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11-2018

## Symposium on Science Fiction and the Climate Crisis

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### Recommended Citation

Canavan, Gerry; Kit-Sze Amy, Chan; Ingerwersen, Moritz; Jue, Meolody; Li, Hua; Murphy, Patrick D.; Robinson, Kim Stanley; Shavero, Steven; Singh, Vandana; Szeman, Imre; and Yuen, Wong Kin, "Symposium on Science Fiction and the Climate Crisis" (2018). *English Faculty Research and Publications*. 513.  
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## Symposium on Science Fiction and the Climate Crisis

**It Just Hasn't Finished Melting Yet.** Aaron Bady recently remarked on Twitter that “All fiction set in the present is now about climate change. It might be ‘about’ characters who are in denial about climate change. But, nevertheless.” In much the same way, climate change opens up a powerful and disturbing new front in the hoary debate about whether “literature” includes a subcategory called “science fiction” or if instead “science fiction” includes a subcategory called “literature”; to be truly “realistic” any narrative now must include within itself the accelerating, cataclysmic degradation of the conditions for human civilization as a direct (if initially unintended) consequence of human technological invention, as well as trace the utterly dysfunctional social and political institutions of a culture that has known about the crisis for half a century and refused to take any serious action in response. From hurricanes to flooding to wildfires and drought and on and on, the parade of global weather-related catastrophes that has dominated the 2000s continues unabated, with the 2017 abandonment of Puerto Rico by the Trump administration to months of power outages and supply shortages only the starkest marker of the way our assumptions about the reliability and stability of both consumer capitalism and modern government are becoming increasingly *flexible* in the face of ongoing, slow-motion disaster.

“In a remote region of Antarctica known as Pine Island Bay,” wrote Eric Holthaus in November 2017 for *grist.org*,

2,500 miles from the tip of South America, two glaciers hold human civilization hostage.... There's no doubt this ice will melt as the world warms.... Together, they act as a plug holding back enough ice to pour 11 feet of sea-level rise into the world's oceans—an amount that would submerge every coastal city on the planet.

The unpredictable existential threat posed by these glaciers is sufficiently grave that they are the focus of a tremendous amount of study, including potential geoengineering mega-projects to prevent their collapse—and yet it is unclear if, at this point, anything can or will be done to stop their fall. And the Pine Island Bay story is only one of dozens that might have been cited here to register the scope and scale of the futurological crisis confronting the world. In the face of such a story, even a landmark work such as Kim Stanley Robinson's *New York 2140* (2017)—which attempts to imagine what the region of the city we ironically call “Lower” Manhattan will look like a little over one hundred years in the future, when it is part of the intertidal zone—seems already surpassed by events; the idea of a deviation from the norm of reality—a *novum*—that seems so foundational to the idea of science fiction as a genre becomes harder and harder to sustain in the face of the postnormal times in which we find ourselves living. The apocalypse started a century ago; everyone knows it; and still we wait. Of course, for nearly as long as there has been science fiction, there have been people saying that *actually*, if you

think about it, the whole world is now a science fiction—and that claim has always been both accurate and misleading in varying ways. But (to butcher William Gibson's observation) the ongoing irruption of the climate crisis into a global society that remains radically, reprehensibly unready for it means that the future truly is already here; it just hasn't finished melting yet.—**Gerry Canavan, Marquette University**

**Rain ... Flooding ... Waterworld / Intense heat ... Drought ... Desert.** The God of Fire, Gong Gong, and the God of Water, Zhurong, had a battle on Mount Bu Zhou, one of the four pillars supporting the sky. Gong Gong was so angry at being defeated and shamed by Zhurong that he banged his head into the mountain. As a result, half the sky collapsed and the world was almost destroyed by a deluge. A goddess, Nuwa, came to the rescue by mending the sky with five-color rocks and supporting it with the four feet of a giant turtle. Nuwa is also the creator of human beings in Chinese creation myths.

This year, many places in the world experienced extreme weather. Hong Kong is no exception, with drenching rain in the morning and scorching sun and 36-degree-Celsius temperatures in the afternoon. With the rain pouring down, I thought of *Waterworld* (1995), *Mad Max* (1979), and *New York 2140* (2017) and I wondered if the world would be drowned or parched in the near future. In the latest sf collection published in Hong Kong, *Dark Fluid* (Kubrick, 2017), several stories are set in a near future where there has been intense flooding. One story imagines a flood in Hong Kong that leads to a plague of waterborne diseases—most people die after contracting the diseases while the few survivors are rejuvenated as teenagers. Everything is submerged under water, however, and the government has to seal off the area; it gradually evolves into a self-governing autonomous body.

Wait ... wait ... Are we talking about myth, history, or science fiction? Isn't science fiction about the future? Nuwa's story is science fictional—she smelted five-color rocks, mended the sky, created human beings, married her own brother, and established the marriage system. I can't help but think that the history of human civilization unfolds in a Buddhist way—cyclic rather than linear. Very soon, we may need another Nuwa to save the planet.

Buddhist cosmology divides time into four kalpas—creation, duration, dissolution, and nothingness. We are now living in the kalpa of duration and the farthest that science fiction can imagine is the kalpa of dissolution. I am looking forward to an sf story or film about the kalpa of nothingness or, perhaps, a time before nothingness—a time when human beings have long disappeared from the planet but the planet itself still survives.—**Chan Kit-Sze Amy, Hong Kong Shue Yan University**

**Pluralizing Climate Fiction: From Hybrids to Earth-Beings.** Sf critics have discovered Latour and Stengers and Deleuze. How pertinent it seems to mobilize their notions of ontological hybrids, heterogeneous assemblages, and nonhuman parliaments to speak about the climate crisis as a truly science-

fictional event. Science fiction, it seems almost redundant to point out, has been employing these tropes for a long time. We have read about sentient oceans, clouds, microbes, and planets—those ubiquitous others of scientific rationalism. Yet this is precisely the problem: their otherness is usually reinscribed within an epistemological-ontological system that is distinctly Eurocentric, that entertains the re-enchantment of the world as a theoretical plaything, as fiction. From a western perspective, it is easy to ignore the fact that soil, ocean, fish, and forests were invited to environmental justice roundtables long before Latour staged them as the token nonhuman delegates in his “Theater of Negotiations” at the 2015 United Nations Climate Change Conference in Paris. The provision of legal status to “Nature or Pachamama” in Ecuador’s constitution in 2008 and Bolivia’s leading role in signing the “Universal Declaration of the Rights of Mother Earth” in 2010 came as the hard-fought result of Indigenous activist groups who have resisted transnational mining companies by contesting the portrayal of mountains, lakes, and glaciers as non-sentient and hence expendable.

It has been a staple of western literature and theory to dismiss, romanticize, or simply neglect the entangled relationships between land and people in traditional ecological knowledge. Neither science fiction nor Latourian science theory are exceptions (as scholars such as Zoe Todd, Vanessa Watts, Juanita Sundberg, Julie Cruikshank, and Mario Blaser have pointed out). Pachamama is not Gaia, the homeostatic super-organism prodded by ecologically inclined systems theorists. And ecofeminist critics and writers—from Le Guin to Haraway—have cogently exposed the complicities between masculine and scientific ecological biases. Yet for science fiction to embrace mountains, lakes, or forests as “earth-beings”—Marisol de la Cadena’s translation of the Quechuan *tirakuna*—it might require something other than cognitive estrangement, refashioning, or a *détournement* of existing scientific frameworks. Asking sf to own up to the global challenges of the climate crisis might mean to quench the impulse to universalize the western scientific tradition and candidly to invite local knowledges and networks of emplacement into its epistemic reference field. Ultimately this task calls for a redefinition of genre, for a decolonization of the stakes that demarcate science fiction from the supernatural, the weird, and the fantastic, for a resistance to the allure of re-appropriating Indigenous narratives of fact as fiction. As long as earth-beings continue to be coded as either alien or technoscientific aberrations (or innovations), the hegemony of western science as the privileged arbiter of climate truths stays untouched.

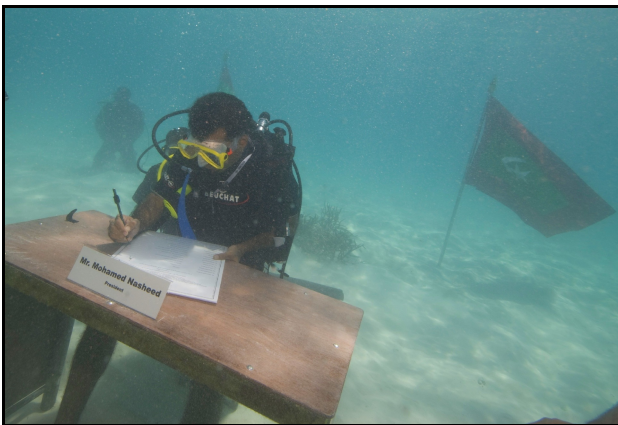
Science fiction provides an exceptional forum for the exploration of politics as a relationship between worlds—sometimes adversarial, sometimes harmonious—and a symmetrical integration of environmental science and traditional ecological knowledges will open up new avenues of estrangement. We might find in the portrayal of irate Father Earth and the interlacings of orogeny, geomestry, and magic in N.K. Jemisin’s *BROKEN EARTH* trilogy (2015-2017) an estrangement less of science than of traditional knowledge; we might point to the insurgent alliances among the Bone Collector, the Great

Spider, fish, and alien shapeshifters in Nnedi Okorafor's *Lagoon* (2014). We will find Indigenous negotiations of the relations among recalcitrant earth-beings, technology, and ancestral knowledges in stories by Drew Hayden Taylor, Gerald Vizenor, Leslie Marmon Silko, Misha, and Nalo Hopkinson. In our critical practice, we will have to reconsider whose knowledge systems we include in the first-person plural and must do more than simply allow them to be mediated through Stengers's cosmopolitics or Haraway's Chthulucene. If we aspire truly to pluralize science fiction about the climate crisis, we will have to let go of the boundaries of our own discourse and make more room for Indigenous and non-western voices to modify, critique, and undermine our beloved posthuman imaginary.—**Moritz Ingwersen, Trent University/ Cologne University**

**Performative Science Fiction.** Just prior to the 2009 UN Climate Change Conference (COP15), the President of the Maldives and his cabinet did something unusual. Worried about the effects of global carbon emissions on sea-level rise for their small island nation, they moved a series of desks, chairs, and flags to the seafloor and held an underwater “meeting”—while scuba diving—where they all signed a document calling on the world to reduce carbon emissions. The document reads:

We must unite in a world war effort to halt further temperature rises. Climate change is happening and it threatens the rights and security of everyone on Earth.... We should be able to come out with an amicable understanding that everyone survives. If Maldives can't be saved today, we do not feel that there is much of a chance for the rest of the world. (Online)

The photograph below offers a glimpse of a post-diluvian future that the Maldives hopes to defer. The two flags behind President Nasheed signal an impending deterritorialization of the land, flooded by seawater. It is a



President Mohamed Nasheed signing the decree of the underwater Cabinet meeting. Photo by Mohamed Seeneen (2009).

speculative image of the Maldives submerged, uncanny in its incorporation of terrestrial furniture and of cyborg human beings, breathing through scuba prosthetics.

Yet there is a certain hopeful, and science fictional, logic to the underwater cabinet meeting. It performs what Slavoj Žižek recommended in *Living in the End Times* (2011): we should accept the future catastrophe as our present, so that we can act now to prevent this future from ever coming into being. This is precisely what we see in the Maldives: cabinet members perform a vision of a post-diluvian future in order to change the present and thus prevent (or at least defer) this future from coming into being. The Maldives's underwater cabinet meeting is a form of time-travel science fiction, liberated from the screens and the pages where we might normally find it.

It is time to imagine the genre of science fiction more theatrically, through the bodily performance of climate change. Diana Taylor has productively asked, "How would our disciplines and methodologies change if we took seriously the idea that bodies (and not only books and documents) produce, store, and transfer knowledge?" (*Performance* [2016], 199). This provocation returns us to sf's roots in theater, when Darko Suvin developed his classic definition of science fiction as the genre of "estrangement" from playwright Bertolt Brecht's *Verfremdungseffekt*, a theatrical technique of jolting the audience out of passive viewership. Climate fiction anthologies such as John Joseph Adams's *Loosed upon the World* (2015) repeatedly imagine ways that climate change could alter and estrange our sensory experience of the world, through phenomena such as emotion-altering smog and psychedelic rain.

Taking inspiration from the simplicity and brilliance of the Maldives's underwater cabinet meeting, let us find ways of staging the imagined sensory estrangements of climate change—possible and hyperbolic, in their particular locales and their global ramifications—outside.—**Melody Jue, University of California, Santa Barbara**

**Terraforming and Climate Change in Chinese Science Fiction.** During the 1960s and 1970s, some Chinese sf narratives about engineering the climate of the earth were written as a conscious response to Mao Zedong's exhortations to "conquer nature." These early narratives with simple plots and characterization tended to focus on the malleability of local climate and articulated a heady optimism about the wonders of technology. Artificial precipitation is one of the dominant literary tropes connected with these climate change fictions, and it was imagined mainly as a benefit to agricultural production. This is reflected, for instance, in Liu Xingshi's "Northern Clouds" (1962), Wang Guozhong's "Mid-air Reservoir" (1963), and Xie Shijun's "Stratospheric Precipitation" (1979).

Under the influence of the liberal intellectual trends of "bidding adieu to the revolution" and "contemplative literature" during the post-Mao cultural thaw (1976-1983), more critical and skeptical views about terraforming and human manipulation of the climate began to emerge in Chinese sf works. A leading example is Zheng Wenguang's *Descendant of Mars* (1983), which

reflects the author's heartfelt skepticism about human interference with nature and climate, specifically in the context of Mao Zedong's radical assaults against nature in the 1950s and 1960s (see my discussion of Zheng's novel elsewhere in this issue).

In the wake of Zheng Wenguang's critical legacy, since the late 1990s a number of the most respected sf authors in China have made contributions to terraforming fictions. These sophisticated texts not only depict such issues as climate change, deforestation, contamination from toxic waste, and depletion of natural resources, but also describe complex transformations of the economy and even culture itself in the Anthropocene. These narratives include Liu Cixin's *The Underground Fire* (2000), about the gasification of coal to reduce air pollution and increase energy efficiency, and his *Earth's Cannon* (2003), about the over-exploitation of Earth's resources, economic collapse caused by massive geoengineering projects, and the disastrous consequences of excessive methane emissions. Chen Qiufan's *The Waste Tide* (2013) is about how electronic wastes damage both human life and the environment, leaving the Earth a manufactured landscape of silicon islands.

Mindful of the Chinese sf legacy of artificial precipitation, Liu Cixin also wrote two stories about anthropogenic rainfall, "Round Soap Bubbles" (2004) and "The Butterfly Effect" (2001). "Round Soap Bubbles" not only suggests a way to solve the problem of water shortages but also presents an analogue of the large hydro-engineering projects in contemporary China. In "The Butterfly Effect," the protagonist tries to create overcast and rainy weather in order to delay or even prevent aerial bombings of his hometown during NATO's war with Serbia.

In addition to stories such as these that are closely related to climate change, there are also some terraforming texts that go beyond climate change to explore ways of dealing with threats to human extinction, such as Liu Cixin's "The Micro Era" (2001) and He Xi's novellas *Alien Land* (1999) and *Six Realms of Existence* (2002). These texts push terraforming methods to the extreme—imagining, for instance, genetically modifying the size of the human body or exploring extra dimensions of both space and time in order to create more living space and food for the exponentially rising human population, as well as finding ways to reduce consumption.

The above-mentioned Chinese terraforming texts written from the 1960s to the early years of the twentieth-first century feature geoengineering as a form of climate change or of environmental mitigation, illustrating the connections among climate change, the environment, and human technologies. They also offer an imaginative space for reflecting on our place in relation to Earth, the planets of the solar system, and the universe.—**Hua Li, Montana State University**

**SF and Anthropogenic Climate Change.** The 1978 paperback edition of Arthur Herzog's *Heat* (1977), a novel depicting rapid climate change due to human industrial growth, has a cover blurb reading, "Man against nature in a horrifying disaster that could really happen." The problem with earlier



novels about climate change resides in that word “could.” Rather than being seen as extrapolation of an already occurring trend, the slow violence of human-induced global warming was represented and understood as a “what-if” story. As a result, Herzog spends most of his novel making rapid climate change seem plausible and very few pages on mitigation and adaptation. Other novels that present climate change as undoubtedly occurring, such as T.C. Boyle’s *A Friend of the Earth* (2000), evoke fatalism through the hero’s ineffectual environmentalist actions and his bleak attempts to adapt at novel’s end. Perhaps we have now reached that point where adaptation will be the dominant human mode of behavior, with belated mitigation activities designed to lessen the intensity of the disaster. If so, then that is in part because of the failure of scientific, political, and literary narratives of extrapolation and mitigation to persuade a sufficient number of people to force significant governmental and economic change.

It would seem, then, that sf literature and sf studies going forward need to address and challenge the fatalism about climate change that seems rampant in today’s popular fiction. We know from the nuclear-threat crises of the Cold War and attendant fictions such as Mordecai Roshwald’s *Level 7* (1959) and Nevil Shute’s *On the Beach* (1957) that these fatalistic works do not incite activism. Sf studies should champion and critique not “what-if” stories but “if-then” stories. These would be about the costs of inaction and about the efficacy and dangers of various actions, such as refugee wars due to climate-induced displacement and climate geoengineering projects that risk exacerbating rather than ameliorating the problem. John Barnes’s *The Mother of Storms* (1994), for instance, relies on a set of technofixes by a supercomputer-human hybrid to ameliorate a series of mega-hurricanes and then ends with a utopic vision of human progress, fundamentally no different from the myths of human progress that initiated the very disaster that the novel portrays. Sf studies also needs to consider the problem of narratives set so far into the future that they become “what-if” stories and the remediation hypothetical rather than practical. In *2312* (2012), for instance, Kim Stanley Robinson promotes a rewilding project that relies on numerous species being kept alive in outer space at an unimaginable expense, a utopian vision that we might contrast to the apocalyptic end of *Silent Running* (1972). Robinson also promotes geoengineering projects reminiscent of *STAR TREK: THE NEXT GENERATION* (1987-1994) plot-lines, and he does so again in *Aurora* (2015), in which the recovery of idyllic beach life at the novel’s end undercuts the warning that Earth is the human species’s one and only planet, so we had better figure out how to keep it habitable.—**Patrick D. Murphy, University of Central Florida**

**Story Spaces of Climate Change.** Science fiction consists of stories set in the future, so this is a big enough story space that different kinds of sf emerge. I suggest there are three rough temporal zones involved: near future, far future, and in-between. Far-future sf is maybe a kind of fantasy, often called space opera. Near-future sf is a kind of proleptic realism, something like

aiming ahead of the target in skeet shooting in order to hit the feel of our present. In-between sf, which could be called future history, is less common than the other two, and maybe the most interesting of all.

Now, since we have already initiated a period of climate change, all near-future sf has to include climate change, either as its explicit subject or as the backdrop to stories about something else. This situation has led to people inventing the name “climate fiction,” but I think this is just another example of the phenomenon that whenever science fiction gets particularly interesting and relevant, people try to call it something else. It’s still science fiction, but the new name is understandable; all near-future sf now has to include climate change or it becomes some kind of alternative history, which of course is not disallowed. Any kind of future is a story space, but the ones we are really going to live are going to be dealing with climate change.

So there will be more and more climate-oriented science fiction. The emotional range of these stories will extend from dystopia to utopia. Dystopia is obvious, because the possibility of causing the sixth great mass extinction event in Earth’s history is all too real, and this kind of immense damage would impact humans hugely, as the whole biosphere is one integrated system. Sounding the alarm by way of dystopian cautionary tales is a valid response with an important role to play. But I’m still more interested in the utopian response to the situation. Under the pressure of climate change things are going to change radically and, since we needed to change anyway for reasons having to do with justice and the ending of human immiseration, the climate problem forces an opportunity. And at this point in history, our technological abilities and the energy flows on the planet are such that a “good anthropocene” is still physically possible. That may not remain true for too many more years, so there is an intense urgency to our moment, if we care about the biosphere and the human generations to come. But that very urgency can be a spur to action. The need is clear, the solution is obvious: we have to invent a just and sustainable civilization, which will mean inventing post-capitalism. Putting any such new system into practice against the intense resistance of currently existing privilege, greed, stupidity, and fear will be very difficult. We will blunder and fight our way to any better state. Those are good stories to tell, that’s the science fiction we need now.—**Kim Stanley Robinson, science fiction writer**

**Anticipating Climate.** Science fiction has a lot to say about the climate crisis. Most obviously, science fiction is generally considered to be about the effects of technological change. Today, we are living in the age of the Anthropocene, which is characterized by global warming to a degree unseen in the 200,000 or so years since *Homo sapiens* first emerged as a species, and characterized even more by what has been called the sixth mass extinction event in the nearly four-billion-year history of life on Earth. In other words, human-initiated technological change has driven the transformation not just of human life, but also of every aspect, living and nonliving, of the existence of our

planet. Science fiction is uniquely positioned to deal with these transformations in ways that mainstream realist fiction is not.

The changing climate is what Timothy Morton calls a *hyperobject*: something that is indubitably real (i.e., not just a human projection), but that also exceeds, even in principle, our ability to grasp and comprehend it. We experience weather events and with help from satellites and other data-collecting devices we are able to record the details of weather all over the globe, and for extended periods of time. But *climate per se*, that set of processes on a vast spatiotemporal scale, is far greater than any mere accumulation of data. The same can be said, as Fredric Jameson has pointed out, of the system of globalized neoliberal capitalism, the set of processes that dominate every aspect of our lives, and that have in fact unleashed the technologies destabilizing the climate. Climate and capital are both literally unimaginable; that is to say, they cannot be adequately rendered in images, or indeed *represented* in any graspable way.

Hyperobjects such as climate and capital are in fact the privileged objects of science fiction. Here I follow Seo-Young Chu's crucial inversion of Darko Suvin's well-known definition of science fiction as "cognitive estrangement" in *Do Metaphors Dream of Literal Sleep?: A Science-Fictional Theory of Representation* (2010). Chu argues that science fiction is in fact a fully "referential mode of discourse," but one "whose referents defy literal representation" (10). It is not that sf estranges us from everyday physical and social reality, but rather that sf provides as accurate a representation as possible of objects that are altogether real but estranging in their essence, and therefore not directly representable.

Wide-ranging hyperobjects such as climate and capital are most often seen in spatial terms: thus Jameson in *Postmodernism, or, The Cultural Logic of Late Capitalism* (1991) famously calls for a critical project of "cognitive mapping," in order "to grasp our positioning as individual and collective subjects" in a "world space" that can be rationally known, but not intuitively represented (54). I think that any such project needs to be supplemented, however, by somehow coming to grips with the *temporalities* of climate change and capital accumulation which equally resist intuitive representation. Science fiction is oriented towards the future: the *not yet* of Ernst Bloch's utopia, but also of climate catastrophe and other disasters. Science fiction does not predict the future, but neither does it merely allegorize the present in which it is written. Rather, sf envisages a *futurity* that already exists in the present moment, in the form of tendential processes (Marx), dispositions (Stephen Mumford and Rani Lill Anjum, *Getting Causes From Powers* [2014]), or the adjacent possible (Stuart Kauffman, *Investigations* [2002]). Science fiction helps us to anticipate what is "real without being actual" (a phrase used alike by Gilles Deleuze and Alfred North Whitehead): this is a category broad enough to include both Kim Stanley Robinson's account in *New York 2140* (2017) of a New York City partly flooded as a result of rising sea levels, and Alan Dean Foster's description in "That Creeping Sensation" (2011) of a future Atlanta in which, due to the changing composition of the

atmosphere, insects, spiders, and centipedes have grown to monstrous size.—**Steven Shaviro, Wayne State University**

**What is to be Done about Climate Change? Some Thoughts as a Writer.**

During my travels in India this year I met a number of people who were proud that India was finally taking its place on the world stage, catching up to the West in its quest for economic growth, as evidenced by luxury high rises, freeways, and an unashamedly consumerist lifestyle. Yet, according to recent research, if the world continues with “business as usual” as far as climate emissions are concerned, then parts of India will become uninhabitable due to a lethal combination of high temperatures and humidity. Similar predictions have been made for the Middle East and parts of the American South. While climate change will not spare wealthy countries, the degree of impact is greatest in those regions where a high population density meets the historical burden of colonialism and caste and class divides, as well as the brutal injustices of neoliberal capitalism.

To me the ultimate victory of colonialism is the conviction among the formerly colonized that the development model of the West is all there is. This model has brought multiple riches, comforts, and conveniences for a few at the expense of the many, and for a short time at the expense of the future. And yet we generally don’t ask the question as to what alternatives there might be whereby multitudes of people can thrive in harmony with the rest of nature. The paradigm is so pervasive that, as everyone from H. Bruce Franklin to Fredric Jameson to Slavoj Žižek has observed, it is easier to imagine the end of the world than the end of capitalism. This is an example of what I call paradigm blindness—where you are so immersed in a certain construction of reality that you literally cannot see any other option.

Perhaps the western paradigm is ill-equipped to conceptualize, let alone deal with, the monster it has created: the World-Destroying World Machine (or the Widdam, as I called it in a story) that has given us climate change and its accompanying ills. I suspect that inspiration will come from those who inhabit, literally and metaphorically, worlds outside the western industrialized norm—people from multiple nations, backgrounds, languages, whose sociological imaginations have not yet been stunted. Consider that today in India alone there are over a thousand grassroots movements and experiments in democratic, ecological alternatives to the Widdam (check out [vikalpsangam.org](http://vikalpsangam.org)). So-called ordinary people, from the rural poor to tribals, most without any formal education, are shining a light on alternatives, models of communitarian living and ecological sustenance. *We* are, in that sense, the ones who are behind, with our imaginations poorly nourished in the individualistic, addictive, sterile environments of the globalized industrial “West.”

So what might be science fiction’s role in all this? One, to make the invisible visible and thereby to question the paradigm. Two, to listen to, take inspiration from, and give bandwidth to the voices of people—writers among them—who live on the same planet but in different worlds than ours. Three,

to help us grieve the planet we won't have, to engage with the emotional trauma that is inevitable when we look into the face of the monster. And finally, to tell the kinds of stories that shift the prevailing narrative of what it means to be human, and thereby to free our imaginations beyond dystopia-porn, the easy techno-fix, or the escape-to-another-planet—so we might once more learn what it means to *belong*.—**Vandana Singh, science fiction writer**

**More of the Same.** As a field of imaginative inquiry with little investment in the generic features and ideological faiths of realism, science fiction has long been imagined as our last, best chance in figuring out what the hell we do now and where we go next. There is a rich, vibrant, and growing number of fictions that attend to the social costs and consequences of climate change. I find myself less interested in climate fiction or the (too-often conservative) genre of eco-apocalypse than in texts that narrate the very real trauma of *more of the same*: a sludgy capitalism plodding on into the future, not because anyone really wants it, but because no one has figured out how to nudge aside the intellectual, ideological, and infrastructural demands it continues to make on us, despite the fact that the planet is being destroyed as we work, shop, and sleep.

Omar El Akkad's *American War: A Novel* (2017) offers an example of how powerfully sf can grapple with climate change via its attention to the quotidian persistence of capitalism. Set in the closing decades of the twenty-first century, El Akkad's novel begins with a map of the United States that shows both the geographic and geo-political transformations that a half-century has wrought. The second American civil war takes place in a country in which Florida is missing, and the traditional sites of US power—New York and Washington—have been quite literally washed out of the picture. El Akkad's main intent is to offer a broad allegory about the contemporary character of global power. In *American War*, the US and the Middle East swap places, with the latter becoming the global hegemon pulling the puppet strings that animate the new war between north and south in the US.

While not an eco-text on the face of it, some of the narrative choices that El Akkad makes are telling. This is a future war employing the technologies of the mid-twentieth century (no lasers, fancy machines, AI, or even computers), and one in which societies continue to make use of the tattered mechanisms of commerce and power still available to them: capitalism and nationalism. While I admired the political allegory intended to challenge the presumptions of contemporary US politics, I found its sharpest insights to be El Akkad's mapping of a world in which climate change appears to have had both an enormous effect—no Florida, save for a Guantanamo-like prison camp on the last piece of the state's land mass still peeking its head above water—and yet very little, the twentieth century persisting deep into the twenty-first. On both sides of the civil war, the same old militarized capitalism is running the show, despite the fact of agricultural destitution and the almost total absence of sites of value from which to generate any profit. More of the

same, even as sea levels rise and Americans kill each other off decade after decade.

*American War* serves as a reminder that, at its core, the real cause of climate change isn't CO<sub>2</sub> levels but capitalism. Science fictions that narrowly emphasize the environment or climate change might not take us to the heart of the matter: the way in which we inhabit societies that view the disappearance of Florida not as a shock demanding system change, but as an opportunity to open a new political detention camp in lieu of Guantanamo. The challenge for sf is to highlight the startling power of more of the same, while challenging the often-unacknowledged hope and faith that we continue to place in it.—Imre Szeman, University of Waterloo

**The “Becoming-Deleuzian of Science Fiction.”** By now it should be generally recognized that science fiction has a close relationship with our environmental conditions. As we witness the recent emergence of the so-called “ecological turn” in critical theory and the increasing academic enthusiasm for the Anthropocene concept, it can be argued that sf has a natural role to play as a direct response to both. Science fiction written in Chinese is no exception.

Here I would like to point to sf works by Taiwanese writers to show how the “turn” was already set in motion during the cyberpunk era. In the 1980s cyberpunk writers such as Chang Chi-chiang, Huang Ling, and Chi Taiwei became interested in the intriguing composite of cyberspace and off-line world that was the newly developed city of Taipei. They focused on topics such as postindustrial late capitalism and ideologically controlled society under the hegemonic scheme of international corporations, very much in line with the cyberpunk ideology. It is understandable that writers at that time were more interested in the posthumanist subculture of cyborgs and AI rather than in the external world we call “nature.” Writers were fascinated with exploring different ways of existence in the virtual world; bodies were “meat” to leave behind.

Cyberpunk culture's image addiction and commitment to simulation have undergone a radical shift since the beginning of the twenty-first century, in sf works that find a center of gravity in matters such as feminist new materialism or the transmogrifying of Deleuzian assemblages of human and machine. The trend is, as suggested by Sean McQueen in his recent *Deleuze and Baudrillard: From Cyberpunk to Biopunk* (2016), the “becoming-Deleuzian of science fiction” (2). McQueen pays particular attention to Deleuze's major concepts such as the molecular, smooth space, the body without organs, becoming-animal, and becoming-machine. Using this as my guideline, I would say that the recent trilogy—*The Redundant World* (2012), *The Sinking World* (2015), and *The Golden World* (2017)—by Chang His-kuo, the father of Taiwanese sf, exhibits elements that are congenial to a Deleuzian process of becomings within the context of posthumanism. Redundancy in the first novel refers to the Marxist theory of surplus value that capitalism wishes to destroy. And the sinking tendency no doubt reflects the phenomenon of climate change and the molecular movement of self-destructiveness of the Anthropocene. In

a world where dogs, plants, and stones can speak human language, as well as AIs who can argue with humans, Chang constantly references the sixth extinction event “in this terrible time called the Anthropocene” (Donna J. Haraway, *Staying with the Trouble* [Duke UP, 2016], 40). Here science fiction excels in the worlding of “multispecies flourishing on earth” in a process of wrapping life up “with a shell and a net, becoming human, becoming humus, becoming terran ... side-winding, snaky shape of becoming-with” (40). —**Wong Kin Yuen, Hong Kong Shue Yan University**