

Art, ethics, responsibility, crisis: literature and climate change

Simon C. ESTOK

Sichuan University¹ and Sungkyunkwan University
estok@skku.edu

Abstract: Literature has an ethical obligation to respond to the climate change crisis, and scholars have a responsibility to understand how these responses work. Neither the humanities nor the sciences have a good record when it comes to encouraging people to limit their desires, their consumption, or their growth. While there may be genetic reasons for this failure, calls for humanity to limit itself need better responses. Literature can help us to respond better to climate change, but only if we reconceptualize narrative and accord to it the importance it once held as a source not only of entertainment but of knowledge necessary for our very survival.

Keywords: climate change, literature, ethics, ecocriticism, knowledge and responsibility

INTRODUCTION

Climate change is everything, a story and a calamity bigger than any other. It's the whole planet for the whole foreseeable future, the entire atmosphere, all the oceans, the poles; it's weather and crop failure and famine and tropical diseases heading north and desertification and the uncertain fate of species on earth. (Rebecca Solnit 13)

Climate change (although it has been temporarily eclipsed by the Covid-19 crisis in the popular imagination) is the single most urgent global crisis facing humanity today, and literature has a responsibility to respond to it. Literary scholars, likewise, have a responsibility to understand, theorize about, and respond to representations of this crisis, to explain what evokes public action and what does not, and why. While there have been many voices that have petitioned for interdisciplinarity and cooperation between the hard and social sciences on the matter of climate change, precisely how such cooperation is to be achieved has been problematical, partly because some data are simply incompatible with some media.² Virtually all media that have anything to say about climate change, however, agree on at least one thing: humanity is going to have to limit its desires, and this is not an

easy task. The data are difficult to absorb. Art helps make the hard data about climate change comprehensible, but this alone will not necessarily change people. Science will not either. What is required is a re-evaluation of how we conceptualize the narratives we tell, since there is much more at stake than mere entertainment: our very existence is at stake.

To write fiction in the Anthropocene without engaging with climate change is to ignore the elephant in the room. Climate change is the most serious and defining crisis of the Anthropocene, and climate change fiction (what has come to be known as cli-fi) has taken up the call to respond to it. The task is not easy. Cli-fi authors must perform several balancing acts—of presenting data yet writing fiction; of engaging the reader in an interesting story while also provoking the reader to act on the issues; and of being forceful with the data without being preachy. The best of this kind of fiction will let the data speak for itself. A good example of this is when Ruth Ozeki translates data about the effects of the synthetic growth hormone diethylstilbestrol (used to make bigger animals) when people unwittingly consume it in meat. Although it is not a cli-fi novel, *My Year of Meats* is beloved among ecocritics in part because it has such a strong effect on people. Many readers (certainly many of my own students) are shocked and horrified by the data, and after fact checking (they consult the references and websites at the end of the book), many have told me that they decided simply to stop eating meat. Ozeki herself, it seems, was not at all trying to push vegetarianism: when I asked her in a June 2009 interview how long she had been vegetarian, she responded, “Oh, I’m not vegetarian!” The point here is that fiction can present data and values in very persuasive ways. Many have made this claim. Adam Trexler has argued in *Anthropocene Fictions* that “imaginative processes [...] are fundamental to engaging with climate change” (2015: 5). In an interview for Terre Satterfield and Scott Slovic’s *What’s Nature Worth?*, William Kittredge explains that “narrative helps readers to internalize values, making them their own, emotionally, as necessary to life, rather than simply interesting or distracting, as platforms from which to act” (2004: 25). In the same collection, Alison Deming points out that “legislation, information, and instruction cannot effect change at [the] emotional level—though they can play a significant role. Art is necessary because it gives us a new way of thinking and speaking, shows us what we are and what we have been blind to, and gives us new knowledge and

forms in which to see ourselves” (2004: 122). Discussing Deming’s attempts to show similarities between science and poetry, Gioia Woods comments that “perhaps the more specialized and complex science is, the more poets are needed to vivify and embody the data. Facts mean nothing without the context of experience, sensuality, and valuation” (2008: 202). In *Practical Ecocriticism*, Glen Love argues that it is necessary to bring “the obscure biological discipline of ecology out of the field and the science lab and into public consciousness” (2003: 54). Rachel Carson, in her 1952 Nonfiction Award acceptance speech for *The Sea Around Us*, has claimed—and it is worth quoting in full here—that the opposition between science and nonscience narrative is ridiculous:

[The] notion that “science” is something that belongs in a separate compartment of its own, apart from everyday life, is one that I should like to challenge. We live in a scientific age; yet we assume that knowledge of science is the prerogative of only a small number of human beings, isolated and priestlike in their laboratories. This is not true. The materials of science are the materials of life itself. Science is part of the reality of living; it is the what, the how, and the why of everything in our experience. The aim of science is to discover and illuminate truth. And that, I take it, is the aim of literature, whether biography or history or fiction. It seems to me, then, that there can be no separate literature of science. If there is poetry in my book about the sea, it is not because I deliberately put it there, but because no one could write truthfully about the sea and leave out the poetry. (Carson)

Nature writer David Quammen wrote in an email to Scott Slovic in 1998 that

[A] writer who wants to influence how humans interact with landscape and nature should strive to reach as large an audience as possible and NOT preach to the converted. That means, for me, flavoring my work with entertainment-value, wrapping my convictions subversively within packages that might amuse and engage a large unconverted audience, and placing my work whenever possible in publications that reach the great unwashed. (Slovic 2004: viii)

All of this, surely (and there is more than can be included here), is the promise of the spate of films and best-selling novels on climate change and environmental crises that have appeared over the past several years. Indeed, fiction can be central to helping us to understand on a visceral level what it means to limit our behavior, and this is by no means an original idea, but it bears repeating, obviously, as things continue to worsen.

RESPONSIBILITY AND COOPERATION

The entanglement of art with ethics and responsibility entails a broad set of questions. Cli-fi must confront these. Trexler articulates some of the questions involved here:

What tropes are necessary to comprehend climate change or to articulate the possible futures faced by humanity? How can a global process, spanning millennia, be made comprehensible to human imagination, with its limited sense of place and time? What longer, historical forms aid this imagination, and what are the implications and limits of their use? What is impossible or tremendously difficult for us to understand about climate change? How does anthropogenic global warming challenge the political imagination or invite new organizations of human beings to emerge? How does living in the Anthropocene reconfigure human economies and ecosystems? And finally, how does climate change alter the forms and potentialities of art and cultural narrative? (2015: 5)

These are important questions that reveal the complexity of the struggles with which literature is engaging, struggles that tell of the difficulties of reaching people on a visceral level, struggles that require commitment and cooperation.

Cooperation between the hard and social sciences takes real work. There is no question that it can and should be done, and there are many solid thinkers who have petitioned for such work. E.O. Wilson has put it well: “the greatest enterprise of the mind has always been and always will be the attempted linkage of the sciences and the humanities” (1998: 8). He asks, “what is the relation between science and the humanities, and how is it important for human welfare?” (13). He offers the term “consilience” to describe “literally a ‘jumping together’ of knowledge by the linking of facts and fact-based theory across disciplines to create a common groundwork for explanation” (8); yet, his notions of literature are reductive and simplistic. He promotes and believes the idea that “science explains feeling, while art transmits it” (127); that postmodernists are “a rebel crew milling beneath the black flag of anarchy” and “believe we can know nothing” (44); and that “outside our heads there is freestanding reality. Only madmen and a scattering of constructivist philosophers doubt its existence” (66). To expect true cooperation between disciplines obviously requires greater mutual respect than Wilson displays. Cooperation is hard work. As I have stated elsewhere, “literary studies

must not become a minion of the sciences, a slave to methodologies both foreign and ineffective for a discipline that requires its own tools and interpretive strategies, a servile bondservant to analytical models designed for other purposes and effects. It is, after all, precisely this servile relationship to the sciences that Wilson imagines” (2015: 32–33).

More recently, media studies scholar Jørgen Bruhn has argued “that the ecological crisis is not a problem or a condition restricted to investigations in the natural sciences, or that possible solutions to the crisis can be reduced to technological solutions. The humanities need to play a role in the question” (2021: 119). Bruhn more systematically bridges the great divide between the hard and social sciences than Wilson, in large part because of his clear respect for each epistemological endeavor. Bruhn is driven by “the conviction that the ecological crisis is not a topic restricted to investigations in the natural sciences, or that solutions to the crisis can be reduced to any quick tech fix,” and he is committed to the idea “that environmental humanities and ecocriticism need a cross-disciplinary and cross-media analytic approach that matches the necessarily broad nature of the environmental crisis” (ibid.). While for Wilson, name-calling and belittling are part of the project, for Bruhn it is more a matter of listening and translating data from clearly different media—and time is running out.

Long before the dawning of the nuclear age, and long before the Industrial Revolution (each proposed dates for the birth of the Anthropocene), humanity was already wading deeply through the effects and nascent crises of the Anthropocene it had developed. Summarizing Sharae Deckard, Beatriz Rivera-Barnes notes in her forthcoming book *The Nature of Hate and the Hatred of Nature in Hispanic Literatures* “that the rise of capitalism after 1450 was generated by an ecological revolution in the history of humanity’s relation with the rest of nature that was made possible by an epochal shift” (forthcoming), a radical change in how humanity conceptualized and utilized the world, a change that, Deckard notes “tore across the American hemisphere, devouring forests, mountains, and soils, flora, fauna, and humans,” a new understanding of the world that “construed nature as external, space as flat and geometrical, and time as linear and rational, thus rendering the uncommodified natures of the Americas ripe for appropriation” (4, as cited by Rivera-Barnes). Indeed, the history of humanity is one of expanding the limits to growth, but, as Donella Meadows *et al* argued in 1972 (and it was shocking and

revolutionary at the time), there are limits to growth. For renowned American environmentalist Bill McKibben, what makes humanity singular among other life forms is precisely its ability to exert self-restraint: “it’s this ability to limit ourselves ... that makes us unique among animals” (2004: 214). With genetic technologies, however, humanity continues to expand the boundaries, thinking along the way that there are no limits—but there are limits.

SETTING LIMITS

The question of limits has been a matter of some debate among cli-fi novelists. For Ian McEwan in *Solar*, humanity is just like any other organism. Reiterating Darwin’s point that “there is no exception to the rule that every organic being naturally increases at so high a rate that if not destroyed, the Earth would soon be covered by the progeny of a single pair” (1996: 54), Michael Beard (the main protagonist of *Solar*) wonders as his flight circles London about the dangerous human impulses toward excess and their effects on global warming: “how could we ever begin to restrain ourselves? We appeared, at this height, like a spreading lichen, a ravaging bloom of algae, a mold enveloping a soft fruit—we were such a wild success. Up there with the spores!” (2010: 127–8). The idea that other organisms are moderate and that humans are somehow aberrant in this regard, surprisingly perhaps, is absurd. Nature is not moderate. It is often characterized, Elizabeth Grosz explains, by “an invariable tendency to superabundance, excessiveness, the generation of large numbers of individuals, in the rates of reproduction and proliferation of individuals and species” (2008: 30). Without natural checks and balances, any species will, as Darwin explained, reach a population size limited only by what the environment can sustain or be made to sustain.

A cli-fi novel such as Paolo Bacigalupi’s *The Windup Girl* imagines what happens centuries into the future when the new limits have been reached. It is an ugly world showing a terrifying trajectory point for the human traumas that result from our anthropogenically derogated environments. It is a world where the core issues that caused the climate crises continue unabated, where all desires remain unchecked and remedial measures to meet those desires are a daily necessity, a world of genetically modified foods and people, where energy is measured in calories and lives are

measured in fear. It is a world where self-interest is the only rule and the logic of capitalism is the only option.

Like *The Windup Girl*, Margaret Atwood's *Oryx and Crake* warns of a world where biotechnology is the imagined answer to limitless desires. Yet while the limits are constantly being reached in these novels, none of the characters are inclined to admit it. Of *Oryx and Crake*, Trexler observes a refusal "to suggest that there could be any ethical or political restraints" (2015: 196). McKibben's hope that we might have the sense to limit ourselves is clearly not borne out in dystopic climate fiction—indeed, it is precisely our inability to limit ourselves about which these novels warn. Time and time again in cli-fi, we have characters trying to live their lives as usual but under very difficult circumstances—little attempt to limit their desires, but fierce resistance to having their agency thwarted and their desires unmet. It is here, perhaps, with the question of agency, that the real problems begin.

Agency is a precious to humanity, but there is a distinct possibility that we don't really have quite as much agency as we like to think. If limiting ourselves is what makes us distinct among other life, then it might be that we are actually fighting against our hardwiring. Wilson seems to agree:

[...] genes hold culture on a leash. The leash is very long, but inevitably values will be constrained in accordance with their effects on the human gene pool. The brain is a product of evolution. Human behavior—like the deepest capacities for emotional response which drive and guide it—is the circuitous technique by which human genetic material has been and will be kept intact. Morality has no other demonstrable ultimate function. (1978: 167)

Haruki Murakami puts it more forcefully in his epic novel *1Q84*:

Human beings are ultimately nothing but carriers—passageways—for genes. They ride us into the ground like racehorses from generation to generation. Genes don't think about what constitutes good or evil. They don't care whether we're happy or unhappy. We're just means to an end for them. The only thing they think about is what is most efficient for them. (2011: 269)

Richard Dawkins puts it even more succinctly: "genes ... we are their survival machines" (2016: 25). However we word it, the thought is terrifying; but if we accept that our sense of agency is overblown and that our tendency toward excess might be hardwired, then perhaps it becomes easier to agree with McKibben and to understand that our big brains could

enable us to fight against our genetic inclinations. Indeed, ignoring the hard-wired realities may ultimately be our downfall, but this topic is a dangerous shoal.

Fiction allows us to go where science does not, to imagine resistance to our genetic inclinations in a way that science does not—a point ironically well articulated by *Solar's* Beard: “To suggest the possibility of genetic influence, genetic difference, of an evolutionary past bearing down in some degree on cognition, on men and women, on culture, was to some minds like entering a camp and volunteering to work with Dr. Mengele” (2010: 166). Fiction enables us to see many things. It enables us to see that we are perhaps not genetically inclined to do what is necessary to save ourselves. In his comments about *Solar*, Trexler dryly observes that “genes don’t grant humans the foresight to prevent extinction” (2015: 49). The narrative voice in Nathaniel Rich’s cli-fi novel *Odds Against Tomorrow* takes much the same stance: “evolution ruled against the fearless. The dodo, the most trusting and friendly animal that mankind had ever encountered, was first identified in 1581. The bird was extinct less than a century later” (2013: 62). But fiction also has an uncanny ability to reveal what will happen if we don’t control ourselves. One of the possibilities here is that we will invent things that will control us—and this raises the ugly dystopic spectre of an AI disaster, with machines making decisions for us. In the 2004 blockbuster movie *I, Robot*, for instance, V.I.K.I. (Virtual Interactive Kinetic Intelligence), a gendered mother-figure robot, explains thus: “You charge us with you safe keeping, yet, despite our best efforts, your countries wage wars, you toxify your earth, and pursue ever more imaginative means to self-destruction. You cannot be trusted with your own survival [...] To protect humanity, some humans must be sacrificed. To ensure your future, some freedoms must be surrendered.” This is, of course, only a breath away from the theme of the *Terminator* franchise that humans are actually unnecessary and should, in fact, be terminated. The ironies here are many.

Dominating nature, rather than being an end in and of itself,³ has allowed humanity both an easier life and a more comfortable home. One of the ironies here is that our domination of nature, as dystopic fiction reminds us, has often resulted not in a bettering of our home but in a virtual destruction of it—and we have long known of this possibility. Mary Midgley famously noted that “any home can be made uninhabitable. Our culture has too often talked in terms of *conquering* nature. This is about as

sensible as for a caddis worm to talk of conquering the pond that surrounds it, or a drunk to start fighting the bed he is lying on. Our dignity arises *within* nature, not against it” (1978: 196). Being at home with home means knowing the region in which one lives and “the limits of its resources; the carrying capacities of its lands and waters; the places where it must not be stressed; the places where its bounties can best be developed, the treasures it holds and the treasures it withholds—these are the things that must be understood” (Sale 1985: 42). In a very real way, our sense of home and our existence in this home are under dire threat by our own actions. Literature (like the hard sciences) envisions trajectories, projected scenarios, and effects of our actions on our home.

When a catastrophe does occur, whether it is a pandemic or extreme weather, mainstream media often states dramatically that it was unpredictable, unimaginable, and inevitable. Unimaginable: it is the word CNN’s Nick Paton Walsh used to describe the streets of London on the 23rd of March 2020, following British Prime Minister Boris Johnson’s “stay at home” order in response to the growing pandemic—unimaginable, but pandemics *were* imagined. Scientists have been warning for years about the inevitability of a pandemic, to no effect. It has also been the topic of entertainment. There are far too many pandemic films to list here, but one in particular stands out: Danny Boyle’s 2002 post-virus-apocalypse horror film *28 Days Later* shot scenes of desolate streets and thoroughfares in London—one of them in Piccadilly Circus, precisely the spot Walsh was surveying when he said that the images of desolation were unimaginable. To say that it was unimaginable is simply dishonest. One thing is clear: neither science nor even the most realistic art will necessarily make us change or compel us to limit ourselves. What is equally clear is that we actually *can* stop the behaviors that are causing climate change, notwithstanding all of the talk about what these changes will do to “the economy.” Indeed, one of the few reassuring things about the Covid-19 pandemic is what it has revealed about our ability to shut everything down, virtually overnight, if we think that our survival depends upon it: within the first six months of 2020, the world collectively agreed to shut virtually everything down, shattered economy or not. Climate change is far more deadly than Covid-19. According to the World Health Organization, 25% of all deaths on the planet are environment-related: diseases linked to air and water pollution, food and water shortages due to climate change, wars,

and others (see Prüss-Üstün *et al*). The challenge, then, is clear: how do we present the data in a way that is neither sensationalist nor unrealistic, neither obtuse nor trivializing, neither preachy nor indifferent? Science alone is not sufficient. Neither is art. What is necessary in a period of crisis—perhaps now more than ever is a reconceptualization of narrative itself and an understanding of the evolutionary role narrative has always, perhaps until recently, played. Narrative has helped in our survival,⁴ and we must allow it again to do so by recognizing that the hard sciences are not the only sources of knowledge that respond to the climate change crisis.

Notes

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² Jørgen Bruhn elegantly and humorously captures the gist of this matter in noting that “It would, for instance, be rather difficult (but not totally impossible) for the otherwise highly developed and utterly sophisticated medium of symphonic classical orchestral music to express, clearly and unambiguously, the three major changes made in the [Swedish] state budget ... from 2018 to 2019 – whereas that would be relatively easy to do in a short, written journal article in a daily newspaper” (2021: 144).

³ This is, of course, reductive: the history of our domination of nature is much more complicated. Canadian environmentalist William Leiss offers a nuanced, extensive history of this matter in *The Domination of Nature*.

⁴ Wilson has argued that while genes “do not specify elaborate conventions” such as the sonnet or totemism, “complexes of gene-based epigenetic rules predispose people to invent and adopt such conventions” (1998: 181) such as art and religion, and these conventions have clearly aided in our survival.

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Bioprofile

Dr. Simon C. Estok currently holds the award of Foreign Expert of the Double First Class Discipline Cluster (2018-2021) at Sichuan University and is a full professor and Senior Research Fellow at Sungkyunkwan University (South Korea's first and oldest university). He has authored several award-winning books, most recently *The Ecophobia Hypothesis* (Routledge, 2020) and has published extensively on ecocriticism and Shakespeare in *PMLA*, *Mosaic*, *Configurations*, *English Studies in Canada*, and others.