary eco-eschatological narrative emerged within the context of the Cold War and perpetuates certain features of its logic, as can be seen explicitly in Rachel Carson’s *Silent Spring*, published in the weeks running up to the 1962 Cuban Missile Crisis. Just as the phantasmic character of nuclear destruction anticipates and informs our current eco-apocalyptic obsessions, so do its strategies of deterrence prepare the way for game-theoretical modeling in international climate policy. As an example of how such efforts to calculate the future hinge on and fail to manage the incalculable, allow me to share with you one hair-raising example from documents declassified by the US National Security Agency in 2013. On January 24, 1961, a B-52 bomber carrying two 4-megaton nuclear bombs broke up in mid-air and crashed near Greensboro, North Carolina. Luckily, each of the bombs had six safety mechanisms to prevent detonation. Unluckily, in the case of one of the bomb, five of these safety mechanisms did not work, and the documents confirm that a single low-voltage

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21 For example, Carson writes that “Along with the possibility of the extinction of mankind by nuclear war, the central problem of our age has therefore become the contamination of man’s total environment with such substances of incredible potential for harm—substances that accumulate in the tissues of plants and animals and even penetrate the germ cells to shatter or alter the very material of heredity upon which the shape of the future depends.” Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin Company, 1962; reprinted 1994), 8.

switch was the only thing that prevented detonation. According to
the bomb disposal expert who was on the scene, each bomb had
more than 250 times the explosive power of the Hiroshima bomb,
which means more explosive power than all of the munitions, con-
ventional and nuclear, that have ever been detonated on our planet
combined. He also said, in an interview in 2011, that “As far as I’m
concerned we came damn close to having a Bay of North Carolina.…,
The nuclear explosion would have completely changed the Eastern
seaboard if it had gone off.”23 Now, since I was born on the Eastern
seaboard post-1961, it seems fair to say that my existence might also
have hinged on this single low-voltage switch. This is a truly insane
example, but it is not the only one, and I encourage you to google
“military nuclear accidents” to get the full picture of what autoim-
munitary logic looks like. But let me just point out that schemes for
geoengineering as a response to climate collapse—and these options
are certainly being developed in certain quarters today—are even
more frightening. Such scenarios carry us beyond an isolated nuclear
explosion, and not only because they escape all hope of calculability
in terms of their possible effects. They are truly catastrophic in terms
of the ultimate reach of substitutability and equivalence that they
take for granted, since they show no hesitation about exchanging the
world that we have for a world that we fantastically project.

This returns us, finally, to our apocalyptic vision of the world,
which approaches everything within the world, and the very sense of
the world itself, against a background of absolute contingency or
nothingness, vulnerable to total destruction. By threatening things
with the specter of their own annihilation, and therefore silhouetting
them against the screen of nothingness, we force their presentation
into self-identity, positivity, immanence; they either fully are or fully
are not. But, as Merleau-Ponty already points out, this framing is a
denaturing of the thing: “Is not thinking the thing against the back-
ground of nothingness a double error, with regard to the thing and
with regard to nothingness, and, by silhouetting it against nothing-
ness, do we not completely denature the thing? Are not the identity,
the positivity, the plenitude of the thing—reduced to what they
signify in the context in which experience reaches them—quite

ReVelle Helped Save America From Nuclear Disaster,” State: The Official Maga-
zine of Oklahoma State University, [https://statemagazine.okstate.edu/
ReVelle_Nuclear_Weapons]
insufficient to define our openness upon ‘something’?”24 As Nancy adds, “destruction takes place in the world and not vice versa,” which is why he enjoins us to “learn to stop dreaming of the end, to stop justifying it.... [W]e need to take our leave of the romantic-historical mode of thinking that promises an apotheosis or an apocalypse—or both, one in the other” and rediscover the resistance of existence itself as spacing and permanent revolution.25 This requires not a better architecture of the future, a building of ever more vivid eco-eschatological narratives of apocalypse, but a deepening of our exposure to and within the present.

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