Submission Guidelines

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Editorial 2/2019

Juha Raipola, Bodhisattva Chattopadhyay, Esko Suoranta, Laura E. Goodin, & Dennis Wilson Wise

Welcome to *Fafnir* 2/2019 – Special Edition on Speculative Climate Fiction. Guest edited by Dr Juha Raipola of Tampere University, the issue begins with his prefatory essay, which seeks an answer to the perennial questions: what is speculative climate fiction in the first place and how can it address what is possibly the most pressing question of our time?

The research articles of the special edition begin with Michael Fuchs's "Vanishing Glaciers, the Becoming-Unextinct of Microorganisms, and Fathering a More-Than Human World: Climate Change Horror in the Alps." He analyses *Blugletscher* (2013), an Austrian horror-SF film that imagines humankind's end, but detects an optimism in such a prospect.

Next, Sami Ahmad Khan, in "Dom(e)inating India's Tomorrow(s)? Global Climate Change in Select Anglophonic Narratives," discusses the intersection of technology, politics, and environmental degradation in *Leila* (2017), *Domechild* (2013), and "Rain" (1993). His central concept of interrogation is that of the dome, which appears in the three texts, as a way to examine how Indian speculative fiction deals with political and environmental futures.

Third, Essi Vatilo's "Climate Change in A Chromium World: Estrangement and Denial in Ted Chiang's 'Exhalation'" interprets Chiang's short story as a climate-change narrative that can be seen to recontextualise climate change through naturalisation and world reduction. In her reading, the mechanical beings of the story encounter their demise in a way that resists different forms of denial. In the process, she argues, the story disentangles climate-change discourse from political polarisation.

The issue also covers two conferences: the Academic Track at the 2019 Worldcon in Dublin, held in August, as well as the "Forming the Future" conference at Plymouth University, held in September.

Finally, we present a collection of book reviews. Janice M. Bogstad reviews *Iain M. Banks by Paul Kincaid*; Gregory Conley reviews *Frankenstein and Its Classics: The Modern Prometheus from Antiquity to Science Fiction*; Andoni Cossío reviews

Tolkien: Maker of Middle-earth; Mick Howard reviews *Being Bionic: The World of TV Cyborgs* by Bronwen Calvert; Don Riggs reviews *Medievalism in* A Song of Ice and Fire *and* Game of Thrones by Shiloh Carroll; and Paul Williams reviews *Fantasy Literature and Christianity: A Study of the* Mistborn, Coldfire, Fionavar Tapestry *and* Chronicles of Thomas Covenant *Series* by Weronika Łaskiewicz.

While the call for submissions to our next issue is closed, we are very pleased to receive submissions for consideration for our 2/2020 issue; find the call for papers at https://journal.finfar.org/articles/call-for-papers-fafnir-2-2020/ and our submission guidelines at https://journal.finfar.org/for-authors/submission-guidelines/.

Once more, welcome to the Special Edition on Speculative Climate Fiction. We hope this issue prompts your own research and interest into the theme as well the study of speculative fiction in general.

Live long and prosper!
Juha Raipola, Guest Editor
Bodhisattva Chattopadhyay, Esko Suoranta, and Laura E. Goodin, Editors-in-chief
Dennis Wise, Reviews Editor
Fafnir – Nordic Journal of Science Fiction and Fantasy Research

What is Speculative Climate Fiction?

Juha Raipola

Here, at the end of 2010s, it is relatively safe to say that climate fiction is here to stay. Born as the unfortunate love child of global environmental crisis and narrative imagination, climate fiction is a timely cultural reaction to the growing societal awareness of human impact upon the planet and its climate system. During the last ten years, global anthropogenic climate change has become a stable theme in new narrative fiction, and climate fiction (cli-fi) has been recognised both academically and popularly as a legitimate narrative genre. As the increasing concern for climate change still has not led to adequate changes in the global consumption of fossil fuels, this kind of cultural interest in the worsening environmental situation can only be expected to grow in the near future. The emergence of global warming and other global-scale environmental issues as themes of fiction highlights the common need for a narrative experience of the changing world. Besides scientific explanations of the causes and effects of ecological change, we yearn for imaginative and affective narrative responses to the shared concern over our future as a species on a warming planet.

Climate fiction comes in many shapes and forms, however. Without the generic category of climate fiction, most of these narratives would usually be categorised as science fiction, science thrillers, science horror, Weird, (post-)apocalyptic fiction, or dystopian fiction. While authors and critics have been doubtful about the abilities of "serious" fiction to tackle the problem of climate change,[1] recent "literary" novels have also become increasingly concerned with the ongoing ecological crisis. Due to the large generic variety of fictional climate narratives, it might even be argued that despite forming a distinct thematic category of fiction, cli-fi seems to lack the formal characteristics of a genre proper. There is no common plot form, no shared setting, no recognisable genre-specific characters in the many fictional worlds of climate fiction that would properly tie the entire group together, even by family resemblance. The common denominator of all these narratives is merely the theme of climate change, which can manifest itself in a variety of ways in different genres and modes.

Despite forming such an incongruous group of narratives, climate fiction may typically be examined as representing either a "realistic" (mimetic) or a speculative

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[1] See, for example, Ghosh (16–21) and Trexler (240–51).

vision of climate change. While neither can be described as representing the effects of climate change more accurately than the other, these two modes of cli-fi differ in their basic narrative orientation. For instance, in realistic climate novels, the theme of climate change is usually examined in a rather subdued manner. To support the illusion of literary realism, these narratives are set in relatively familiar surroundings of the present day or a very-near-future world, where recognisable human characters ponder the effects of global warming. Questions relating to climate change are usually brought up by the narrator or the characters in their dialogue, while the fictional world itself remains mostly quotidian.

In speculative climate fiction, by contrast, the entire fictional world characteristically functions as a synecdoche for the changing climate. Speculative visions of flooding cities, melting glaciers, catastrophic storms, or drought-suffering environments demonstrate the potentially disastrous effects of climate change on the global environment, while the plot-level events of the narrative focus on the experience of living in a changed world. For example, in Emmi Itäranta's crossover young-adult novel *Memory of Water* (2014), a catastrophic change in the global environment has altered the availability of fresh water all around the world and turned the depicted societal setting into a dystopia of tightly controlled water sources. This kind of emphasis on the fictional world instead of the protagonists and their inner worlds is, of course, characteristic to speculative genres more generally, but in climate fiction, specifically, it can be productively used to represent sudden shifts in the global environment.

Realistic and speculative climate narratives also typically differ in their basic approach to the theme of climate change. In realistic climate novels, the focus is often on the various affective and cognitive responses – such as eco-anxiety, climate sorrow, or climate change denial – evoked by the global environmental situation. In speculative climate fiction, more attention is usually paid to the actual dynamics of climate change as a social-material process. There is often more than a hint of didacticism involved in these narratives as they pursue the complex entanglement of human and nonhuman causes of climate change and try to dramatise its potentially disastrous effects on life on Earth.

The emergence of climate change and other global-scale environmental issues as significant themes of speculative fiction has also altered some of the basic expectations of speculative genres. For example, in earlier decades it was common knowledge that science fiction is primarily a tool for societal self-diagnosis, with a rather limited capacity for speculation on hypothetical futures. For example, Fredric Jameson famously argued that SF's "deepest vocation" is to "dramatize our incapacity to imagine the future" (153), and in SF criticism more generally, futuristic narratives have been typically approached as deformed versions of science fiction proper. In speculative climate fiction, however, the predictive scenarios of climate science are routinely used as a backdrop for the imagined fictional worlds. Consequently, while speculative climate fiction can usually be interpreted as a form of societal diagnosis, it also habitually reads like an ecological prognosis. Part of its value thus stems from its ability to transform abstract scientific information into understandable and relatable "human-sized" narratives. This can be achieved either by representing the speculated direct consequences of climate change, or by analogy, where the fictional world can be fruitfully examined as somehow relating to the present or future material conditions of the planet Earth.

The emergence of environmental problems as a major theme in recent fiction has also transformed the utopian propensity of speculative fiction. There is a widespread cultural acknowledgement that the human impact on Earth systems has made the future far more fragile than before, and with the collapse of the modern distinction between Nature and Culture, the future can no longer be approached as a question of mere human imagination, choice, or will. Contemporary visions of the future need to be aware of the causal role of both human and nonhuman components in the making of our social-material reality, and neither utopian or dystopian modes of speculation can do without a proper recognition of the environmental limits of our planet.

Is speculative climate fiction thus an effective weapon in "saving the planet", to use the common hyperbolic expression of the environmental movement? The answer is a hesitant "no". Its material agency – meaning its capacity to induce measurable change in the material practices of human individuals or social groups – is unfortunately quite limited. As Timothy Clarke has rather convincingly argued, the "power of material modes of production, food habits, reproductive trends and so on" generally overpowers the role of "cultural imaginary" (19) in affecting the impact of climate change. Even an "ideal" climate narrative – one that would perfectly capture the complex and abstract nature of climate change in an emotional and thought-provoking story – would probably still have relatively little impact on the global consumption patterns of the human species en masse. In the current situation of climate change denial as part of identity politics, it also seems like an increasingly misplaced idea to assume that climate change is mostly happening due to lack of proper information or that it could be mitigated through didactic instrumental narratives about the effects of the ongoing environmental transformation.

Yet, one would also be misinformed to judge speculative climate narratives as completely pointless because of their apparent inability to alter the progression of climate change. At this very moment, the metaphoric and analogical powers of speculation could prove to be an indispensable cognitive and emotional toolbox for adapting to life on a warming planet. If speculative climate fiction can keep itself from regressing to repetitive survival tales in the post-apocalyptic desert, it has at least the potential to detox our thinking from the automatisms of perception brought on by the current cultural paradigm of consumer capitalism. As the average temperatures keep rising, we need to adapt to the new situation by a shift in our utopian imagination: instead of continuing to nostalgically lament the now foreseeable end of the current cultural order and its future promises, why not start to imagine alternative ways of living with the catastrophe in the coming era of a post-climate change planet?

Biography: Juha Raipola is a postdoctoral researcher at Tampere University, Finland. His current research is centered on questions of narrative in the field of environmental humanities, with a special focus on the limits of narrative form in relationship to the complexity of global ecological issues. Raipola has published articles on posthumanism, ecocriticism, and genre theory. He is currently working on a monograph about the current trend of eco-dystopian sensibility in contemporary Finnish fiction.

Works cited

Clark, Timothy. *Ecocriticism on the Edge. The Anthropocene as a Threshold Concept*. Bloomsbury, 2015.

Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. U of Chicago P, 2015.

Itäranta, Emmi. *Memory of Water*. HarperCollins, 2014.

Jameson, Fredric. "Progress versus Utopia; Or Can We Imagine the Future?" *Science Fiction Studies*, vol. 9, no. 2, 1982, pp. 147–58.

Trexler, Adam. *Anthropocene Fictions: The Novel in a Time of Climate Change*. U of Virginia P, 2015.

Vanishing Glaciers, the Becoming-Unextinct of Microorganisms, and Fathering a More-Than-Human World: Climate Change Horror in the Alps

Michael Fuchs

Abstract: Marketed as Austria's response to *The Thing* (1982), the horror-science fiction hybrid *Blutgletscher* (2013) depicts the re-emergence of seemingly extinct (or not known to have existed) microorganisms from thawing permafrost, which combine and recombine the genetic information of any lifeform they contact. As this article demonstrates, the Austrian film thus focuses on one of climate change's many unintended effects, the longer-term consequences of which are unpredictable. The film's transnational incorporation of *The Thing* adds to the effect, as it not only exposes the spatial and temporal flows in a globalised world but also scales up the viewer's imagination in an attempt to represent humanity's present and future in a climate-changed world. Indeed, this article suggests that *Blutgletscher*'s ending, in which the protagonist decides to raise a humanoid creature produced by the interaction between the microorganism and other lifeforms, imagines the end of humankind as it is known. Notably, this seemingly dark outlook conveys a cautious optimism about the prospect of a post-human future: life on Earth will continue; and some species carrying *Homo sapiens*'s genetic imprint will emerge from the ashes of human civilisation.

Keywords: Anthropocene; climate fiction; permafrost; science fiction; eco-horror; Austrian film.

> *It all started with a tiny chunk of dirt. The sample of 30,000-year-old permafrost, a frozen layer of soil from the Siberian tundra, weighed just a fraction of an ounce. But … that scrap was carrying within it … a*

> *gargantuan virus, the largest known to science, and still, despite having been in suspended animation for millennia, quite deadly.*
>
> Greenwood

The passage quoted above might read as if it was taken from a hackneyed piece of genre fiction; however, this is the opening paragraph of a *Time* report about the discovery of a giant DNA virus in Russian permafrost in early 2014. The study observes that the "average temperatures of the surface layer of Arctic permafrost have increased by 3°C" in the twentieth century. As a result, "permafrost in the Northern Hemisphere has diminished by 7%", which, in turn, has caused the "release of microorganisms from previously frozen soils, an unknown fraction of which was revived upon thawing" (Legendre et al. 4278). In other words, due to climate change, microorganisms that had been conserved in permafrost for millennia are thawing and returning to life. As "infectious microbes emerg[e] from a deep freeze" (Goudarzi), the imminent effects of climate change become not only a present-day reality but, in fact, harbingers of an even darker future shaped by humankind's past actions.[1] What seemed to be speculation has infiltrated the real, and reality has become indistinguishable from fantastic imaginations, undoing traditional patterns of differentiation.

Although Russian researchers discovered viable microorganisms in permafrost as early as 1911, it took another eighty years until scientists came to understand that thawing caused by global warming would lead not only to the disappearance of large chunks of permafrost (Maxwell) and the attendant release of methane trapped in the ice (Pearce), but also to an "increase in microbial activity", which would "further stimulate the emission of greenhouse gases resulting from the decomposition of organic matter stored in permafrost" (Gilichinsky and Wagener 249). Whereas David Gilichinsky and Stefan Wagener's mid-1990s study primarily focused on the exponential growth of greenhouse gases due to microorganisms' activity, 21st-century popular culture has been conjuring the coming of "zombie bacteria" (Doucleff), which will (potentially) end human dominance on Earth.

Dubbed "Austria's answer to *The Thing*" by the *Hollywood Reporter* after its international premiere at the 2013 Toronto Film Festival (Kit), *Blutgletscher* (2013; distributed as *Blood Glacier* in English-speaking countries) imagines such a scenario. The film demonstrates that the causes of climate change are "diffuse, partly unpredictable and separated from their effects by huge gaps in space and time" (T. Clark 11). *Blutgletscher* renders tangible the "nonlocal" nature of the hyperobject of climate change (Morton 1) through a microorganism revived in a very particular locale. The movie hence makes explicit the entanglements between the local and the global in our age. Since these traditionally separate domains "have collapsed into each other", Stacy Alaimo has argued that "they also reach across the unthinkable scale of the anthropocene as climate change, ocean acidification, extinction, and the production of xenobiotic chemicals make the location of each person's ethics and politics extend through vast geographical and temporal expanses" (*Exposed* 10).

If the Anthropocene is defined by complex entanglements of nature and culture, human and nonhuman, living beings and physical forces, then the traditional

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[1] My use of "human" and its derivatives draws on Dipesh Chakrabarty, who has stressed that "we can become geological agents *only historically and collectively*, that is, when we have reached numbers and invented technologies that are on a scale large enough to have an impact on the planet itself" (206–07; my italics). According to Edward Wilson, species-thinking might be the only salvation for humankind because it allows for thinking in planetary terms (xii).

conceptualisation of "the human" is constantly under erasure, as "the human" becomes "inseparable from 'the environment'" (Alaimo, *Bodily* 2). Alaimo's concept of trans-corporeality hence conceives of the human as "always intermeshed with the more-than-human world" and emphasises the "movement across bodies", which "opens up a mobile space that acknowledges the often unpredictable and unwanted actions of human bodies, nonhuman creatures, ecological systems, chemical agents, and other actors" (*Bodily* 2).

Blutgletscher taps into the symbolic reservoir of trans-corporeality by featuring a microorganism that combines and recombines the genetic codes of various species. The creature's need to create an animate being fit for survival in the Anthropocene leads to unexpected outcomes. As the organism constantly renews and remodels itself, it also attacks "the human" by producing a post-human lifeform, unnaturally delivered by a dead dog. Somewhat paradoxically, this monstrous next step in the evolution of humankind, I will argue, embodies a cautious optimism about the planet's future. I adapt the phrase "cautious optimism" from Jared Diamond. In contrast to his trust in human ingenuity and commitment to "solve our [environmental] problems" because "we are the ones in control of them" (521), my optimism is tainted by the "super wicked" character of our ecological dilemma (Levin et al.) and more in line with Lauren Berlant's "cruel optimism": "A relation of cruel optimism exists when something you desire is actually an obstacle to your flourishing" (1). The future flourishing of life on Earth depends on the end of "the human" as it is known.

Adapting *The Thing*

After *Blutgletscher*'s release, numerous reviewers used the Austrian film's appropriation of the John Carpenter classic against it. For example, Drew Taylor referred to *Blutgletscher* as the "latest unofficial 'The Thing' rip-off", which is "unable to capture the same kind of awe and terror that made 'The Thing' so powerful". Similarly, Ignatiy Vishnevetsky noted that *Blutgletscher*'s director "Marvin Kren and screenwriter Benjamin Hessler seem like the kind of guys who'd pop in a Blu-ray of *The Thing* on a weeknight". Since the filmmakers have "internalized much of the John Carpenter classic's snowbound imagery", the outcome is a "movie viewers have seen dozens of times before, and will see again, with slight variations, because it embodies a fundamental quality of B-horror entertainment". While Vishnevetsky acknowledged that recognising this repetition-with-a-difference generates one of the main pleasures of watching low-budget films, he failed to elaborate on the differences between *Blutgletscher* and Carpenter's iconic motion picture. Indeed, even though *Blutgletscher* may be considered a "rip-off" of *The Thing*, the "material, historical and political conditions which surround and penetrate the moment of production and subsequent moment(s) of reception" (Mazdon 26) produce a unique cultural artefact whose significance – at least in part – lies in its differences from the Carpenter movie.

Blutgletscher opens with an insert which makes the film's ecological context and environmental message explicit right away: "In 2014, the last skeptics fall silent. The climate disaster is worse than ever imagined. Antarctica's ice will be gone within a decade. The Alpine glaciers will disappear. The consequences are unclear but we know one thing. Life on Earth will change forever. We will change."[2] This paratext makes clear that *Blutgletscher* explores how a planetary transformation such as climate change

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[2] While I have taken the illustrations from the Austrian Blu-ray, I quote from the dubbed version available in the United States.

"might affect particular places and individuals" such as the regions in the Eastern Alps above the timberline and the few scientists working and living there (Heise, *Sense* 206).

The film's narrative centres on a team of three Austrian scientists and a technician working at a remote climate-research station in the Tyrolean Alps between Austria and Italy. The day before an Austrian minister visits the facility, Janek, the technician, and Falk, a mineralogist, discover the titular blood glacier (Figure 1). As a responsible and thoughtful scientist, Falk instantly takes a sample of the unknown substance. Back at their camp, the scientists conclude that single-celled organisms have been liberated from permafrost due to snowmelt. Unbeknownst to the scientists at first, the organisms infect and alter all living beings they contact. As a result, various genetic mutants begin to appear (Figure 2) as the microorganisms seemingly try to find a form ready for survival in a world that has been irrevocably altered by human activities and their unintended consequences.

Figure 1: Janek and Falk discover the blood glacier.

Figure 2: These are some of the monstrous hybrids that appear in the movie.

After the scientists and Janek have come to understand what type of threat they are facing, the hybrids begin to attack the research station, in which the humans are sequestered. The resultant confrontation between humans and monstrous nature

draws on the idea that the forbidding environment above the timberline, which provides the setting for the film, is characterised by the "overmastering presence of nature", which has the power to "overwhelm … the individual", to draw on Yi-Fu Tuan's elaborations on frosty environments (154–55). Janek, his former (and by the end of the film seemingly future) partner Dr Tanja Monstatt (a climatologist), Minister Bodicek, the reporter Irene, and the senior alpinist Bert survive the attacks, but the film concludes on what traditional humanists might consider a downbeat note, as *Blutgletscher* confronts its viewers with possible genetic and evolutionary alterations that climate change will entail for human beings and other lifeforms.

Scaling Up *The Thing*

While the plot and basic premise of *Blutgletscher* are clearly indebted to *The Thing*, the relocation from Antarctica to the Alps reveals the interrelations between the local and global in the early 21st century. Symbolically, the setting of *The Thing* feeds into some of the film's main themes. At first, Antarctica may seem to be a very particular cartographic marker located at the southern tip of the planet as it is known (or, rather, imagined). However, the first few moments in the narrative present of *The Thing* make clear that Antarctica is an empty space devoid of human reference points. As Elena Glasberg has observed, "The opening shots emphasize Antarctica as a place of cultural and cognitive dissonance where the structures and expectations created for the rest of the globe do not apply: It is a place where nothing – or anything – can happen" (67). Accordingly, the "ice-covered landscape of the Antarctic" provides a "hostile, unearthly, and surreal" setting which is "remote, antipodean, and uninhabited" (Leane, "Locating" 226). "Antarctica" is an empty signifier, a free-floating idea which may take on very distinct and diverse meanings to different people, as the continent's remoteness entails that it is mediated like few other places on Earth.

Indeed, Elizabeth Leane asserts in her book *Antarctica in Fiction* (2012) that

> the poles are characterized by paradoxes. They are points of cartographical and astronomical significance but are marked by no physical feature…. They are both central (points on the axis around which the earth turns and cartographically where lines of longitude intersect) and marginal (remote, relegated to the edges of maps). (35)

In science fiction, writers and filmmakers have "projected onto the southern void fantasies of paradise or visions of the sublime", but also humankind's "deepest phobias", as Antarctica frequently represents the "dark other, the alien planet – the antihuman, the monstrous" (E. G. Wilson 145–46).

The Thing exploits these ambiguities to add to the Thing's liminal character, as the film's monster is caught in a seemingly never-ending process of becoming. The Thing constantly changes its shape – its "Thingness" only becomes (remotely) humanly graspable when the microorganic lifeform inhabits and transforms a material body known to humans. Similarly, Antarctica is a nowhere-place that could simultaneously be everywhere. Space thus loses it cartographic anchor and – quite literally – "becomes", as space exists only temporarily in the moment of its production. The attendant embrace of the fleeting qualities of signification are in line with the postmodernist ethos of Carpenter's film (Piñedo 19; Fuchs 79–80), which

results in the uprooting from a particular geographic place, thereby transporting the diegetic events into a hyperreal space separated from material reality.

Blutgletscher's intertextual incorporation of *The Thing* produces a similar effect. After all, any markedly intertextual cultural artefact is characterised by an "endless circuit of intertextuality with no originating text, no basic reference point" (Kuhn 178). As the text devours the intertext, the boundaries between the two begin to disappear. However, through its setting in the Eastern Alps, *Blutgletscher* resists the concomitant postmodernist pull to symbolically end up in a nowhere-place, for the setting acknowledges that "we are all … embodied and physically located" (Tomlinson 149). In so doing, *Blutgletscher* recognises that the "paradigmatic experience of global modernity for most people … is that of staying in one place but experiencing the 'dis-placement' that global modernity *brings to them*" (Tomlinson 9). In fact, if the "climate disaster" leads to the disappearance of Alpine glaciers and entails that "Life on Earth will change forever", as the opening paratext suggests, then *Blutgletscher* showcases how global climate change affects local life in the heart of Europe (or even the heart of the globe, as the Austrian national anthem maintains). At the same time, the setting in the barely humanly inhabited high mountains enhances the critique of human-caused climate change, as even this "innocent" place, largely removed from human experience (but definitely not from the cameras and other surveillance technologies observing Alpine glaciers), suffers from global warming.

Susanne Moser has suggested that the effects of climate change become most apparent in remote and uninhabitable places (e.g., the polar regions and open seas), which "have to compete for attention with immediately felt physical needs, professional demands, economic necessities, or social obligations" (34). The Alps, however, are in the centre of Europe and are key to tourism-related industries. Accordingly, Alpine glaciers have, in fact, become (at least local) icons of climate change – and they have been affected in similar ways as the polar regions. More than twenty years ago, Swiss scientists Wilfried Haeberli and Martin Beniston pointed out that global warming "causes pronounced effects" in the Alps, with the increase in air temperatures being about twice the global average, a development that has become even more marked since the 1980s. As a result, the volume of Alpine glaciers decreased by about 50% between the 1850s and 1990s. These effects are even more dramatic in the Eastern Alps (east of Lake Constance), as they are on average lower than the Western Alps (Haeberli and Beniston 258–60). The Vernagtferner Glacier in the Austrian Ötztal Alps (less than seventy kilometres from where *Blutgletscher* was shot) provides a telling example, as researchers have collected data since 1889, when its volume was estimated at about 600 million tons. By 2010, its volume had dropped by about 65% (Braun, Reinwarth, and Weber 92). Current estimates suggest that by 2025, the glacier will have disintegrated into five separate ones, which might entirely vanish as soon as 2035 (Braun, Reinwarth, and Weber 101–02).

Blutgletscher taps into these realities of life in the Anthropocene. As the minister's team is hiking up the mountains, Dr Monstatt echoes (real-world) glaciologists' conclusions, noting that the "glacier is retreating much faster than we expected – at an exponential rate! … [I]t's a concern because it proves that science has reached its limits. All prognoses were wrong – even the bleakest ones." In addition to acknowledging glacier melt, Dr Monstatt's rather simple statement exposes the inability of science not only to keep pace with the changes anthropogenic actions have been causing across the globe, but also to fully explain the

environmental catastrophe humankind has driven the planet into, an idea supported by *Blutgletscher*'s substitution of the extra-terrestrial monster featured in *The Thing* with a decidedly terrestrial one.

A scene during their hike up the mountains depicts the environmental devastation. Looking at a practically ice-free glacier on the other side of the mountain range, Bert, the alpinist guiding Minister Bodicek and her entourage to the research facility, reminisces: "It's hard to imagine, but as a kid, I went sledding over there." As he looks to the right and points at a spot in the distance, Bert continues, "The glacier stretched that far. Now, it's all gone." Notably, up until this point, pictures of green meadows evoking the naïve and innocent life in harmony with nature characteristic of the *Heimatfilm* accompany the journey of Minister Bodicek's group, evoking the beauty of nature and the human characters' connectedness to it so typical of the genre. However, starting with this scene, the colour palette employed and the overall tone of the film changes dramatically as the group traverses barren landscapes and the natural environment incrementally turns into an enemy. The stark contrast on the representational level evokes the radical transformation the glaciers in the region have gone through in the last couple of decades. In turn, the relatively quick transformation of the glacier (a hyperobject that does not usually display change within the scale of human time) points at the uncontrollable power of nature, which becomes manifest seconds later when a supersized mosquito bites photographer Urs.

Spatially, the entanglements between the local and the global question the conceptual separation of these two categories; temporally, the film's pastiche-like quality achieves a similar effect. As indicated above, *The Thing* is woven into the fabric of *Blutgletscher*. This close intertextual connection collapses temporal categories, as traditionally conceived, as the past (*The Thing*) becomes a present (*Blutgletscher*) that is inseparable from the future (*The Thing + Blutgletscher*).

Arguably, this "repetition-as-difference" (Miller 1–21) is typical of genre cinema, as individual genre films are always "dependent on traces of other stories, familiar images and narrative structures, [and] intertextual allusions" (Spooner 10). The attendant reliance on genre conventions, Yvonne Leffler has argued, creates a determinist pattern "so intense that the fictional world … contain[s] nothing that is unique" (191). *Blutgletscher* instrumentalises the resultant "pan-determinism" (Hills 65) in an attempt to mirror life in the Anthropocene, which is characterised by the constant oscillation between power and powerlessness. After all, in the Age of the Human, humankind has become both "*perpetrator and victim*", and suffers from the shock of having lost "sovereignty over assessing the dangers to which one is subjected" (Beck 38, 54). *Homo sapiens* has inadvertently caused changes across the planet and is increasingly confronted with the "unintended consequence[s] of human choices" (Chakrabarty 210). Humankind might "rival the great forces of Nature" (Steffen, Crutzen, and McNeill 614), but humanity simultaneously becomes increasingly aware of its constant state of "out-of-control-ness" (N. Clark 88). Humanity might have become a geological agent, but the outcome of specific actions can be neither forecasted nor planned.

In addition, the temporal confusion is typical of science-fiction texts struggling to make sense of (and hence represent) climate change, as these texts "envision the present as a future that has caught up with us" (Heise, "Introduction" 4). Whereas the inexorable progress toward a future predefined by the present and the past implies determinist tendencies, "indeterminacy, uncertainty, and the possibility of a variety of

different outcomes" define the Anthropocene future (Heise, *Sense* 142). Undoubtedly, human-caused climate change, biodiversity loss, ocean acidification, and most of the other markers of the Anthropocene will be realities of life on Earth for centuries to come, but the exact shape of the planet's life in – say – a thousand years from now is unsure and hazy.

Fathering a More-Than-Human World

In her techno-utopian book *Scatter, Adapt, and Remember* (2013), in which she tries to assuage fears pertaining to humankind's impending extinction (or at least radical reduction in terms of pure numbers), Annalee Newitz stresses that whereas humans tend to "envision a far-future full of people who look just like us, zinging around the galaxy in ships that are basically advanced versions of rockets", in reality the "humans of tomorrow will be nothing like us – their bodies will have been transformed by evolution, and their civilizations by the kinds of culture-changing events that have already marked human history" (148). Newitz's emphasis on evolutionary processes is particularly noteworthy here, for they play a key role in *Blutgletscher*. After performing an autopsy on a "hybrid of a woodlouse and a fox", the science team's resident biologist, Birte, explains that the microorganisms that have appeared due to snowmelt

> are something like tiny gene laboratories, and they are incubators at the same time. They penetrate the body through the food and use the host's DNA and the DNA of any other animal in the host's stomach. They combine these to form a new kind of species – completely randomly. They follow the trial-and-error principle – or, the evolutionary principle.... Any mixture you can think of is possible. Maybe the legends of wolfmen and mermaids are based on biological realities.

Birte's remark that "any mixture is possible" points at the interrelatedness of all living beings and their environments that is at the heart of evolution. While the biologist is informing the rest of the group about her findings, Janek begins to suspect that a human-dog-whatever-else hybrid might be growing inside his loyal dog Tinnie, which was attacked by one of the creatures and then licked blood from a wound on Janek's forehead. Whereas the "essential horror of *The Thing* was in the Thing's total disregard for and ignorance of the human body" (Brophy 10), the microorganisms in *Blutgletscher* target the conceptualisation of "the human" as such. As they do so, the Alpine horror movie exposes the "foolishness of human exceptionalism" (Haraway 244), for human environments and their very being are defined by a never-ending process of becoming. And "becoming is always becoming *with*" (244).

Janek functions as a stand-in for the "average Joe" who is shocked by what the scientists (who believe they are on the verge of making the "greatest scientific discovery possibly ever") reveal and the potential implications of their discoveries. Upon first catching a glimpse of what he believes to be a rabid fox, Janek stresses that the creature "looks like a beetle". Seconds later, he assures himself that it "must be the rabid fox", only to add that the creature "looked totally deformed. Its face was all mangled". The oscillation between trying to confirm accepted knowledge and established categories ("it must be a fox") and questioning them ("looks like a beetle") underlines the ontological anxieties the hybrid's mere existence unleashes

in Janek, which are only exacerbated once he comes to understand that "there are fox-bear-beetle monsters on the loose". Janek's use of a variety of descriptors for the monsters the team confronts acknowledges the linguistic difficulty faced when trying to capture their incessantly shape-shifting nature. These hybrids are what Gry Ulstein has called "Anthropocene monsters" – "seemingly out-of-control creatures" (75) that evoke "oppressive, claustrophobic horror[s]" (Morton 132), as the real-world future of vanishing glaciers seems inevitable. What is truly disturbing, however, is that the consequences of this ecological disaster are uncertain at this point.

Notably, *Blutgletscher* ends when a helicopter takes off with the survivors and the human-dog-whatever-else mutant aboard. On the one hand, the lack of narrative closure leaves room for the sequel; on the other, it generates additional ambiguity, in particular concerning the characters' futures and the question of what will become of the mutant. Crucially, a number of scholars discussing climate change narratives have argued that climate fiction tends to deny a sense of closure, as well. According to Frederick Buell, this narrative openness implies that humankind might adapt to global warming. This adaptation is an unfinished process, as climate change is ongoing and can no longer be stopped (30–31). In addition, the narrative openness suggests that any countermeasures to human-caused environmental changes will again entail unintended ecological effects. In other words, simple cause-and-effect logics (and thus also a straightforward chronology featuring narrative closure) no longer do apply, as the consequences of seemingly insignificant actions such as taking one's petrol-fuelled car to get to the office might cause ruptures across the globe. Hence, any kind of solution offered can be little more than an illusion – if not delusion.

However, the response to the complexity of the problems entailed by the "radical intrusion" (Colebrook 87) that is the Anthropocene cannot be paralysis and hopelessness. Some might argue that humans need to confront the "most super wicked problem of our times" (Levin et al. 148) and keep on going for the "hell of it and for the love of the world" (Braidotti 278). *Blutgletscher*, indeed, does not just present an alarmist message about the possible effects of global warming and its inevitable long-term consequences. It also offers a cautious optimism by emphasising that life on Earth will continue to thrive – but in different forms. As the film comes to a close, Tanja discovers the humanoid hybrid that has burst out of Tinnie's body. Although Janek is initially determined to kill the creature, Tanja easily convinces him not to do so. They take the creature, which resembles a human baby (Figure 3), with them into the helicopter. Notably, Robin L. Murray and Joseph K. Heumann have argued that the early 21st-century eco-apocalypse has introduced a "new eco-hero": father figures "seeking to save their own children or children they adopt as their own from an environment that humanity has made toxic in multiple ways" (6). *Blutgletscher* undermines the humanist and often patriarchal notions accompanying these paternal figures, as Tanja reveals a post-human future to Janek, which he embraces by making sure the hybrid (and with it the microorganism) not only survives, but, in fact, returns to civilisation.

Figure 3: The post-human offspring embodies a cautious optimism about future life on the planet.

Adam Trexler has observed that for a long time, "climate change was imagined as a final disaster that could be endlessly deferred" (loc. 4559). In *Blutgletscher*, climate change is an accepted reality and has exposed what was hidden beneath a layer of ice for thousands, if not millions, of years. Glacier melt not only releases long-disappeared microorganisms but also triggers horrifying evolutionary processes. All of this sounds rather bleak. For humans, *Blutgletscher*'s monsters hold few – if any – future promises beyond guaranteeing that there will be post-human life (in the sense of life after humankind) on the planet – humans will not manage to eradicate all life on Earth. By apparently wanting to raise the post-human creature, Janek "embraces the possibilities of becoming in relation to a radical otherness" (Alaimo, *Exposed* 18) and takes the first step toward erasing the human. Of course, the post-human future that Janek thus embraces is hazy; but his decision to nurse the hybrid anticipates the microorganism's spread across the globe and the attendant end of the human as it is known. Humankind's footprint in the Earth's crust and its effect on the atmosphere would remain traceable for hundreds of years to come, but this act of effective self-extinction (with the aid of a natural agent) will help the planet adapt to what *Homo sapiens* has done to it.

Acknowledgements

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Works Cited

Alaimo, Stacy. *Bodily Natures: Science, Environment, and the Material Self*. Indiana UP, 2010.

---. *Exposed: Environmental Politics and Pleasures in Posthuman Times*. U of Minnesota P, 2016.

Beck, Ulrich. *Risk Society: Towards a New Modernity*. Translated by Mark Ritter, Sage, 1992.

Berlant, Lauren. *Cruel Optimism*. Duke UP, 2011.

Blutgletscher. Directed by Marvin Kren, performances by Gerhard Liebmann, Edita Malovčić, Brigitte Kren, and Santos, Allegro Film, 2013.

Braidotti, Rosi. *Transpositions*. Polity, 2006.

Braun, Ludwig, Oskar Reinwarth, and Markus Weber. "Der Vernagtferner als Objekt der Gletscherforschung." *Zeitschrift für Gletscherkunde und Glazialgeologie*, vols. 45/46, 2011/2012, pp. 85–104.

Brophy, Philip. "Horrality: The Textuality of Contemporary Horror Films." *Screen*, vol. 27, no. 1, 1986, pp. 2–13.

Buell, Frederick. "A Short History of Environmental Apocalypse." *Future Ethics: Climate Change and the Apocalyptic Imagination*, edited by Stefan Skrimshire, Continuum, 2010, pp. 13–36.

Chakrabarty, Dipesh. "The Climate of History: Four Theses." *Critical Inquiry*, vol. 35, no. 2, 2009, 197–222.

Clark, Nigel. "Panic Ecology: Nature in the Age of Superconductivity." *Theory, Culture & Society*, vol. 14, no. 1, 1997, pp. 77–96.

Clark, Timothy. "Introduction: The Challenge." *The Cambridge Introduction to Literature and the Environment*, edited by Timothy Clark, Cambridge UP, 2011, pp. 1–11.

Colebrook, Claire. *Death of the PostHuman: Essays on Extinction*. Open Humanities Press, 2014.

Diamond, Jared. *Collapse: How Societies Choose to Fail or Succeed*. Penguin Books, 2005.

Doucleff, Michaeleen. "Are there Zombie Viruses in the Thawing Permafrost?" *NPR*, 24 Jan. 2018, https://www.npr.org/sections/goatsandsoda/2018/01/24/575974220/are-there-zombie-viruses-in-the-thawing-permafrost. Accessed 15 May 2018.

Fuchs, Michael. "A Horrific Welcome to the Desert of the Real: Simulacra, Simulations, and Postmodern Horror." *Landscapes of Postmodernity: Concepts and Paradigms of Critical Theory*, edited by Petra Eckhard, Michael Fuchs, and Walter W. Hölbling, LIT Verlag, 2010, pp. 71–90.

Gilichinsky, David, and Stefan Wagener. "Microbial Life in Permafrost: A Historical Review." *Permafrost and Periglacial Processes*, vol. 6, 1995, pp. 243–50.

Glasberg, Elena. *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration & Climate Change*. Palgrave Macmillan, 2012.

Goudarzi, Sara. "As Earth Warms, the Diseases That May Lie within Permafrost Become a Bigger Worry." *Scientific American*, 1 Nov. 2016, https://www.scientificamerican.com/article/as-earth-warms-the-diseases-that-may-lie-within-permafrost-become-a-bigger-worry/. Accessed 15 May 2018.

Greenwood, Veronique. "Secrets of the Giants, Ancient, Frozen, Killer Virus." *Time*, 7 March 2014, https://time.com/14705/giant-virus-in-permafrost/. Accessed 15 May 2018.

Haeberli, Wilfried, and Martin Beniston. "Climate Change and Its Impacts on Glaciers and Permafrost in the Alps." *Ambio*, vol. 27, no. 4, 1998, pp. 258–65.

Haraway, Donna J. *When Species Meet*. U of Minnesota P, 2008.

Heise, Ursula K. "Introduction: The Invention of Eco-Futures." *Ecozon@: European Journal of Literature, Culture and Environment*, vol. 3, no. 2, 2012, pp. 1–10.

---. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. Oxford UP, 2008.

Hills, Matt. *The Pleasures of Horror*. Continuum, 2005.

Kit, Borys. "Toronto: *The Station* is Austria's Answer to *The Thing*." *Hollywood Reporter*, 7 Sept. 2013, https://www.hollywoodreporter.com/heat-vision/toronto-station-is-austrias-answer-623648. Accessed 15 May 2018.

Kuhn, Annette. "Intertexts: Introduction." *Alien Zone: Cultural Theory and Contemporary Science Fiction Cinema*, edited by Annette Kuhn, Verso Books, 1990, pp. 177–82.

Leane, Elizabeth. *Antarctica in Fiction: Imaginative Narratives of the Far South*. Cambridge UP, 2012.

---. "Locating the Thing: The Antarctic as Alien Space in John W. Campbell's 'Who Goes There?'" *Science Fiction Studies*, vol. 32, no. 2, pp. 225–39.

Leffler, Yvonne. *Horror as Pleasure: The Aesthetics of Horror Fiction*. Translated by Sara Death, Almqvist & Wiksell, 2000.

Legendre, Matthieu, et al. "Thirty-Thousand-Year-Old Distant Relative of Giant Icosahedral DNA Viruses with a Pandoravirus Morphology." *Proceedings of the National Academy of Sciences of the United States of America*, vol. 111, no. 11, 2014, pp. 4274–79.

Levin, Kelly, et al. "Overcoming the Tragedy of Super Wicked Problems: Constraining Our Future Selves to Ameliorate Global Climate Change." *Policy Sciences*, vol. 45, 2012, pp. 123–52.

Maxwell, Barrie. "Arctic Climate: Potential for Change under Global Warming." *Arctic Ecosystems in a Changing Climate: An Ecophysiological Perspective*, edited by F. Stuart Chapin III, et al., Academic Press, 1992, pp. 11–34.

Mazdon, Lucy. *Encore Hollywood: Remaking French Cinema*. British Film Institute, 2000.

Miller, J. Hillis. *Fiction and Repetition: Seven English Novels*. Harvard UP, 1982.

Morton, Timothy. *Hyperobjects: Philosophy and Ecology After the End of the World*. U of Minnesota P, 2013.

Moser, Susanne C. "Communicating Climate Change: History, Challenges, Process and Future Directions." *WIREs Climate Change*, vol. 1, no. 1, 2010, pp. 31–53.

Murray, Robin L., and Joseph K. Heumann. *Ecology and Popular Film: Cinema on the Edge*. SUNY P, 2009.

Newitz, Annalee. *Scatter, Adapt, and Remember: How Humans Will Survive a Mass Extinction*. Anchor Books, 2013.

Pearce, Fred. "Methane Locked in Permafrost May Hold Key to Global Warming." *New Scientist*, 4 March 1989, p. 28.

Piñedo, Isabel. "Recreational Terror: Postmodern Elements of the Contemporary Horror Film." *Journal of Film and Video*, vol. 48, no. 1/2, 1996, pp. 17–31.

Spooner, Catherine. *Contemporary Gothic*. Reaktion Books, 2006.

Steffen, Will, Paul J. Crutzen, and John R. McNeill. "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?" *Ambio*, vol. 36, no. 8, pp. 614–21.

Taylor, Drew. "Review: Low Budget Austrian Horror Movie *Blood Glacier* is Campy and Limp." *IndieWire*, 1 May 2014, www.indiewire.com/2014/05/review-low-budget-austrian-horror-movie-blood-glacier-is-campy-and-limp-86462/. Accessed 15 May 2018.

The Thing. Directed by John Carpenter, performances by Kurt Russell, T. K. Carter, Keith David, David Clennon, and A. Wilford Brimley, Universal Pictures, 1982.

Tomlinson, John. *Globalization and Culture*. U of Chicago P, 1999.

Trexler, Adam. *Anthropocene Fictions: The Novel in a Time of Climate Change*. U of Virginia P, 2015.

Tuan, Yi-Fu. "Desert and Ice: Ambivalent Aesthetics." *Landscape, Natural Beauty and the Arts*, edited by Salim Kemal and Ivan Gaskell, Cambridge UP, 1993, pp. 139–57.

Ulstein, Gry. "Brave New Weird: Anthropocene Monsters in Jeff VanderMeer's *The Southern Reach*." *Concentric: Literary and Cultural Studies*, vol. 43, no. 1, 2017, pp. 71–96.

Vishnevetsky, Ignatiy. "*Blood Glacier* is a Solid B-Monster Movie, Nothing More or Less." *AV Club*, 2 May 2014, https://film.avclub.com/blood-glacier-is-a-solid-b-monster-movie-nothing-more-1798180318. Accessed 15 May 2018.

Wilson, Eric G. *The Spiritual History of Ice: Romanticism, Science, and the Imagination*. Palgrave Macmillan, 2003.

Wilson, Edward O. Foreword. *Common Wealth: Economics for a Crowded Planet*, by Jeffrey D. Sachs, Penguin Press, 2008, pp. xi–xvi.

Dom(e)inating India's Tomorrow(s)? Global Climate Change in Select Anglophonic Narratives[1]

Sami Ahmad Khan

Abstract: Politics, technology, and nature constitute an inseparable triad in India's fictional futures. This paper focuses on the deployment of technology – as the "dome" – and its relationship with environmental degradation and social marginalisation within select Indian English narratives. It ascertains how the dome responds, negotiates and/or precipitates otherisation and global climate change within an Indian context. Using the framework of Janet Fiskio's "lifeboat" and "the collective" narratives, it compares the varying textual/contextual topographies of the dome in *Leila* (2017), *Domechild* (2013), and "Rain" (1993).

Keywords: Climate fiction, Indian science fiction, Domechild, Leila, Rain (short story), climate change, Dome.

1. Introduction

The film *2012* (2009) begins at the fictional Naga Deng Copper Mine, and *The Day After Tomorrow* (2004) premiers with a UN conference on global warming in Delhi. Clearly, India is no stranger to environmental apocalypses – at least not in recent Hollywood disaster films. For Rowland Hughes and Pat Wheeler, climate change has "made its way towards the mainstream in recent years, on both the screen and the page, and has now eclipsed nuclear terror as the prime mover of the apocalyptic and dystopian imagination" (1). However, India's own film industries

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[1] This paper may source its objects of study from Anglophonic Indian fiction, but does not view them as sole (or even major) representatives of Indian climate fiction and science fiction (primarily due to India's linguistic and literary diversity). Moreover, the dome does not appear in most contemporary Indian SF in English (which propelled me to undertake this endeavour).

have not paid much attention to climate change or considered environmental degradation as a subject worthy of constant depiction on the silver screen, although its speculative fiction has.

With 22 "official" languages alone, India has had a robust speculative fiction tradition (especially in its regional languages) that shows a marked affinity towards exploring the relationship between humanity and the environment. For example, Jayant Narlikar's "Ice Age Cometh" in Marathi, "The Runaway Cyclone" by J. C. Bose in Bangla, and Arvind Mishra's "Ek Aur Kraunch Vadh" in Hindi are either driven by anthropocenic concerns or are premised on global climate change (GCC) or environmental disasters.

In a South Asia where clean air and potable water are becoming a new *de facto* currency in light of their monetisation and commoditisation, linking such scenarios with India 2020 becomes essential, especially in light of Ursula K. Heise's assertion that "ecological issues are situated at a complex intersection of politics, economy, technology and culture" ("Hitchhiker's" 514). Currently, parts of India are in the throes of drought *and* flooding. The government think-tank NITI Aayog reports that by 2030 Indian's "water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people" (15). India's air quality has also become so hazardous that "air pollution is now the third-highest cause of death among all health risks", according to the Centre for Science and Environment, a public-interest research and advocacy organisation based in Delhi, and the "life expectancy [of Indians] has reduced by over 2.6 years" ("Briefing" 13).

In an attempt to trace the "prehistory of fictional representations of climate change", Trexler and Johns-Putra "turn first to science fiction" and then to genre thriller (186). Contemporary Indian English-language SF is also conscious of what humans are doing to this planet. For example, Ruchir Joshi's *The Last Jet-Engine Laugh* (2001) features an acute shortage of water among other issues (exacerbated by a deeply divided society);[2] Shovon Chowdhury's *The Competent Authority* (2013) depicts armed struggle for the control of resources after a nuclear war; and Manjula Padmanabhan's short story "Sharing Air" (2004) presents a world inhabited by only two million people, all "concentrated in the few remaining areas where the atmosphere is thick enough that the stars don't show in the daylight" (89). The works of Amitav Ghosh and Vandana Singh highlight similar quandaries.[3] This resonates with Janet Fiskio's assertion that "any effort to engage with GCC as a phenomenon of meaning and politics, rather than merely a biophysical problem, requires engagement with the texts and images that reproduce these axiological narratives" (13).

This paper deals solely with three Indian (Anglophonic) texts that operate at the intersection of technology (dome), politics (otherisation), and environmental degradation. It ascertains how a technological totem (such as the dome) plays with

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[2] To quote from Suparno Banerjee's doctoral dissertation *Other Tomorrows*: "*The Last Jet-Engine Laugh*, however, he assigns the cause of this dreadful condition to chemical warfare – the Pakistani army sprays the glaciers in northern India with toxic chemicals to cut off the main source of water for the Indian army" (104).

[3] I steer clear of debating whether these texts are SF or clifi. Instead, I adopt the umbrella term of speculative fiction to focus on environmental degradation and climate change manifested by these works –even though one can argue (like Siobhan Adcock) that clifi is not speculative fiction any longer (since it now has a mimetic backbone).

India's futures, and identifies how and why domes function in these narratives.4 The epistemic framework of the dome emerges as a logical entry point into the materiality of environmental degradation, the depletion of natural resources, and the marginalisation of certain groups.

The choice to use the domes to comment on GCC is a conscious one, since they have appeared across multiple formats outside India. From *Doctor Who*'s Gallifrey (television) to the Gungan Underwater City in *The Phantom Menace* (cinema); from the floating domed cities in Scott R. Sanders' *Terrarium* to the Glasshouse inside New Crobuzon in China Miéville's *Perdido Street Station*(fiction), domes exist within various ideatic frameworks. In "Adventures in Science Fiction Cover Art", Joachim Boaz mentions:

> Glass-domes against pollution, the ravages of evil space creatures, the vacuum of space (April, 1954 edition of *If*), adverse climates/atmospheres (*The Sands of Mars, Trouble on Titan*)? Or, nagging fears that something might come — whatever it might be. And of course, to keep people in (*Eight Against Utopia*). Some of these seemingly fragile domes contain devastating weapons (*The Lunar Eye*), or are part of a vast computer network (*Matrix*), or contain the last remnants of a previous metropolis (*The Years of the City*).

Domes build on each other: before Kim Stanley Robinson's domed city of Terminator, before Stephen King's *Under the Dome*, R. Buckminster Fuller had already envisaged a dome over Manhattan as early as 1960 to control atmospheric conditions. The "designers of Arizona research facility Biosphere 2 and radical artist Tomás Saraceno" have also negotiated with this tradition, which embodies "contradictory, yet symbiotic elements: protection, freedom, potential utopias" (Squire et al). The dome not only becomes a symbol of humanity's mastery over nature using cutting-edge technology, but simultaneously emerges as a hermetically sealed, sterile space whose physical topography precipitates marginalisation. Not everyone has equal access to these arks/domes, with entry implying life and failure to enter meaning certain death. For example, *2012* treats its massive arks as floating domecities, bastions of defiance against nature's onslaught.

The easy access – or the lack thereof –for common people to such life-saving infrastructure in the face of an apocalypse comments on multiple paradigms. As Fiskio argues, "GCC discourse draws on the genres of utopia and dystopia to imagine the alternative futures, but in doing so it perpetuates a set of dichotomous narratives about human nature and the kinds of societies we can sustain" (14). Fiskio borrows from Rebecca Solnit's "social Darwinism" and "mutual aid" (from *A Paradise Built in Hell*) and comes up with the "lifeboat" and "collective" as two opposing narratives in GCC discourse. The first "lifeboat" (borrowed from Garrett Hardin's "Living on a Lifeboat", *Bioscience*, 1974) takes a "neoclassical economic view of humans as rational agents who make choices to further their self-interest"; it "imagines human behavior in a monolithic way (as a struggle for survival) and ignores historical, cultural, economic, and political contingencies" (14). Despite ruthless decisions, it "holds out the

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4 There is a sizeable creative and critical mass regarding the dome outside Indian speculative fiction; much global SF/clifi has engaged with the scientific, social, and psychological dimensions of the dome. However, Indian English speculative fiction has not. Thus, drawing connections between dome narratives within and without India is beyond the purview of this paper, as it views domes in an India-specific context (while being conscious of their interconnectivity with the global epistemes *à la* Heise). Consequently, it eschews any sustained theoretical engagement with dome criticism and theory.

possibility of creating a sustainable, if exclusive, society" (14). In the second narrative ("the collective") Fiskio imagines humanity to be "essentially courageous and generous in the face of climate chaos" and further agrees with Solnit that "unjust social institutions are the problem, and climate change, like other disasters, offers the possibility of creating new modes of politics and new communities" (14).

I investigate the domes of the selected texts, especially as their *raison d'être* sheds light on current political, environmental, and socio-economic discourses. Aware of Trexler and Johns-Putra's exploration of how "authors represent climate change as a global, networked, and controversial phenomenon" in which "they move beyond simply employing the environment as a setting and begin to explore its impact on plot and character, producing unconventional narrative trajectories and innovations in characterization" (185), the following sections study domes within the rubric of the political and environmental futures portrayed in Indian speculative fiction.

2.   The Dome as a Capitalist "Lifeboat": *Domechild*

> *Far above the tallest spires, the setting sun filtered through the Dome, losing none of its light and warmth, yet devoid of the ultraviolet rays and other radiation that had once caused such widespread problems.*
>
> *Domechild*, p. 14

Shiv Ramdas' *Domechild* (2013) is set in the future; humanity – or what is ostensibly left of it after an "information epidemic" – lives cocooned inside a massive domed city which is regulated and maintained by machines: "the Dome kept them alive, protected the city like a gigantic, almost invisible carapace. Outside the Dome, all was death" (15). Heise asserts the dual importance of the global and local to comprehend environmental problems (*Sense* 59), and *Domechild* is driven more by the socio-political reordering of a post-apocalyptic society than by GCC. The "two major themes" Ramdas discusses in *Domechild* are the "way we look at AI and its development" and an "examination of capitalism" (Personal Interview). Politics and technology unite to create a dome that tries to overshadow nature – and fails.

The novel focuses on Albert, or Citizen 3481, who lives alone (like other Domechildren), and has been denied the luxury of not only family and friends, but of human interaction entirely. Albert is caught in a fixed, regimented socio-economic order. There is no place for family in a "perfect, progressive world where every person was truly emancipated" (7). The reason behind the anonymous, identical lifestyles, cubicles, jobs, functions, etc, and uniformity in general stems from a "Technological Revolution" that has "made human occupation superfluous" (3).[5] Angst slowly builds up in Albert, and is accentuated by the mindless drudgery of the Employment Department. Soon, Albert begins to – in the words of *Westworld* (2016) – "question the nature of his reality", and misses the last transport back home. On his way back, he is ambushed by the Outliers, "a society within a society, yet outside it, peopled by the broken, the unwanted, the hopeless and the homeless – victims of the past who now sought others to victimise" (16). He is saved by the lawbots, who brutally cut down

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[5] This seemingly innocuous "Technological Revolution" closely resembles Vernor Vinge's technological singularity (Vinge).

his assailants despite their being mere children. Horrified, Albert takes a survivor (Theo) home, gives her refuge, and joins a group of rebels who fight against the Dome.

Albert seeks asylum in Sanctuary, a human colony outside the Dome that still resists and repels machines in every possible way. Through a series of conversations with Father, the charismatic leader of the sanctuary, Albert realises that the Dome is not the protected space he was made to believe; in fact, quite the opposite. The Dome was not built to unify "all mankind under one roof" and "one world, one city" (266), nor was it as old as he had believed. He finds out that the information epidemic destroyed thousands of years of human civilisation within 48 hours (291). After the epidemic, with the apocalypse in sight, a plan was set in motion by the world's largest – and only – industrial conglomerate, which controlled everything.

> All retrievable AI units of all description would be recalled to build and run a special stronghold – a fully self-sustaining residential township for the privileged select few-sealed off from the outside world.... A fortress called the Company Dome, the Dome for short. (285)

The Dome was designed less to keep people in than to keep others out (285). It was to be a symbol of the apotheosis of technology, as it furthered the hegemony of Bosquanet family, whose patriarch was "born into a world where everything was a product ... all over, societies, cultures, individuals, every single person, whether by creation or consumption was driven towards one thing – better, faster, *more* technology" (270). This can be seen in light of Donna J. Haraway's reference to capitalism and the "unleashing of the motors of endless growth, extraction, and the production of ever-new forms of inequality", which constitutes a "vastly destructive process" for social and natural systems (Haraway). This greed for more technology precipitates the singularity.

The Dome emerges as laboratory where humans are denied their basic rights. It negotiates Fiskio's "lifeboat", where human behaviour is motivated by self-interest and the politics of exclusion is complemented by a stringent set of rules to which the insiders must adhere. Parallel to Fiskio's second aspect of lifeboat –"organisation of the society" (19) – the Domechildren are conditioned to adhere to a code of conduct that neutralises their individual identities, and makes them feel thankful for protection (from the supposed void outside). This individualistic self-interest is deflated as the novel progresses: Albert, along with other characters, moves towards the values of "the collective"; but again, the lifeboat narrative is reinforced later by the revelations about the gory nature of the Sanctuary, which, rather than a collective, becomes a lifeboat of its own.

The sanctuary hides its own power mechanics: lust for power becomes the driving force for its leaders. Thus, while the Dome becomes a "lifeboat", its anti-thesis, the pastoral settlement of Sanctuary, does not automatically become a "collective". For example, Vail's speech against immigrants (which mirrors the antipathy of Domechildren to outsiders), the otherisation within the Sanctuary against mutants and other marginalised groups, and the power struggle between various factions for personal gains are three reasons why a binary between the lifeboat and the collective does not work. The only way for Albert to survive emerges through a fusion of nature and technology, of lifeboat and collective, which somehow eludes Domechilren and residents of the sanctuary alike. *Domechild*, therefore, exhibits traits of both "the lifeboat" and "the collective", but ultimately moves away from both of them.

3.   The Dome as an Environmental Cocoon: "Rain"

> *He longed to get away from the city, enclosed in its captive dome, which isolated it from the rest of the world – the real world, as Jeehwaen saw it.*

<div align="right">Doyle, p. 243</div>

Kenneth Doyle's "Rain" makes nature – after humanity is done with it – the ultimate other. "Rain" is divided into two sections; the first is set in India's agricultural hinterland in the past, or perhaps even the present, and focuses on the farmer Tilak Ram as he waits for the monsoons to rejuvenate the land. The second, located in the future, traces the tragic (mis)adventures of Jeehwaen Koumor in a utopian future, a time after a "dark-era" that "is dated at the end of the 21st century" (245).[6]

In the initial part of the story, Tilak Ram surveys the parched, cracked land, and reminiscences about his childhood, when he did not have to worry about "the crop, the harvest, fertiliser, the market, fluctuating prices, and the dreaded money lender" (242). Doyle uses Tilak Ram as a representative of the Indian farmer: the endless wait for rain, agrarian crisis, and the role of climate in shaping agricultural produce. This section highlights the plight of farmers in India, and their near-total dependence on rain. It ends with thunder and lightning – "jagged streaks of fire" – tearing "through the black clouds" as it starts to rain (243). The cracked land of a few weeks ago stands "transformed" after the arrival of the monsoon and the beneficent rains. The aftermath is pleasant and full of life:

> tiny shrubs grew everywhere, and most of the field wore a lush, green coat. The entire landscape looked fresh and clean, and the birds, nesting in the trees, sang a paean of praise. The soil had awakened to the call of life – rain, the life-giver, had returned to open a new chapter in the book of nature. (243)

The very notion of benevolent precipitation is turned on its head in the next section, which is set in the future. All the great cities of the world are now "enclosed in gigantic domes, their inhabitants living under an artificial sky, bright by day and dark by night, breathing artificial air, mouthing artificial commonplaces as they went about living artificial lives" (244). Jeehwaen Koumor is a bored, frustrated, and angry teen who detests the monotonous nature of his existence, and the "polite socialising and cloying artificiality" that had become the hallmark of his times (243). Like Albert from *Domechild*, Jeehwaen wants to get away from the city, which is "enclosed in its captive dome" and "isolated from the rest of the world" (243).

He digs up past archives and finds out that inter-connected issues – such as overuse of fossil fuels, ozone-layer depletion, water and air pollution, climate change, global warming, melting of polar ice-caps – had transformed the 20th and 21st centuries into the "dark ages". Humanity found a solution in the "Biosphere-II" experiment (another reference to Biosphere-II)[7], which led to the "construction of

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[6] The wordplay is obvious: "Tilak" may be homage to Tilak Mahato, who was a crewmember of the Biosphere II project, and Jeehwaen is a variation of "jeevan", which is the Hindi word for "life".

[7] The Biosphere experiments generated a great deal of speculative fiction in the West (a recent example is T. C. Boyle's *Terranauts*); however, Anglophonic Indian speculative fiction (of which "Rain" is an example) did not exhibit the same zeal of engagement within the same timeframe.

crude but efficient self-contained habitats, from which the present-day domecities evolved" (245).

Full of ennui, and fascinated by the "real" world outside the dome, [Jeehwaen] decides to slip outside his protected domecity to find out more about the earth he had read about. He steals breathing equipment from a lab and makes his way outside. In *Domechild*, the residents were told there was nothing outside the Dome – but there was. In "Rain", the residents are told there was nothing outside – and there actually isn't; here the land that stretches before Jeehwaen is "completely lifeless as far as the eyes could see" and there are "no signs at all of the vegetation referred to in the library" (Doyle 249). He realises that he is in a (post-apocalyptic) desert, and the sky is "dark, menacing and quite unlike the warmth comfort of the dome" (249).

Sophia David avers that "climate change sits outside inherited modes of thinking" as it "renders previous modes for defining these as obsolete" and makes one "rethink *a priori* knowledge, terms and habits" (265). Before Jeehwaen can explore more, something stings his hand: "tiny droplets of liquid were falling from the sky, and they were dissolving the fabric of his thermal suit" (249). The nourishing metaphor of rain mutates into an angry, all-consuming monstrosity that now heralds death and destruction. As the acid rain dissolves Jeehwaen's body, the narrator remarks that the "rain had once again come to visit the earth, marking the beginning of a new cycle in the timeless oscillation between birth and death" (249). Knowledge, attitudes, and perception about external reality are reassessed with GCC – since even the rain can turn malevolent because of the toxic environment in which it is produced.

In *Sense of Place*, Heise's "eco-cosmopolitanism analysis" locates how and why "both local cultural and ecological systems are imbricated in global ones" (59), and is able to reveal the means through which "individuals and groups in specific cultural contexts have succeeded in envisioning themselves in similarly concrete fashion as part of the global biosphere" (62). Jeehwaen's relationship with the dome – and what it represents – is again contoured by his positioning between the local (domecity) and the global (human history); this dome, again, questions the distinction between lifeboat and collective.

The dome here may represent the apex of technological innovation; however, it does not lead to political otherisation or social marginalisation of those outside the dome, as there is *nothing* outside. The dome emerges as the first and last line of defence against the elements, which have been robbed of their munificent charm. Its residents are not oppressed in the traditional sense (they dislike the artificiality, not the state's high-handedness), nor are they there as a result of others being excluded (since there is nothing out there in the first place). Jeehwaen is sick of the "artificiality" of human relations in a time when the only way to survive is through technology and by being united (like the collective), as nature has turned virulent. The dome, a symbol of humanity's resistance against a nature gone awry, emerges as a physical habitat that provides hope – since humankind has effectively killed everything outside it. Technology becomes the shield that protects humanity from the mutated, vengeful aspect of nature, and any deviation or harking back to a golden pastoral past is met with instant death. However, while "Rain" may be read as a Faustian warning against exploring the frontiers of (scientific) knowledge, rather than as a celebration of the dome (and associated technologies that protect humanity), the story laments that with GCC nature itself has turned against humanity. This technology simultaneously limits human beings and makes its Jeehwaens question the conditions of their solitary existence. "Rain" seems equidistant from both the lifeboat and the collective narratives

perhaps because in a world afflicted with such a (colossal) tragedy, both "self-interest" and "collective aid" would be rendered utterly futile and meaningless.

4.   The (Sky)Dome and the City's Topography: *Leila*

> *As the East Slum petered out I saw what was being sold. On a panel towards the top of the wall – high enough to be seen from the flyroads – white text stood on the sky: 'Must Your Children Share Their Air?' Centre of the last panel, again in white letters, the corporation's name, Skydome.*
>
> Akbar, p. 163

Prayag Akbar's *Leila* (2017) is outwardly a mother's search for her daughter in a quasi-fascist India of the 2040s, but harbours within it a critique of environmental and political issues.[8] The "reliance on sophisticated technologies to engineer specific ecologies and conditions can, however, leave these spaces smacking of technofetishism and anti-democratic tendencies" and the "history of these ventures is often tied up in imperial ambitions and class perspectives" (Squire et al). This India of the future has regressed to a highly centralised, communal, casteist, and patriarchal police state where the elites live in technologically advanced, plush sectors, and the poor in impoverished slums or dilapidated, run-down ghettos where air and water are more precious than gold.

Fiskio writes that "cultural productions, such as speculative fiction, have the capacity not only to interrogate the mainstream environmental movement, but also to express the complex relations of race, class, nation, and modernity" (13). This is evident in how the city has been divided into various sectors – each belonging to particular caste/community/religion – and mobility, both physical and metaphorical, is limited by one's birth. Order is maintained by the Council, which is driven by the slogan "Purity for All". Caste and religious divides have become insurmountable after a new legal and political system comes into existence. All aspects of life are controlled by the state. For example, exogamy is prohibited; political dissenters are persecuted; and anyone who oversteps the boundaries set by their birth (which then determines worth) faces swift reprisals.

This India reels under a scarcity of natural resources and widespread air pollution: air picks at one's eyes (11), the landfill ignites every summer, the clouds are so thick the birds desert the air (212), and sulphur clouds maraud through the skies like battleships (225). Water is at a premium after the crisis: "every year the temperatures rose and the water condition worsened" (86). However, no-one follows the rules as construction booms and factories take the groundwater almost to zero (88).

In this scenario, a young woman (Shalini, a Hindu) marries her childhood sweetheart Riz (Rizwan, a Muslim). This is an act of rebellion against dominant discourses, and is a reference to the trouble that mixed couples must endure in contemporary India. Shalini and Riz are able to escape the claws of a regressive society and the wrath of a purity-obsessed state owing to their class privilege. The couple moves into a sector (East-End) where the newly established boundaries are not as

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[8] *Leila* is now also a web series on Netflix.

reified as they are across the city; Riz gets "permission from the neighbours to have the lawn to ourselves" for a party, and he pays a "preposterous bribe to the water officials so they would fill the pool" (121). However, Shalini and Riz cannot withstand communal forces for very long. When their party is in full swing, a gang of thugs known as "repeaters" are guided to their location. The gang assaults the party goers, kills Riz, and (ostensibly) kidnaps Leila, which then sets the event of the text in motion.

Shalini, too, is detained, sent to a reconditioning camp, and then moved to a labour settlement. Throughout the novel, she pursues her daughter, forms alliances, fights to survive, and ultimately traces Leila to her former maid (Sapna), who has now adopted Leila. In an inverse imaging, Sapna's husband, who was formerly of a lower class, is now a part of the establishment, and this empowers Sapna to live the privileged lifestyle Shalini enjoyed before Riz died. Shalini also finds out that Rizwan's younger brother, Naz, was in league with the repeaters; this revelation positions the novel as a criticism of the religious right, in general, and not just of a particular community or ideology.

Tom Cohen asks "how the *aesthetic*" has been programmed in a (biopolitical) way that it is "no longer sufficient to address" where contemporary (economic or archival) models "appear to be reaching self-generated limits" (84). For Trexler and Johns-Putra, this leads to a "complicated situation in which climate change is both of our culture and beyond it at the same time" (194). In *Leila*, this (climate) change is both of the state and beyond it. The sectors of well-off communities, castes, and religions have an ambivalent relationship to scarce resources and environmental degradation that is outside of their sector, yet within their polity. Models of governance and behaviour reach their limits, though it is difficult to say where those limits are.

Moreover, the dome in *Leila* operates at two levels. The usual purpose of the dome, which is to insulate its occupants from external threats – from nature due to GCC and from humans who are the others, as earlier supplied in *Domechild* and "Rain" – is met with walls "fifty-nine feet high and two feet thick" that surround individual sectors. Movement between these wall-guarded sectors is closely regulated, and only those with special access can use the flyways that connect them. Moreover, it is the presence of a "skydome" in *Leila* that makes the class war more apparent:

> When you build a roof you keep something outside. You put huge air conditioners, pumping cold air into each of the domes. Don't you know what happens behind an air conditioner, what comes out of its ass? … One hut caught fire, then another. Soon the whole road was burning. That's how they lost their homes. (236)

The Skydome corporation becomes a symbol the elite trying to make their lives better at the expense of the have-nots. Such skydomes are installed alongside relatively poorer sectors, which then bear the brunt of the elites next door taking all their (clean) air and water. The technology behind the gigantic walls is nothing novel; what is new is how Skydome is envisioned to make specific sectors of the city, harbouring select communities, to secure the lion's share of dwindling resources. In a world already reeling under GCC, the skydome seeks to ameliorate living conditions for the rich by making the poor even poorer and increasing their squalor. "Must you share their air?" becomes the ultimate symbol of "aspirational otherising". A utopia for some – for reasons logistical rather than conceptual – can only be accomplished by creating a dystopia for many.

The "rich" sectors become examples of Fiskio's lifeboat, "where human nature is motivated solely by self-interest" (18). The other element of the lifeboat narrative is

the organisation of society (19). This second element "involves, first, the exclusion of outsiders and, second, the regulation of behaviour on the lifeboat to avoid the tragedy of commons" (19). This exclusivity (called "purity") is evidenced throughout *Leila*, with its emphasis on sectors, gated communities, passes, permissions, and patterns of rationed consumption. However, despite the characters' being driven by self-interest (even Shalini is driven by the desire to meet her biological offspring, rather than by any revolutionary fervour to take down an oppressive order), the people do not "ignore" the "historical, cultural, economic, and political contingencies" (14). On the contrary, this lifeboat is built on those very lines: on the quest for purity, on ideology, and on the consciousness that previously existing structures needed to be dismantled to create a new world. *Leila* comes across as more of a lifeboat than any other text; however, it doesn't fully adhere to the lifeboat model. With its equal emphasis on ideology as well as on self-interest, it rocks the "lifeboat" – despite being onboard one.

5.   Conclusion

Domechild, "Rain", and *Leila* negotiate the "lifeboat/social Darwinist" and the "collective/mutual aid" narratives as propounded by Fiskio and Solnit, respectively. *Domechild* deploys both lifeboat/dome and the collective/sanctuary modes of behaviour and thought, and finally punctures them both. With its lack of the human other, and a utopian materiality that swings to artificial societal harmony, "Rain" is equidistant from both of these narratives. *Leila*, despite the minor presence of (progressive) counter-forces that seek to question the axiological walls/domes, and despite its characters being contoured by "historical, cultural, economic, and political contingencies" alongside self-interest, fits the lifeboat narrative. Its dystopia challenges the very possibility of any collective effort.

As Fiskio writes, "in both of these narratives, the collapse of civilization following the apocalypse of climate change allows for the rebirth of society as a Utopian community" (14). What happens in these three texts is the exact opposite, and they are critical of societal issues like hypercapitalism, communalism, religious fundamentalism, environmental degradation, and the depletion of resources. They foreground GCC and marginalisation so as to bring about a more nuanced environmental consciousness while also spearheading social critique – and vice versa. By constructing worlds rife with pollution, resource shortages, and an even wider gulf between the rich and the poor, Ramdas, Doyle, and Akbar address immediate environmental, ethical, and socio-political concerns that India – and perhaps the world – grapples with.

As to why there are not as many dome narratives in India's English-language SF, one can only speculate that perhaps "domes" – as ideas, as technological manifestations, and as utilitarian constructs – have never been as deeply a part of Indian scientific, literary, or popular culture as they have been abroad. However, since radical times call for radical changes, it wouldn't be surprising if domes come up in tomorrow's India – on paper and without.

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Works Cited

"Briefing Note: At the Crossroads." *Centre for Science and Environment*, 5 June 2019, www.cseindia.org/briefing-note-at-the-crossroads-9464. Accessed 18 Jan. 2020.

Akbar, Prayaag. *Leila*. Simon and Schuster, 2017.

Banerjee, Suparno. *Other Tomorrows: Postcoloniality, Science Fiction, and India*. 2010. Louisiana State University, PhD dissertation.

Boaz, Joachim. "Adventures in Science Fiction Cover Art: The Domed Cities of the Future [Part II]." *Sciencefictionruminations.com*, 10 May 2012, www.sciencefictionruminations.com/2012/05/10/adventures-in-science-fiction-cover-art-domed-cities-of-the-future-part-ii/. Accessed 18 Jan. 2020.

Bose, J. C. "Runaway Cyclone." *Strange Horizons*, translated by Bodhisattva Chattopadhyay, 30 Sept. 2013, http://strangehorizons.com/fiction/runaway-cyclone/. Accessed on 12 Dec. 2019.

Boyle, T. C. *Terranauts*. Bloomsbury, 2017.

Chowdhury, Shovon. *The Competent Authority*. Aleph, 2013.

Cohen, Tom. "Climate Change in the Aesthetic State (a Memory (Dis)Order)." *Parallax*, vol. 10, no. 3, 2010, pp. 83–98, doi:10.1080/1353464042000226099. Accessed 18 Jan. 2020.

David, Sophia. "Eco-Fiction: Bringing Climate Change into the Imagination." 2016. University of Exeter, PhD dissertation, https://ore.exeter.ac.uk/repository/bitstream/handle/10871/24331/DavidS.pdf?sequence=1.

Doyle, Kenneth. "Rain." *It Happened Tomorrow*, edited by Bal Phondke, National Book Trust, 1993, pp 242-50.

Emmerich, Roland, director. *2012*. Centropolis Entertainment, 2009.

---. *The Day After Tomorrow*. Centropolis Entertainment, 2004.

Fiskio, Janet. "Apocalypse and Ecotopia: Narratives in Global Climate Change Discourse." *Race, Gender & Class*, vol. 19, no. 1/2, 2012, pp. 12–36. *JSTOR*, www.jstor.org/stable/43496858. Accessed 19 Jan. 2020.

Haraway, Donna J. Interview by Lauren O'Neill-Butler. *Art Forum*, 6 Sept. 2016, www.artforum.com/interviews/donna-j-haraway-speaks-about-her-latest-book-63147. Accessed 18 Jan. 2020.

Heise, Ursula K. "The Hitchhiker's Guide to Ecocriticism." *PMLA*, vol. 121, no. 2, 2006, pp. 503–16. *JSTOR*, www.jstor.org/stable/25486328. Accessed 19 Jan. 2020.

---. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. Oxford UP, 2008.

Hughes, Rowland, and Pat Wheeler. "Introduction: Eco-Dystopias: Nature and the Dystopian Imagination." *Critical Survey*, vol. 25, no. 2, 2013, pp. 1–6. *JSTOR*, www.jstor.org/stable/42751030. Accessed 19 Jan. 2020.

Joshi, Ruchir. *The Last Jet-Engine Laugh*. HarperCollins, 2001.

King, Stephen. *Under the Dome*. Hodder, 2010.

Lucas, George, director. *The Phantom Menace*. Lucasfilm, 1999.

Miéville, China. *Perdido Street Station*. Macmillan, 2000.

Mishra, Arvind. "Ek Aur Kraunch Vadh." *Dharmyug*. 20 Aug. 1989, pp. 21–23.

Narlikar, Jayant. "Ice Age Cometh." *It Happened Tomorrow*, edited by Bal Phondke, National Book Trust, 1993, pp. 1–20.

Newman, Sydney, C. E. Webber, and Donald Wilson, creators. *Doctor Who*. BBC, 1963.

NITI Ayog. *Composite Water Management Index: A Tool for Water Management*. June 2018, www.niti.gov.in/writereaddata/files/document_publication/2018-05-18-Water-index-Report_vS6B.pdf. Accessed 18 Jan. 2020.

Nolan, Jonathan, and Lisa Joy, creators. *Westworld*. HBO, 2016.

Padmanabhan, Manjula. *Kleptomania*. Penguin, 2004.

Ramdas, Shiv. *Domechild*. Penguin, 2013.

---. Personal interview. 16 July 2018.

Robinson, Kim Stanley. *2312*. Orbit, 2012.

Sanders, Scott R. *Terrarium*. Tor, 1985.

Solnit, Rebecca. *A Paradise Built in Hell: The Extraordinary Communities that Arise in Disaster*. Viking, 2009.

Squire, Rachel, Peter Adey, and Rikke Bjerg Jensen. "Dome, Sweet Home: Climate Shelters Past, Present and Future." *Nature*, 23 Nov. 2018, *doi:10.1038/d41586-018-07513-8*. Accessed 19 Jan. 2020.

Trexler, Adam, and Adeline Johns-Putra. "Climate Change in Literature and Literary Criticism." *WIREs Climate Change*, vol. 2, no. 2, 2011, pp. 185–200. *Wiley Online Library*, doi: 10.1002/wcc.105. Accessed 19 Jan. 2020.

Vinge, Vernor. "Technological Singularity." *Cmu.edu*, 1993, https://frc.ri.cmu.edu/~hpm/book98/com.ch1/vinge.singularity.html. Accessed 6 Jan. 2019.

Climate Change in a Chromium World: Estrangement and Denial in Ted Chiang's "Exhalation"

Essi Vatilo

Abstract: This article discusses Ted Chiang's "Exhalation" as a story of climate change with the potential to resist polarisation of attitude and different forms of denial. Through the lenses of naturalisation and world reduction the story can be seen to recontextualise climate change. As the mechanical inhabitants of the chromium world of the story contemplate their role as agents of their own demise, the story addresses the material and psychological impact of climate change. The process of naturalisation and the resultant estrangement disentangle climate change from real-world politics and polarised attitudes, while at the same time drawing attention to them. World reduction simplifies the science and politics of climate change, and thereby undermines the reasoning behind different levels of denial.

Keywords: Ted Chiang, climate fiction, estrangement, world reduction, climate change, denial, responsibility

Climate change is susceptible to ideological polarisation. The attitudes affirming and denying climate change seem to align with party politics, with both liberals and conservatives holding antagonistic and prejudiced views of the other side. According to Dan Kahan, people rely more on group allegiances than on their knowledge of what is known to science as they assess whether to "believe" in climate change (8–12). Thus, for climate-change sceptics, both the acknowledgement of climate change and action to combat it can threaten their cultural identity and membership in their cultural group (Kahan 14; Cohen 24). Others argue that the polarisation between warmists and sceptics must be challenged for democratic debate about climate change to be possible (Garrard et al 17). Kahan suggests disentangling the discussion of climate change from political identity, which would allow people to hold on to their cultural identity and rely on science in policymaking (28–29). His focus on science and effective science

communication does not account for the coexistence of concern for the climate and inaction.

Climate change is susceptible to different levels of denial. In terms of anthropogenic climate change, we can see denial at work, especially as a disconnect "between scientific knowledge and public opinion" and "opinion and behaviour" (Hoggett 56–57). In other words, in addition to climate sceptics' literal denial of climate change, even "those who express concern about climate change may do little about it" (57). This implicatory denial does not dismiss the facts, but deflects the blame and/or call for action they imply. As Kari Norgaard notes, while climate scepticism may be "flashy and attention grabbing", the majority of people know the threat climate change poses, but do not think about it in or let it affect their everyday lives (3–4). She also argues that this inattention to climate change is socially organised (11–12). Denial has a protective psychological function, as an "unconscious defence mechanism for coping with guilt, anxiety and other disturbing emotions aroused by reality" (Cohen 5), but it also obstructs taking action that would mitigate the effects of the real-world threat that triggers denial (Cohen 5–6, 23–24; Milburn and Conrad 3). Therefore, tackling climate change, also requires overcoming different forms of denial on different sides of the debate.

Ted Chiang's short story "Exhalation" (2008) can be read in the context of climate change in a way that decouples it from cultural identity and resists different forms of denial. The story presents an enclosed chromium world inhabited by argon-breathing mechanical beings who discover that their atmosphere is slowly changing in a way that will eventually lead to their death. "Exhalation" invites the reader to consider how the mere act of living and breathing makes a world inhospitable for its inhabitants and how they react to the knowledge that they are the cause of their own demise. The relocation to a world completely unlike ours creates subtle parallels to climate change that avoid entanglement in real-world politics while at the same time drawing attention to them. Still, estrangement appears to be a double-edged sword: while some distance allows the familiar to be recontextualised (Spiegel 375), too much distance can leave the recontextualisation unnoticed. Striking a balance between being subtle enough to be "really effective" (Mendlesohn 5) and not so subtle as to obscure the estrangement that shifts perspective in acknowledging climate change and denial can go amiss if the reader is not already environmentally oriented. In other words, rather than the story affording a fresh perspective to unlike minds, the parallels between the climatic changes in the story and in the real world may become apparent only to those who are already concerned by climate change.[1]

In this article I discuss the reframing of polarisation and denial of climate change in "Exhalation" through naturalisation, or the process of making the strange elements of an SF story familiar and thus allowing them to cast the familiar in a new light (Spiegel 372–76), and world reduction, an "operation of radical abstraction and simplification" (Jameson 223), in which the complexity of the real world is deliberately reduced in order to show that reality from a fresh perspective. Both processes aim to

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[1] In fact, most early reviews make no mention of climate change at all, and address "Exhalation" only as a story about the second law of thermodynamics and entropy. According to Ted Chiang, his intention was indeed to fictionalise entropy (342–43). Despite the author's stated intention, the story still affords a perspective on climate change, and since the publication of the short-story collection *Exhalation* (2019), more reviews have also addressed "Exhalation" in terms of climate change. In the eleven years between the publication of the short story and the collection, climate change discourse has intensified, which might in part explain the difference in receptions.

recontextualise the reader's reality by producing a difference between the real and fictive worlds: one by adding features that do not exist and the other by cutting out features that do.

Naturalisation and Estrangement

SF draws from estrangement its power to show an aspect of the reader's accustomed, lived existence from a fresh perspective, to reframe a political or social question of the real world in a way that provides potential for new insights. It uses the novum to create differences between the real world and the world of SF, casting the familiar world in a new light. However, as Simon Spiegel points out, in SF the strange elements of the fictional world must first be made familiar before the familiar can be made strange (372, 375): the novum of the story must first be naturalised and accepted as normal, and only then will the estranging effect be able to recontextualise something in the real world.

However, the world in "Exhalation" is not a normal world with a twist of the strange, but a rather strange one with a twist of normalcy, and yet this very strange world seems familiar. The exterior of the chromium world and its mechanical inhabitants are completely alien, but the lives and social conventions of the beings are familiar and cosy. Instead of naturalising a strange aspect in an otherwise familiar reality, "Exhalation" naturalises the entire world with the help of familiar features and customs within this strange reality.

Spiegel formulates naturalisation as the "basic formal process noticeable in sf" that can be achieved, for example through focalisation (376–77). This is also the case in "Exhalation", which naturalises its world by focalising it through a first-person narrator, presenting the world through someone indigenous to it. Thus, the reader is invited to identify with the narrator and to see the world through his[2] eyes. In addition, the narrator addresses the narratee, explaining that he engraves these "words to describe how I came to understand the true source of life and, as a corollary, the means by which life will one day end" (37), which suggests that his implied reader is not familiar with the world, but is expected to become so over the course of the narrative. In the end, the narrator not only invites the narratee to visualise his world, but even claims that "through the act of reading my words, the patterns that form your thoughts become an imitation of the patterns that once formed mine" (56). This underlines the identification expected to occur between the narrator and his implied reader, and presumably an actual one also. Suggested here is not just becoming familiar with another's reality, but also being changed by it when even thought patterns adapt in the process of reading. This is what estrangement in SF also strives for – a shift in thought patterns through recontextualisation. It is thus conceivable that this shift could translate into changed individuals who change the world.

Although the narrator is a mechanical being and, therefore, fundamentally different from the reader, he is presented in many ways as very humanlike and familiar through his manners and behaviour. He has a friendly storyteller's voice, and a frank, unassuming manner as he tells the events of his world. This and the direct address invite readers to trust the narrator and his account of his world and the true source of life. The fact that the world is presented through a trustworthy, straightforward narrator encourages the reader to accept the world, one that is realistically impossible

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[2] "Exhalation" only uses male pronouns, and so the narrator is also addressed thus here.

but nonetheless plausible within its own framework. The narrator also draws on universal truths of his world: "It has long been said that air (which others call argon) is the source of life …. For most of history, the proposition that we drew life from air was so obvious that there was no need to assert it" (37). Even though he then goes on to disprove this very truth, the acknowledgment of the beliefs of his people suggests objectivity. His detailed demonstration to the contrary seeks its credibility from the scientific process, which is further supported by the narrator's profession as a scientist.

The world is also made familiar through the narrator's description of daily life and community. The narrative naturalisation, where the "narration accepts the novum as well as takes its point of view" (Spiegel 377) happens on the level of the story. The strange customs have an air of normality because they are presented as normal within the story world and because of their similarity to corresponding customs in the real world. The collision or dissonance between the fictive and the reader's worlds, familiar from Darko Suvin's cognitive estrangement, happens here not with bringing a strange element to an otherwise normal world, but with bringing normal customs into a strange one (see Spiegel 375; Mendlesohn 5). For example, the daily changing of lungs (cylinders filled with argon) is entirely strange, but at the same time the activity is framed as a coming together, much like unhurried family suppers, from which the beings "draw emotional sustenance as well as physical" and which entail a social code of polite behaviour:

> If one is exceedingly busy, or feeling unsociable, one might simply pick up a pair of lungs, install them, and leave one's emptied lungs on the other side of the room. If one has a few minutes to spare, it's simple courtesy to connect the empty lungs to an air dispenser and refill them for the next person. But by far the most common practice is to linger and enjoy the company of others, to discuss the news of the day with friends and acquaintances and, in passing, offer newly filled lungs to one's interlocutor. While this perhaps does not constitute air sharing in the strictest sense, there is a camaraderie derived from the awareness that all our air comes from the same source…. (38)

Thus, from the very beginning the mechanical creatures are framed as social and emotional beings living in close community, where social codes of behaviour, such as politeness and courtesy, are very similar to customs in the reader's world. The activity of installing and filling lungs seems to perform the same social function as family dinners, which are as much about upholding social bonds as about nourishment. The filling stations are a place where the beings come together and show consideration for each other through simple gestures like filling and offering lungs to each other, much as food might be brought to a dinner or passed around the table. This relaxed coming together is both familiar and nostalgic, harking back to a time before microwave dinners and the hectic pace of modern existence.

This apparent nostalgia makes both the society and the mechanical beings themselves seem old-fashioned. Their bodies are not made of plastic and circuits, but rather have a steampunk aesthetic of rods, pistons, hoses, switches – their brains a "microcosm of auric machinery, a landscape of tiny spinning rotors and miniature reciprocating cylinders" (46). This indicates a retrofuturist view of robots that looks back in time rather than forwards. In addition, this sense of the past is reinforced by the apparent lack of advanced technology. The narrator engraves his story on copperplates, and news from other districts are passed on by word of mouth. The narrator's study of anatomy – with his rudimentary understanding of reflexes and

discovery of the brain's basic operations – is reminiscent of discoveries that took place in our world in the eighteenth century. In other words, the world is presented as more nostalgic than futuristic, and framed as cosy and familiar. In this world progress seems so slow as to give the impression of a world in stasis, until the revelation of the atmospheric changes proves otherwise.

This combination of strangeness and familiarity enables a recontextualised perspective on climate change. On the one hand, naturalisation makes the world relatable despite its drastic difference to the world of the reader. On the other, the world is strange enough so that it does not so easily trigger the denial that is often entangled with discussions about climate change, whether in the form of scepticism or of the disconnect between concern and action. This is further reinforced by the fact that the story never mentions climate change, and it is up to the reader to draw the parallel between the atmospheric changes in the story and anthropogenic climate change. Naturalisation also makes the atmospheric changes a matter of undeniable fact, leaving little room for disbelief. "Exhalation" takes its time to naturalise the world before mentioning atmospheric changes. Only towards the end of the story is it revealed how air and the narrator's study of anatomy are connected to the true source of life, which then makes it possible to see the parallel to climate change. As the story gradually naturalises the argon-breathing creatures with their detachable lungs and their cylindrical, enclosed chromium world, it also naturalises the atmospheric changes in this world. All are presented as factual elements of the world; if one change is accepted, there is no reason not to accept the others. Furthermore, as the story is one of discovery, the narrator takes the reader step by step through the evidence to the conclusions that appear even to him as an unexpected "cascade of insights" (48). The slow build-up of clues leading to the discovery of the "true source of life" runs parallel to the gradual naturalisation that leads to an estranging effect and the "cascade of insights" expected to occur for the reader as perception is de-automised and the familiar can be seen anew (see Spiegel 376).

World Reduction and Climate Change

The narrator, through his study of the brain, discovers that the source of life is not air after all, but the difference between the air pressure in their lungs and that of the air around them. As they breathe, this difference gradually equalises, which makes them become slower and slower until at last their lives simply come to a stop. In other words, with every exhalation they exacerbate an atmospheric change that is detrimental to them. This connects the atmospheric changes in the story to anthropogenic climate change: the mechanical beings are the source of the adverse changes to their own ecosystem, just as humans are responsible for the damage to our climate and ecosystems. The story skips past the likelihood of these climatic changes and debates over what the actual climate impacts will be. It simplifies the ecosystem, which also makes the science simpler and leaves no uncertainty as to these beings' ability to affect their atmosphere, albeit unwittingly. Instead, it focuses on the scientific process of discovering the atmospheric changes and their impact on the mechanical beings. It also addresses the psychological implications of the discovery, focusing on how the mechanical creatures become aware of their role as the agents of their own demise and how they cope with this new awareness.

This simplified view of climate change and the range of reactions to it is akin to Fredric Jameson's concept of world reduction, where the world is simplified to the bare minimum to show "some new glimpse as to the ultimate nature of human reality" (222–23). While Jameson sees this abstraction mainly as escapism, he does admit that it may "amount to a political stance as well" (229). Gib Prettyman sees world reduction more clearly as a political stance, where it "can be seen to serve a cognitive and material purpose…to reframe familiar assumptions of egoism and anthropocentrism" (57). Thus, world reduction can be seen to be working towards a similar goal as estrangement in reframing an element of the reader's world. While world reduction does not represent its object in its full real-world complexity, with all its historical, political, and material contingencies, the abstraction can by omission provide a fresh angle or highlight what is missing. The simplification may seem especially problematic for promoting ecological values, Prettyman notes, since ecology as a "positive framework emphasizes qualities such as diversity, complexity, and systemic balance, whereas world reduction seems to ignore those factors, or actively to fantasize them away" (62). However, he goes on to argue that world reduction can also be seen as "a strategic response to the worldview of capitalism" that involves "unlearning the egoisitic and anthropocentric illusions that underlie the psychic ecosystem of capitalism, and learning the real limits that characterize the material ecosystem and circumscribe human culture" (62–63). Therefore, world reduction can perform an ecological purpose even when it does not emphasise diversity and complexity.

"Exhalation" can be seen to perform world reduction to highlight climate change. The story does not present how society is organised in terms of government or economy, and therefore capitalism's role in causing climate change is also missing. Even the ecosystem is reduced: the story mentions no other living entities, only the mechanical beings, their built environment and the air they breathe. The ecosystem is becoming inhospitable to the mechanical beings, but poses no harm to anything else. Thus, there is a simple causal relationship between the act of breathing and the harm it causes to those doing the breathing. In contrast, anthropogenic climate change harms not just humans but also multitudes of other species and ecosystems, which in turn contributes to making the world inhospitable to human life. In both cases, the whole world is not about to be destroyed, but the result for the dominant species is the same, although "Exhalation" eliminates intermediaries and questions of justice towards other species. In so doing, it omits an important ethical question that challenges anthropocentrism but also eliminates uncertainties associated with complex systems and processes. This allows a self-serving interpretation: harm is only meaningful when it is directed to oneself.

World reduction also eliminates the question of choice: breathing is what keeps the mechanical beings alive and will also slowly kill them. They cannot choose not to breathe, whereas in the real world it is possible to curtail harmful human impacts on the environment. However, choosing not to participate in capitalism – a driving force of climate change – is more difficult; but even so, capitalism is not an immutable part of the world (see Haraway 50). The definite causal relationship between breathing and the harm that results from it presents a fatalist view of anthropogenic climate change: it suggests that humans are either as unable to curtail their actions as the mechanical beings are unable to stop breathing, or that humans are as unable to fix the harm they cause. On the other hand, the lack of choice makes the mechanical beings inextricably part of their environment. Their physiology interacts with the atmosphere in a way

that is ultimately fatal to them, but there is no standing apart from the materiality of their existence or from the world and its systems.

Even though the mechanical beings are unable to stop harming their atmosphere, there are those among them who devote themselves to reversing the effects on their climate, but all their efforts ultimately use more air than they conserve (52–53). Even if their efforts are futile, there is a great drive to mitigate the harm, unlike in our world, where both prevention and mitigation are possible. Perhaps the impossibility of both in the story world can be seen as underlining their possibility in the real world, or the fact that change should happen at the source rather than as a technofix after unwanted consequences materialise. Donna Haraway sees "a comic faith in technofixes" as endearingly silly and easy to dismiss (3). Alternatively, the futility of these efforts reveals the material limits of the world and what is possible within it, drawing attention to "the real limits that characterize the material ecosystem" (Prettyman 62). The very concrete limits are the chromium walls that surround the world on all sides. There is no place where the excess air can expand or escape to mitigate the effects on the mechanical beings. As air is the source of not only life but also the energy of all their technology, there is no way of using technology to mitigate effects without at the same time exacerbating the effects. This also links the problems in their atmosphere with consumer capitalism and its impact on the climate in the real world where energy and technology have been driving forces in climate change.

"Exhalation" also presents a world seemingly without capitalism or money – neither are mentioned in the short story – and thereby removes capitalism's role in both creating climate change and slowing down responses to it. The narrator does have a profession as an academic, but his leisurely existence and freedom to carry out an extensive experiment suggest either an idealistic view of academia or an old-fashioned one where one's livelihood and academic interests remain separate. The exclusion of capitalism can be seen as omitting a central feature inextricably linked with anthropogenic climate change, but it can also be seen to challenge taken-for-granted perceptions, to suggest that capitalism is not as inevitable as it seems and to allow an ethical consideration of responsibility and the harm caused without resorting to cost-benefit analyses.

The emotional reactions and the process of coming to terms with the knowledge of being responsible for one's own eventual extinction resembles the five stages of grief as theorised by Elizabeth Kübler-Ross and David Kessler and others. Although stage theory has been discredited by empirical research, it still claims a powerful influence on cultural understandings of grief. The first stage is denial, exemplified in "Exhalation" by the unwillingness of other anatomists to believe the results and implications of the narrator's discovery. However, their reaction seems to be more akin to simple disbelief than to denial as a psychological self-defence against threatening information. The disbelief is soon dissipated as more evidence is gathered, which results in "more and more of them [becoming] convinced" (51). The fact that disbelief within the story world is easily dissipated with information suggests an uncomplicated faith in science not influenced by other factors such as emotions or cultural identity. The next stage is anger, which manifests itself in the form of panic as "people contemplated for the first time the idea that death was inevitable" (51). The situation deteriorates as "accusations of wasted air escalated into furious brawls and, in some districts, deaths" (51). The realisation of the inevitable is so shocking that it causes a strong emotional reaction against those who are imagined to be making the situation

worse. The "shame of having caused these deaths" (51–52) quickly sobers the community and they move to a more practical response to the threat. Their attempts to mitigate and/or reverse the equalising effect can be seen as a form of bargaining, but all their attempts are in vain as all methods of compressing air from the atmosphere use more air than they can extract, thereby exacerbating the problem. Stage four, depression, takes the form of disillusionment when these mitigation efforts fail.

The final stage, acceptance, is explored most thoroughly in the narrator's deliberations on their eventual demise and on their legacy as he writes the story of his people to anyone who might come across the remains of their civilisation. He acknowledges and accepts his own eventual demise – "I do not delude myself into thinking this would be a way for me to live again" (55) – but, nevertheless, hopes that the memory of his civilisation might survive. He does not look for a saviour, but for a witness to their lives. The narrator can be seen as defeatist, which is an understandable but an unhelpful response to climate change, or, in contrast, as someone willing to "stay with the trouble" until life ends (see Haraway 3). The narrator does not attempt to safeguard the future, but instead marvels that he exists and that his civilisation has produced such variety of life. Rather than mourning his death, he celebrates the fact that his thoughts will continue until the end. He acknowledges that life will no doubt change in ways that he cannot fully imagine yet, and seems curious to live through these changes. Thus, he seems willing to "stay with the trouble", "to be truly present", and not to "succumb to despair or hope" (Haraway 1–4).

The simplification of the atmospheric changes in "Exhalation", therefore, does not attempt to represent climate change in all its complexity, in terms of either its science or the social, political and economic debates around it, but instead enables a focused perspective on its material, ethical, and psychological dimensions. The world reduction clears away the distractions of uncertainty about whether the atmospheric changes are real, who is responsible for them, and how they will affect the mechanical beings. It also draws attention to the possibilities of action to prevent or mitigate anthropogenic climate change. These abstractions separate climate change from cultural identity and resist denial strategies.

Overcoming Polarisation

By relocating climate change into a strange world, ignoring the polarised views on it in the real world and presenting the atmospheric changes of the chromium world simply as fact, "Exhalation" disentangles climate change from partisan politics and cultural identities. Dan Kahan argues that people engage with information for two purposes: "to gain access to the collective knowledge furnished by science and to enjoy the sense of identity enabled by membership in a community defined by particular cultural commitments" (1). People are equipped to do both, but according to Kahan, when individuals "engage with information as citizens, in the political realm, they evaluate it from the standpoint of their identity-protective selves" (29). This offers a partial explanation to the polarisation around climate change, suggesting correlations between political outlook and "belief" in climate change without ruling out other possible factors. He suggests that "*antagonistic cultural meanings*" that both sides attach to climate change create the conflict of choosing between an understanding of what scientists know and the accepted stance taken among peers (29, emphasis

original). In fact, while overall public opinion on issues has not become significantly more polarised since the 1970s, "affective and behavioural polarization" has increased significantly: political opponents view each other with more hostility and are more willing to discriminate based on political outlooks (Garrard et al. 12–13). Garrard et al. view overcoming this polarisation as central to having a proper democratic discussion (15–17). Kahan believes citizens need to be engaged in a way that does not threaten their identity, as no amount of additional information will bridge the divide between the two sides (26).

The relocation to another reality allows "Exhalation" to recontextualise climate change and the cultural identities entangled with it. Estrangement is not there in the Shklovskian sense to make the reader vividly aware of something that has become automatised in their accustomed reality, "to make a stone stony" (Shklovsky 162), but to break it out of the frames in which it has been confined. Climate change has not become so invisible in our day-to-day life that we need to be woken to *"truly see"* it and to "overcome our 'blind' perception" (Spiegel 369, emphasis original). Rather, polarisation and the accompanying attitudes towards both climate change and those with different political outlooks have become automatised, not climate change itself. Instead of needing renewed attention, climate change needs reframing so that it can be considered from a perspective that separates it from cultural identities.

The mechanical creatures in "Exhalation" are not part of the cultural and political reality of the reader, and therefore, while they are framed as familiar and easy for people of any political outlook to identify with, it is not obvious how they should be categorised. The problems in the atmosphere are analogous to those occurring in our world, but a dislocation into another world destabilises and reframes debate. Therefore, the reader is unable to navigate the story with the help of accustomed oppositions and using the same toolkit and shortcuts as they would in the real world. Instead, they must find other ways of digesting the narrative, which means processing the ethical and psychological implications of the atmospheric changes step by step.

Instead of displaying scepticism rooted in cultural identity, after initial disbelief of the protagonist's discovery, the mechanical beings universally accept the predicted change as more

> examinations of people's brains were performed, more measurements of atmospheric pressure were taken, and the results were all found to confirm my claims. The background air pressure of our universe was indeed increasing, and slowing our thoughts as a result.
> There was widespread panic in the days after the truth first became widely known, as people contemplated for the first time the idea that death was inevitable. (51)

The abrupt shift from the confirmation of scientific theory in one paragraph to emotional reactions to this "truth" in the next suggests that public opinion easily follows scientific consensus. Differences in attitude can be observed between the Reversalists, who believe they can stop the atmospheric changes through some invention, and those who believe there is nothing to be done except accept their fate, but there seems to be no rift between them. There is only uncomplicated, and de-politicised, faith in science and different levels of optimism as to their ability to intentionally produce positive changes in their atmosphere.

"Exhalation" is centred on the idea of an individual who relies on science, which results in a simplified view of an individual and their social and emotional

entanglements – one that can only exist in fiction. Once the knowledge of their impending extinction emerges, emotional reactions do not affect the interpretation or assessment of information or create polarisation. The facts of the atmospheric changes and their interpretation and implications are free from the influence of both cultural identity and emotional influence, which simplifies the issue as compared to the real world, but also makes denial more difficult, as it hinges on questioning one of these three elements.

Denial

The estrangement and world reduction in "Exhalation" eliminate opportunities for denial. The scale and timeframe of climate change, as well as its potentially catastrophic consequences, make it an issue that is difficult for human brains to grasp, and also makes climate change susceptible to denial. Denial as a psychological defence refers to shielding oneself from potentially traumatic information. Literal denial refuses to accept the truth value of the threatening information (it is not real), interpretative denial questions the interpretation of the facts (the facts suggest something different), and implicatory denial challenges the implications of the threatening information (it has nothing to do with me) (Cohen 5–9). In "Exhalation" there is little denial at the level of the story; there is only the short-lived disbelief when the narrator reveals his discovery. What is more interesting is that the story denies the use of denial strategies for readers if they make the connection to climate change. By simplifying climate change and separating it from cultural identity, "Exhalation" makes climate change and its impact easier to grasp, but also by treating the atmospheric changes as fact without opposition, it strips away uncertainties and probabilities, and thereby removes opportunities for denial.

By presenting the atmospheric changes as a certainty with a definite causal relationship between breathing and the deteriorating conditions for life, the story reduces possibilities for different forms of denial. The naturalisation of the atmospheric changes with all the other marvels of the world makes it impossible to deny that the atmosphere is indeed changing for the worse for the mechanical beings, thus eliminating literal denial. Second, there is no other way of interpreting the cause and detrimental consequences of the atmospheric changes to the mechanical beings, thus eliminating interpretative denial. Third, blame cannot be shifted onto anyone else due to the simple and definite causal relationship between breathing and the equalising air pressure, thus eliminating implicatory denial. Because the mechanical beings are only harming themselves, there is no opportunity to suggest that the harm does not warrant action because it only affects someone else; for example, another species undeserving of the right to survival. In contrast, the story does allow for acknowledgement of impending disaster without a sense of duty to do something about it. While this is still an uncomplicated analysis of denial, it goes beyond simple dualism of acknowledgement or rejection of climate change. Such simple binary categories do not do justice to the diversity of denial in the real world among sceptics or those who acknowledge climate change (Garrard et al. 7; Hoggett 57).

The story does not address collective denial, partly due to the first-person narration and lack of description of the social and political structures. However, there is collective responsibility when all the mechanical beings are placed on equal footing as to the harm they cause and the harm they can expect to experience. Their breathing

has equal impact and they will all come to a stop in the end. This is, of course, another simplification, as in the real world there are great differences in the impact people have on the environment, their ability to prevent or mitigate harm, and the kinds of consequences they will suffer. Nevertheless, the equalisation is significant in denying the possibility to shift blame onto others even if this does not represent the complexity of impact different kinds of people have.

It remains unclear how the society is organised in terms of government or economy. Thus, no links can be drawn to official, government-level denial, but even this offers an interesting simplification. Although the population is spread out into several districts, they all seem to comprise one nation connected together through gossip and travel: "one can receive news from remote districts, even those at the very edge of the world, without needing to leave home" (38). There seems to be no political or economic competition. Such competition can lead to denial of possibilities of action in order to remain competitive with other entities. This can manifest itself as an unwillingness to discuss the ethical basis on which facts are assessed and decisions made. Jean-Pierre Dupuy recognises an aversion to even enter into a discussion about the ethical implications of technological development for fear of getting left behind in the technological race (238–39). He criticises nanoethics for reducing ethics to cost-benefit analyses (239–40). The lack of political and economic competition in "Exhalation" makes cost-benefit analyses pointless: if the mechanical beings were to find a way to reverse the atmospheric changes, the benefits of survival would always outweigh the costs, as arguably they should also in the real world.

As mentioned above, the lack of any monetary system in "Exhalation" obscures the connection between capitalism and climate change. Thus, the atmospheric changes become a natural phenomenon caused by the mechanical beings' natural process of living. This opens possibilities for denial on the basis that climate change is a natural phenomenon, not the result of technological progress or capitalism's demand for endless growth. The connection between apocalypse as an end point and an end of capitalism has often been made (for example, see Canavan and Robinson 12–14; Jameson, "Future City" 76), but here a slowly approaching apocalypse has no link to capitalism, neither as its cause nor as something that needs to be cleared away with (or by) the apocalypse. However, while some of the complexity of climate change and its entanglements in politics and economics are lost in "Exhalation", the simplification still allows a perspective into climate change that shows the familiar anew because of this abstraction. The absence of capitalism allows the reader to consider climate change without having to choose between economic and environmental priorities in much the same way that the disentanglement of cultural identity from climate change allows people to consider climate change without choosing between what is known to science and whose side they are on.

Conclusion

The naturalisation in "Exhalation" estranges climate change in a way that has the potential to overcome polarisation, while world reduction resists denial strategies that discussions on climate change face in the real world. The unhurried process of naturalisation can catch the reader unawares with the connection to climate change and circumvent polarisation by omitting such oppositions in the story world. Instead it provides a view into seemingly objective science uncomplicated by politics or

cultural identities. Therefore, it does not mitigate polarisation by increasing mutual understanding, but by inviting the reader to consider the material and psychological impact of climate change. This places the focus on coming to terms with the certainty of impending death, the awareness that it is self-inflicted, and the material limits of the world. Rather than directly addressing real-world politics and antagonisms, it tackles the underlying emotions and unacknowledged limitations of modern life.

World reduction simplifies climate change and the polarised attitudes around it, and excludes politics, social and economic structures, and capitalism's demands for profit and growth. While such abstractions leave out many important features of the climate-change debate as well as causes and consequences in the real world, they enable the story to focus on the ethics of climate change and psychological responses. By omission the story also invites an assessment of these features and obstructs their use as excuses for inaction and denial even as it forgoes the opportunity to discuss them in more detail. The resulting focus is anthropocentric, but so is the problem of inaction that it addresses.

While "Exhalation" holds the potential to overcome polarisation and denial, there is no guarantee that it will do so with actual readers. As we have seen, even the parallels to climate change may go unnoticed. Furthermore, when these aspects are noticed, there is the possibility that pre-existing attitudes are simply reinforced. In terms of denial, for example, the story disarms some excuses for inaction, but can also be seen to validate others. This might be seen as undermining the "green agenda" analysed here, but it also demonstrates that the story is open for a multiplicity of interpretations.

> *Biography*: Essi Vatilo is a PhD researcher at Tampere University. She is interested in questions of responsibility in science fiction, especially for large-scale problems, like climate change, where unintended and cumulative consequences lead to disaster.

Works Cited

Canavan, Gerry and Kim Stanley Robinson. Introduction. "If this goes on." *Green Planets: Ecology and Science Fiction,* edited by Canavan and Robinson, Wesleyan UP, 2014, pp. 1–21.

Chiang, Ted. *Exhalation*. Picador, 2019.

Cohen, Stanley. *States of Denial: Knowing about Atrocities and Suffering*. Polity, 2001.

Dupuy, Jean-Pierre. "Some Pitfalls in the Philosophical Foundations of Nanoethics." *Journal of Medicine and Philosophy*, vol. 32, 2007, pp. 237–61.

Garrard, Greg, Axel Goodbody, George B. Handley, and Stephanie Posthumus, eds. *Climate Change Scepticism: A Transnational Ecocritical Analysis.* Bloomsbury Academic, 2019.

Haraway, Donna J. Staying With the Trouble: Making Kin in the Chthulucene. Duke UP, 2016.

Hoggett, Paul. "Climate Change in a Perverse Culture." *Engaging with Climate Change: Psychoanalytic and Interdisciplinary Perspectives*, edited by Sally Weintrobe, Routledge, 2013, pp. 56–71.

Jameson, Fredric. "World-Reduction in Le Guin: The Emergence of Utopian Narrative." *Science Fiction Studies*, vol. 2, 1975, pp. 221–30.

---. "Future City." *New Left Review*, vol. 21, 2003, pp. 65–79.

Kahan, Dan M. "Climate-Science Communication and the Measurement Problem." *Political Psychology*, vol. 36, no. S1, 2015, pp. 1–43.

Kübler-Ross, Elizabeth, and David Kessler. *On Grief and Grieving: Finding the Meaning of Grief Through the Five Stages of Loss*. Scribner, 2005.

Mendlesohn, Farah. "Introduction: Reading Science Fiction." *The Cambridge Companion to Science Fiction*, edited by Edward James and Farah Mendlesohn, Cambridge UP, 2003, pp. 1–14.

Milburn, Michael A., and Sheree D. Conrad. *The Politics of Denial*. MIT Press, 1996.

Norgaard, Kari Marie. *Living in Denial: Climate Change, Emotions, and Everyday Life*. MIT Press, 2011.

Prettyman, Gib. "Daoism, Ecology, and World Reduction in Le Guin's Utopian Fictions." *Green Planets: Ecology and Science Fiction,* edited by Gerry Canavan and Kim Stanley Robinson, Wesleyan UP, 2014, pp. 56–76.

Shklovsky, Viktor. "Art as Device." *Poetics Today*, vol. 36, no. 3. Translated by Alexandra Berlina, 2015, pp. 151–74.

Spiegel, Simon. "Things Made Strange: On the Concept of 'Estrangement' in Science Fiction Theory." *Science Fiction Studies*, vol. 35, 2008, pp. 369–85.

Conference Report:
Worldcon 77 Academic Track

August 15–19th, 2019
Dublin, Ireland

Jani Ylönen

The 77th Worldcon, held August 15 to 19 in Dublin, included an academic track that ran from morning until late afternoon throughout the event. With an average of three papers per session and five sessions per day, the track offered a variety of topics and scholars at various stages of their careers.

Although this Worldcon had about 5,500 paying members who divided their time between, on average, ten simultaneous program items, many sessions, especially the ones connected to Irish mythologies and history's connection to SF, garnered enthusiastic interest. This provided a chance for academic fans and general fandom to interact and share their expertise. Most of the presenters also tailored their content to a larger audience.

Heavily theoretical presentations were rare. There were exceptions, such as Dyrk Ashton's examination of Deleuzian crystallization in the *Lord of the Rings* films, which added a welcome philosophical contribution to the track. While the special opportunity for popularisation understandably guided many presentations, it was nevertheless slightly surprising that it took until the fourth presentation for someone to cite an academic source. One possible reason for the occasional scarcity of sources was the variation among presenters' experience as alongside early, mid-, or later-career academic professionals, there was also an unusually high percentage of independent scholars as well as graduate students giving their first conference presentations. In addition, many presenters were academics, but not active in the field of speculative-fiction studies. While this showed the width of scholarly interest into speculative fiction, it also resulted in many presentations that certainly approached their topics with scholarly exactness, but did not tie them to the current academic research on the topic. For example, Kristina Hildebrand, whose publications mostly

concern medieval literature, presented on POC characters in works of Joss Whedon; the presentation had a clear and interesting conclusion about their agency, but did not link to previous studies in the area.

While academic sources were not used in abundance in all the presentations, many presentations followed the conventions of the field without sacrificing ease of access. Several of these papers, such as Andrew Milner's presentation on climate change in the speculative fiction of the past twenty years, also discussed contemporary societal issues. Milner argued that many eutopian solutions are based on the removal of humans, which resulted in an interesting conversation on the contemporary global issue. Laura E. Goodin's presentation on hopepunk, on the other hand, discussed a fairly recent genre categorisation that has sought to underline variety in the often simplified category of dystopian fiction. Drawing on Alexandra Rowland's work, Goodin examined the subversive politics of fiction that does not fall to the despair and apathy that often dominate especially post-apocalyptic visions. Instead, hopepunk speculates on, for example, surviving and resolving the effects of climate change.

Like many others, Goodin used well-known examples, such as *Lord of the Rings* and *Harry Potter*. Some likely chose this route particularly for this conference, but the phenomenon is not unfamiliar from other SF conferences. The academic track in Dublin was therefore not an exception in the sense that it seemed to chiefly concentrate on a fairly narrow part of its vastly varied possible research material. Especially when presentations discussed novels and other printed publications, the focus was primarily on fiction released decades ago. That being said, many presentations, such as Nora E. Derrington's examination of Octavia E. Butler's *Kindred* and Elizabeth A. Lynn's *Watchtower*, both published in 1979, introduced interesting fresh looks at older material. Overall, however, the conference demonstrated the habit of discussing canonised and often-examined works, from Asimov and *Neuromancer* to *LotR*, continuously; this trend continues to highlight the need for speculative-fiction scholarship to study more-contemporary material.

While printed works received the majority of attention, the track also discussed wide variety of interests, some even beyond fiction. Kelly C. Smith, for example, discussed problems with METI (messaging extraterrestrials), while Kevin Koidl discussed science-fictional ideas of future social-media communication. Audiovisual works were in a minority as subjects of research, as were, for example, the consumers of fictions. A rare discussion on SF and fan studies, a presentation by Paul Mason, in fact summarised that fan-studies scholarship rarely concerns SF fandom. However, it must be noted that Mason made a clear distinction between fans of literature and audiovisual media, thereby leaving out studies concerning fans of, for example, speculative-fiction films, apparently an old rift, especially in British and American fandom.

Worldcon 77 gathered scholars from around the globe. The academic program also had presenters from many nationalities although the majority came from English-speaking or European countries. English was the language of the conference, partially of course due to the location of the event. Nevertheless, it was noticeable that an overwhelming majority also discussed speculative fiction originally published in English and mostly authored by a native speaker of English. Among the exceptions was Denis Taillander's look into cyberpunk in Japan and one session concentrating on Chinese science fiction, but overall efforts to achieve internationality did not truly reach their multilingual potential. Nevertheless, the presentation concerning

speculative-fiction connections to Ireland were certainly an important and topical addition that in itself expanded the discussion from the usual British-American focus.

Overall, the five-day run of the academic track at the 77th Worldcon offered a varied and abundant offering of speculative-fiction scholarship. While the location of the track away from the main convention center perhaps made the program difficult to just wander into, it provided (as have previous Worldcon academic tracks) a special chance for fans and scholars to mingle and exchange thoughts. Consequently, future Worldcons, and especially the arrangers of their academic tracks, should consider how to further elevate the visibility of speculative-fiction research during the event. One possibility would be to add a researcher guest of honor whose presence in the ceremonies alone would remind the audience of the track. Perhaps further attention and interaction would even result in the increase of the number of studies concerning SF fandom that Paul Mason called for. Certainly, it would lead to more discussion, which was already lively after many presentations. During these exchanges, the listeners often suggested options to solve one of the problems mentioned previously; for example, the continuous use of the same material could be addressed by including useful reading tips not just from old works, but especially from recent works that will possibly lead to interesting future studies. Worldcons will hopefully offer opportunities for such interactions in the future as well and in an increasingly international context if the phenomenon of Worldcons being arranged outside of the US and other Anglophone countries apparent in recent years continues.

> *Biography*: Jani Ylönen (MA) is working on a doctoral dissertation at the University of Jyväskylä. His main interests lie in how ethical questions concerning gender and gene technology are depicted in contemporary science fiction. However, he also dreams of writing about postdoggies and dragons, often when he should be writing his dissertation.

Conference Report:
Forming the Future

An Interdisciplinary Conference
September 2–3rd, 2019
Plymouth University, Plymouth, United Kingdom

Laura op de Beke

Who knows what the future will bring? Whether a grim struggle over a dwindling set of resources or a resplendent solarpunk vision of peacefully coexisting sustainable anarcho-communes, the number of imaginable futures seems endless. Or does it? On 2–3 September a number of scholars from fields as diverse as art theory, engineering, literary studies, and video game studies got together to ask not *what* the future may hold, but *how* the concrete particulars of the medium in which the future is couched determine what is imaginable and what is not. The urgency of this question derives from what panellist Theo Evison Reeves (Birmingham School of Art) so powerfully concluded towards the end of the conference: speculative infrastructures have certain dispositions, dispositions that are tied to media history, media production, and of course formal constraints. SF literature might be one such speculative infrastructure, but so are financial speculation, climate modelling, game theory, or indeed any means of anticipating the future. One of the conference's achievements was in helping articulate what the dispositions of these different infrastructures are, thus developing a stronger sense of speculative media literacy.

The conference was kicked off by William H. Bridges (University of Rochester), who argued strongly for the potential of a literary studies of the future, or what he called "New Futurism", which not only asks how literature shapes the future but also what future readers might make of present texts, and how those readers might be addressed. He also argued that literary studies already offers a sophisticated toolkit of terms and concepts with which to analyse temporal movements. In fact, not only do literary scholars regularly attend to temporality in narrative, certain literary genres, like science fiction, practice a strong thematic

engagement with discourses of futurity. The question of just how sophisticated and diverse these discourses are was taken up by a number of other speakers who discussed utopian, dystopian, and climate fiction. For example, Joe Davidson (Cambridge University) distinguished between spatial and temporal utopias, and he argued that temporal utopias are a more recent invention, possibly buying into narratives of progress. However, he offered eloquent readings of William Morris's *News From Nowhere* and Ursula K. Le Guin's *The Dispossessed* that highlight the way these utopia's frustrate received ideas about historical progress through temporal play – by revisiting past failures (as in Morris) or by locating utopia in a more achronic space (as in Le Guin). Other speakers focused on more culturally specific instances of dystopic writing, either from indigenous authors as handled by Chiara Xausa (University of Bologna) or in European dystopic literature, which is haunted by the historical shadow of fascism and political fragmentation, as discussed by Martin Westlake (London School of Economics).

Notwithstanding the value of literature as a form of the future, it was soon revealed to be merely one speculative infrastructure among many. In his talk, conference organiser David Sergeant (University of Plymouth) offered a tentative but provocative scheme incorporating narrative as well as non-narrative approaches to speculation. On one end of the scale, we find literature's affective – and mostly linear – approaches to the future, which are often centred on and constrained by the perspective of (human) characters; on the other end of the scale, we find the more non-linear, often spatially constructed visions of the future, which, like the "seeing rooms" of NASA's mission control centre, attempt to give a complex, holistic picture of a number of dynamic, radically contingent futures. Importantly, Sergeant argued, novels may feature elements from either side of this spectrum; for example, in moments of exposition or what is sometimes negatively referred to as "info-dumps". Such moments, often found in SF novels, are of marginal importance to the plot, but they satisfy a readerly desire for a more comprehensive understanding of the fictional world in order for that world to then become powerfully animated in the reader's imagination.

Matthew Ingleby (Queen Mary University of London) too picked up on the tension between the novel's diachronic form and its ambition to represent more comprehensively the functions of complex systems like cities. His inquiry, however, pertained to realist fiction, specifically Dickens's multi-plot novel. In moments of crisis the past and future open up for reinvention, and Dickens's novels often feature crises (personal, financial, political etc.) which generate complex revolutions, twists of fate, and remarkably auspicious conclusions. The power of these collective conclusions, in which evil is overthrown by a fortunate, unexpected turn of events involving all of the main characters, overshadows the individual wrapping-up of each single plotline. This collective future remains open, argued Ingleby – unlike in the detective plot (which ends with all mysteries solved and the bad guy in chains) or the soap opera (which never ends at all, stuck on repeat). Dickens' novels thus introduce a sense that after the curtains are drawn, there is still unrealised potential in the fictional world, coaxing the reader to dwell there a little while longer.

The notion of realism proved to be a recurring theme in the conference. In my own presentation I explained that although real-time strategy games like *Anno 2070* are *predisposed* to future-modelling (to harken back to Evison Reeves's notion of disposition), many of them are also in the habit of foreclosing the future given their service as proleptic histories (a term coined by Josh Smickers), thus perpetuating the

logic of capitalist realism, and dismissing alternative economic models as implausible. Similarly, Carla Leanne Washbourne (UCL) lamented the lack of real innovation in the field of urban green planning, which too often passes off urban architecture as sustainable merely by slapping some green on it.

But if traditional narrative's future-telling potential seems limited in its reliance on plot and character, and if real-time video games appear to be complicit in capitalism's foreclosing of the future, where else may we turn for a more radical future tense, one that – like a kaleidoscope – would open up the future instead of narrowing it down? Keynote speaker Amy J. Elias (University of Tennessee) offered us a way out in her talk called "The Temporality of Dialogue", in which she discussed the resurgence of scholarly interest in the dialogical in the wake of Nicolas Bourriaud's book *Relational Aesthetics*. In her paper, which featured some work in progress from her upcoming monograph *Dialogue at the End of the World*, she responds to Bourriaud's claim that grand representations of utopian societies are now a thing of the past, and that contemporary utopian thinking is more humble and seeks to fit into everyday contexts – for example, in interactions with strangers and neighbours. These more modest "micro-utopias" are not representational but concrete instances of praxis. Elias's question was how novels can take part in such a praxis given their representational nature. Her answer lies in their performance of a dialogical mode. Dialogue, according to Elias, confounds capitalism's desire for controlled, predictable time because it insists on improvisation and simultaneity. Dialogics suggests that subjectivity is constructed not in solipsism but through interaction and in response to the Other. Narrative texts that are dialogical, for example Kim Stanley Robinson's *New York 2140*, which was hailed in a few other presentations as well, offer multiple points of entry, both emotionally and narratively, and they stage ethical dilemmas and questions in a fictional arena that invites the reader to take part, positioning oneself in relation to the other voices in the text, and instigating a kind of readerly praxis.

Though relatively small, the conference was intensive and thoroughly satisfying, taking place over the course of two days: six panels, one roundtable, and 21 speakers. There was enough of a common theoretical framework to support analytically challenging questions and comments. Finally, it was truly remarkable how the different papers spoke to each other so specifically and, surprisingly, even from across disciplines, in a mode that I rush to call dialogical – which means that at least for a moment, we ended up creating a micro-utopia of our very own.

Biography: Laura op de Beke is a PhD fellow at Oslo University. Her work is part of a larger interdisciplinary project called Lifetimes: A Natural History of the Present (temporalities.no). Her contribution looks at how SF video games and novels provide access to different kinds of Anthropocene temporalities like deep time.

Book Review:
Iain M. Banks

Janice M. Bogstad

Kincaid, Paul. *Iain M. Banks*. U of Illinois P, 2017. ISBN 978-0252082504.

Kincaid's comprehensive study*, Iain M. Banks*, unlike other recent critical works such as Simone Caroti's *The Culture Series of Iain M. Banks: A Critical Introduction* (2018) or the essay collection *The Science Fiction of Iain M. Banks* (2018), explores the thesis that there is little foundational difference, in either underlying worldview or socio-political conception, between Banks's works often considered in the critical literature as different types of fictional construct and, so, rarely compared. Mainstream works published under "Iain Banks" deal on the surface with contemporary political and social issues. SF published under "Iain M. Banks" are set in the far future and played out on an intergalactic scale. Kincaid pursues an integrated critical evaluation of both types of fiction in a rough chronological order, based on the publication dates of Banks's titles. With this chronological approach, Kincaid can better centralise Banks's entire writing project, showing similarities of technique, thematic, and structural explorations. He considers the psychological writings of R. D. Laing, the influence of a Scottish literary renaissance of the 1980s, the re-visioning of space opera, and the exploration of the human spiritual dimension. One area Kincaid could have explored in more depth was Banks's skill in creating central female characters. Gender identity and female characterisation are mentioned at various points in Kincaid's narrative but could easily have received more attention in a foundational work such as this.

The science fiction of Banks dominates Kincaid's discussions. After Chapter One, a biographical overview of Banks, Kincaid focuses on his three earliest published works of fiction: *The Wasp Factor* (1984), *Walking on Glass* (1985), and *The Bridge* (1986). Kincaid notes a critical response to *The Wasp Factory* that reappears, if mildly altered in form, on an ongoing basis, that critics either loved or hated the novel. "There was no middle ground. The book was either brilliant or

loathsome. But this very divided reaction indicated that something very different had appeared on the literary scene something for which the critics were not prepared" (14).

In every other chapter, Kincaid integrates discussions between mainstream and SF works – for example, adding the mainstream novel *Canal Dreams* to Chapter 2, *Whit* to Chapter 3, and *Dead Air* and *The Steep Approach to Garbadale* to Chapter 4. It is well-known that Banks and his close friend and associate, Ken McCleod, were attempting to write and publish SF before *The Wasp Factory* (1984) was published. The series of works set in the far future of The Culture, an intergalactic utopian society that debuted with the publication of *Consider Phlebas* (1987), receives the most attention in this work. Culture novels which quickly followed *Consider Phlebas* included *Use of Weapons, State of the Art,* and *Player of Games.* Chapter 2 addresses these novels. Banks also published four SF novels not set in the Culture universe: *Against A Dark Background* (1993), *Feersum Endjinn* (1994), discussed in Chapter 3, and *The Algebraist* (2004) and *Transition* (2009), discussed in Chapter 4.

In integrating the conceptual anchors between Banks's mainstream fiction, the 10 Culture novels, and other SF works, Kincaid pursues several themes found in Banks. Perhaps the most integrative one is the concept of the divided self and identity formation, which Kincaid links to the writings of Scottish psychologist R. D. Laing (*The Divided Self*, 1960). This conceptual body of work is sufficiently informative to be applicable as critical analyses for most of Banks's work and is introduced in the first chapter with the discussion of *The Wasp Factory, The Bridge,* and *Walking on Glass.* Kincaid returns to Banks's knowledge of and interest in Laing's work at many points in the next four chapters.

Kincaid's second overarching thematic pursuit is Banks's relationship to what has been identified as the Scottish Renaissance of the 1980s (although the official Scottish Renaissance is usually discussed in terms of the 1950s and Hugh MacDiarmid). Kincaid identifies, rather, the influence Alasdair Gray's *Lanark* (1981) on Banks's *The Bridge* (Kincaid 20). Kincaid's detailed discussion of the first writers and the framework of the Scottish Renaissance itself, which seemingly grew out of a general feeling of national helplessness in 1980s Scotland, are of special interest. Kincaid's ability to link some aspects of the Scottish Renaissance to Banks's SF productions is as equally useful as his enumerations of the Renaissance's influence on the 16 mainstream novels and the 13 culture novels completed during Banks's life – the last mainstream novel, *Quarry* (2013), being published soon after his death.

Also deserving of mention are Kincaid's discussions of Banks's close friend, Ken McLeod, and the revival and reformulation of the space opera, especially regarding the Culture and SF novels. Chapter One first mentions their interest in space opera in reference to Banks's first SF/Culture novel, *Consider Phlebus*, but Kincaid further investigates this influence in Chapter 5, an overview of Banks's impact on other writers. Traditional space opera usually concerns a central hero whose actions contribute to some grand, intergalactic scheme to save the university or humankind. Banks and McCleod take the focus off a singular hero and the genre's usual conservative politics to follow instead adventures of peripheral characters functioning within the grand scheme of things, such as the Idiran War, which hundreds of years after its end is still influencing the trajectory of the Culture. Kincaid notes, in discussing ironies in *The Hydrogen Sonata* (2012), a novel about a race named the Gzilt who plan to Sublime in the very near future, while "the culture,

though pretending to be peaceful, has actually been in a major war, the Idiran War, that a thousand years later continues to haunt it" (134). A number of subsequent authors acknowledge Banks's influence, such as Stephen Baxter, Paul J. McAuley, and China Miéville, though the "natural inheritor of Bank's mantle is probably Alastair Reynolds" (150). Space opera is important here because, in creating the Culture, Banks had wrested the subgenre away from traditional roots – for example, *Star Trek* (150).

The spiritual dimension to human culture also figures in many of Banks's novels, mainstream and SF alike. In discussing spirituality and religion for the mainstream novel *Whit* (1995), Kincaid argues that Banks's position as not anti-god but anti-religion (141). *Whit* takes place in contemporary Scotland. But this judgement on Banks's view of the human spiritual dimension applies equally to explorations in *Surface Detail,* one of the two Culture and two non-Culture novels in Banks's later career (Chapter 4). While *Whit* does not address the Culture at all, much less the potential for an entire race to reach an elevated spiritual dimension, it does explore many reasons for religion as an organised force in human culture, even when taken to what otherwise appear as absurd rituals.

Kincaid's discussion also returns to his earlier speculations on the Culture in Banks's fictional vision; the Culture as a whole civilisation(s) cannot quite decide to reach the next level of existence, called Subliming, a concept Banks introduces to explain the vestiges of ancient, no longer extant, cultures essential to the background of works such as *Excession* (1996). The Culture seems to reference the Buddhist concept of the Bodhisattva who stays on the earth to guide others in the right direction. Kincaid seems to expect at some point that Banks should have progressed the Culture to the point of Subliming, having introduced the concept as early as the fifth work set in the Culture universe, *Excession* (1996). To Kincaid, this lack of spiritual progress over the hundreds of years of the Culture detracts from the artistry of Banks's last novels, *Matter* (2008), *Surface Detail* (2010), and *Hydrogen Sonata* (2012). Kincaid notes about *Matter*, for example, that "this sense that the Culture is no longer the focus of the novel … is even more apparent in the next Iain M. Banks novel" (124). The next novel would be *Surface Detail*. It can be difficult to separate one's expectations from the author's own literary project, but this is one of Kincaid's criticisms with which I disagree. In my estimation, these last works expand Banks's spiritual vision and typify an ever-developing set of approaches to the wealth of spiritual questions about humanity's responsibility to each other found in Banks's earliest fiction, but certainly in his first Culture novels. They expand a central unifying observation that Banks never intended even his Culture novels to add up to a single vision or the Culture to represent a finished utopian construct.

Gender identity and Banks's skill with female characters figure in discussions of both mainstream and SF but are usually peripheral to Kincaid's analysis. In fact, the word "female" appears only seven times in Kincaid's book, a lacuna which does not reproduce the importance of gender and female characters in Banks. Kincaid first addresses gender confusion in *The Wasp Factory* through a protagonist who believes himself to have been castrated, but is actually biologically female, but Kincaid does not explore the implications much further, instead centralising Frank's use of individual ritual as his form of identity formation. In Chapter Two Kincaid picks up briefly on female characters but only by focusing on rape. "What may be the most significant about *Canal Dreams*, however, apart from being the first time Banks had used a female protagonist … is that it used rape as a trigger for action" (Kincaid 35).

But he then criticises rape as it recurs throughout Banks's corpus, coming back to it in Chapter 5. Kincaid mitigates critiques of rape in five Banks novels by saying, "Banks's female characters are at least as likely to be strong, competent, and effective as any his male characters" (145).

Kincaid's short *Iain M. Banks* is admirable in the scope and depth of its explorations of Banks's many writerly projects. He notes in Chapter 5: "What I have tried to do in this book is suggest how varied Banks's work is, how many different approaches he took in exploring the key themes and ideas in his novels, and how many different approaches there are for the reader in unearthing, analyzing, and enjoying those themes" (152). Kincaid's work should at least be read as a companion to Banks's fiction. For Culture enthusiasts, it can be enhanced with a reading of Simone Caroti's book. Notable also is the Banks bibliography provided by Kincaid, and his bibliography of critical works that typically rounds off any successful critical work.

Biography: Dr. Janice M. Bogstad is a professor in the McIntyre Library, University of Wisconsin-Eau Claire, where she's served in various capacities since 1990, currently as Head of Technical Services & Collection Management. She teaches classes in English, Honors, and Women's Studies on SFF, Tolkien, and gender theory. She has published reviews, articles in reference books, and essays on Children's Literature, SFF, and English literature, as well as essays in collections on fantastic fiction. Bogstad has also co-edited *Picturing Tolkien* with Philip E. Kaveny (2011).

Book Review:
Frankenstein and Its Classics: The Modern Prometheus from Antiquity to Science Fiction

Gregory Conley

Frankenstein and Its Classics is the result of a 2016 conference celebrating the 200th anniversary of *Frankenstein*'s conception. Weiner, Stevens, and Rogers organised the conference and then turned it into this book. As a result, the book is easy to read, has a wide variety of topics, and makes some excellent points. Unfortunately, also as a result of its production history, some of the essays are either too short or underdeveloped. Scholars and teachers already familiar with *Frankenstein* will find a lot to love in this book, however, and its affordability makes it a perfect supplement for a special-topics undergraduate class. Its overarching thesis is that *Frankenstein* was a site of reception for Greek and Latin classical literature, particularly stories of Prometheus. The novel experiments with these classical works in many ways, and *Frankenstein,* as a source of what we now see as science fiction, injected these classical works and their philosophical questions into the bloodstream of early SF. This argument may be the most interesting. Several authors in the book rectify various oversights in previous *Frankenstein* scholarship, using information from Mary Shelley's biography, the popular culture of the time, and other sources to demonstrate how this book interfaces with more classical works than commonly supposed, which the editors point out has been too sparsely handled in previous criticism (3). The book also invites readers and scholars to continue to explore, through Shelley's classic, SF's classical background, arguing that these classical influences affect the way the Shelley's novel works. The collection succeeds in whetting one's appetite for the topic and hopefully will lead to a productive new avenue for future scholarship – although, even as an "invitation", the book doesn't

cover as much as one might wish, focusing on literature and film almost exclusively when it could have as easily discussed music or video games as well.

Essays throughout the book make use of a dichotomy set up by the editors: Prometheus as either the thief of fire (*pyrphoros*) or as the creator of humanity from dirt or mud (*plasticator*) (3). The essays often provide passages in Latin with accompanying translation. This makes it easier to read for scholars not necessarily versed in Latin, while including the original source quotations for anyone who wants to see what the author is using for interpretation. This makes it a good source for courses.

The book is split in two parts. The first, "Promethean Heat", delves into the sources of the novel. The usual culprits appear, including Ovid, other Romantics, and modern scientific discourse. This section includes essays of several types, but it focuses especially on factual and historical information. For instance, the primary goal of Genevieve Liveley's "Patchwork Paratexts and Monstrous Metapoetics: 'After tea M reads Ovid'" is to demonstrate which classical sources Mary Shelley knew and when. Liveley does an excellent job here, picking over Shelley's journals and the translations of Ovid available at the time. The argument is, ultimately, that Shelley most likely used a translation by George Sandys titled *Ouid's Metamorphosis Englished*. Here is where a reader's expectation comes into the equation: the essay does not really say much about why this conclusion matters for us when we read the novel. Its argument is historical and biographical as much as textual.

Martin Priestman's essay "Prometheus and Dr. Darwin's Vermicelli: Another Stir to the *Frankenstein* Broth" notes how daunting it can be to study such a "well-explored" work but that the "classical hinterland" offers fresh possibilities, particularly when coupled with a study of the scientific discourse of the day (42–43). One of this essay's major points is that the common image of Victor Frankenstein sewing the creature out of disparate parts is not necessarily supported by the text, or at least not exclusively supported. Priestman also points out that Victor only says he intends to "infuse a spark of being into the lifeless thing which lay at [his] feet" (43) and that it is not demonstrably true that he uses lightning or electricity. Priestman's goal, or at least one of them, is to combat the popular visions of *Frankenstein* engendered by film adaptations. This essay works well, juxtaposing "dry" and "wet" theories of the creature's creation by examining Prometheus narratives and the ways in which classical literature influenced the work – scientific as well as poetic – of Erasmus Darwin, whose work influenced Mary Shelley.

"The Politics of Revivification in Lucan's *Bellum Civile* and Mary Shelley's *Frankenstein*" by Andrew M. McClellan compares the stories of Sextus and Victor Frankenstein. Sextus was Pompey's son and, in *Bellum Civile,* visits the witch Erichtho to discover his fate. There, he witnesses a soul infused into a body in order to give prophecy. McLellan argues that Mary Shelley mirrored this narrative with Victor's revivification of the creature and his subsequent abandonment. He goes on to argue that both narratives make use of the metaphor of "state as body" to talk about civil and political violence. This essay makes good use of political imagery from Shelley's period, and effectively argues for the connection between states and bodies, as well as both Lucan's and Shelley's interest in the metaphor. The essay may try to do a little too much, though, as a few of the points are underrepresented. By the time this fifteen-page essay has discussed Lucan's work, its political import, *Frankenstein*, its political import, the political art of George Cruikshank, and the political situation of Napoleon's banishment and return, the reader may not easily see how everything

connects. The point is obscured by the sheer volume of things that, by necessity, appear briefly. The point is made, but not made very clearly.

Other essays in this section tackle topics such as the image of Prometheus molding humanity from clay, the geological causes of the "year without a summer" in which Mary Shelley began to compose the novel, and the sublime. In the last essay of the section, Matthew Gumpert compares the creature to Pandora, calling attention to the issue that "critics have been unable to see the Creature, the 'monster' … as the sublime itself" because the sublime is supposedly unseeable (102). The creature is crafted much as Pandora was, particularly in Hesiod's work, and this connection allows Gumpert to convincingly argue that the point of the creature's grotesque visage is that it offers an example of sublimity that Victor Frankenstein cannot handle. The first section, overall, is an excellent dive into how classical sources influenced Mary Shelley, triangulating a variety of topics such as politics, science, and artistic sensibilities. Some essays may be unclear individually, but they do work together to give a picture of the underrepresented nature of classical sources in the scholarship on *Frankenstein* and suggest ways that scholars may be able to expand this topic from this point forward.

The second section is titled "Hideous Progeny" and focuses on the ways that the novel influenced other works and traditions. The first two essays, "Cupid and Psyche in *Frankenstein*" and "The Pale Student of Unhallowed Arts", feel transitional, as they are as much about *Frankenstein* and its sources as any products of the fusion that come afterwards. This section also contains my personal favorite: an essay on how *Frankenstein*, Prometheus, and the other classical sources of the novel affected the work and writing of Timothy Leary. Neşe Devenot argues that Leary depicted the Frankenstein narrative as a negative overreaction to humanity's technology-assisted growth; people disturbed by the psychological implications of drug use are like Victor Frankenstein, disturbed by the medical advance he has made. Leary, according to Devenot, consciously used Prometheus to undermine this cultural narrative and try to make a new one that would convince people to forget about, or at least relax, the status quo and depart from convention. Devenot calls Leary's work a "literary 'remix'" of *Frankenstein* (167). This essay syncs well with a previous essay by Matthew Gumpert that uses Hesiod and Kant to work out the ways Frankenstein's creature is sublime and why it seems to be grotesque instead. Devenot uses the grotesque to delve into the reactions Leary recorded in his books. One specific instance is when Leary took LSD alongside prisoners in an experiment. Each participant felt their partner was grotesque, but, instead of being repulsed, finally came to accept that grotesqueness. Devenot contrasts this with the typical reaction to convicts in the same way Gumpert contrasts Victor's reaction to the creature against the possible reaction one might have if one realised the creature were sublime.

Also, with the understandable caveat that no one book can discuss everything worthwhile, the emphasis by this collection on literary texts and films shortchanges relevant work in other fields. For example, despite a very good reading list of literary and cinematic works, video-game studies have been left out entirely. The recent spat of cyberpunk games certainly experiments with classical influences in the post-*Frankenstein* SF tradition, perhaps with *Deus Ex* at the forefront. *The Talos Principle* focuses on this topic, down to the creator abandoning their creations to fend for themselves. For instance, games scholar Jonathan Tuckett has recently and adeptly argued that *The Talos Principle* plays with questions of what constitutes the human, what isn't human, what the relationship is between non-human and creator,

and how all of this complicates common Eurocentric assumptions about religion. Although Tuckett recognises the importance of the classical stylings and allusions in the game, he does not directly refer to the *Frankenstein* narrative. That demonstrates a possible site of synthesis, an opportunity for more work, so there is a lot of possibility in the ground between the classical study of *Frankenstein* and video games. It's understandable that *Frankenstein and Its Classics* focuses on a handful of genres, particularly if people are inspired to write more on the topic because of this collection – its stated goal. However, that very narrow focus should have been stated, as otherwise it appears that other genres may have been excluded because no one considered them or felt they were appropriate for study.

Despite this (perhaps unavoidable) flaw, Weiner, Stevens, and Rogers have nonetheless produced a good essay collection, worthwhile to readers at several levels. The variety of topics within the focus of each section demonstrates the wealth of potential inherent to studying *Frankenstein* from a classical perspective. Authors write about textual interpretations, biographical data, film technique, philosophy, and cultural mores tied to drug use. If there are more classical avenues to consider, such as in game studies, then let's hope people contribute their own work to the growing niche of how *Frankenstein* imagined the classical world – and how we imagine it because of that novel.

Biography: Gregory Conley received their PhD in Gothic and Science Fiction literature from the University of Memphis. They study evolutionary science in weird fiction and the relationship between literature and occultism. They teach comparative humanities and English composition at Eastern Kentucky University and Bluegrass Community and Technical College.

Works Cited

Tuckett, Jonathan. "The Talos Principle: Philosophical and Religious Anthropology." *Implicit Religion*, vol. 20, no. 3. 2017, pp. 259–77.

Book Review:
Tolkien: Maker of Middle-earth

Andoni Cossío

McIlwaine, Catherine, editor. *Tolkien: Maker of Middle-earth.* Bodleian Library, U
of Oxford, 2018. ISBN 978-1851244850.

Tolkien: Maker of Middle-earth is the offspring of the exhibition under the same
name displayed in the Weston Library, Oxford (1 June 2018–28 Oct. 2018). This
expanded catalogue, including six introductory essays to J.R.R. Tolkien, provides
elaborate commentaries on the items as well as a bibliography and an index, forming
a cohesive introduction readily touching all aspects of Tolkien's life, fiction, and art.
After seventeen years working at the Tolkien archive of the Bodleian Library,
Catherine McIlwaine is an authoritative editor who has managed to compile an
excellent textual and visual compendium.

The contributors selected for the opening essays, covering a wide range of
topics, comprise some of the best scholars in Tolkien studies. The reproductions
interspersed with the running text in most cases either support the argument, as in
the pieces by John Garth (pp. 20–33), Verlyn Flieger (pp. 34–45), Carl F. Hostetter
(pp. 46–57), and Wayne G. Hammond and Christina Scull (pp. 70–81), or illustrate
the topic of choice as in Tom Shippey's contribution (pp. 58–69). Unfortunately, in a
few minor others, the connections are frail, such as the art in McIlwaine's essay (pp.
10–20) and fig. 18 *Copy of 'Mirkwood'* (p. 39) in Flieger's. This format imperative
inconveniently forces the reader to go back when the analysis on these items
commences in the catalogue.

McIlwaine's "J.R.R. Tolkien: A Biographical Sketch" manages to provide a
clear, concise, and original introduction to Tolkien's well-known life. McIlwaine's
achievement of incorporating some less well-known facts together with the highlights
of Tolkien's life and background is laudatory. It serves well its purpose of introducing
subsequent essays and materials.

Garth's "Tolkien and the Inklings" deals with the emergence, constituency, and development of the group, and the influence it had on Tolkien as a writer and creator. It also accurately conveys, contrary to common belief, that the Inklings was a mutable group that changed over the years, free from any set structure or norms. Garth also unravels the more personal aspects of Tolkien's relationship with different members, going beyond the factual into the sentimental, offering a glimpse into Tolkien's personality and social behaviour.

In a very ambitious essay entitled "Faërie: Tolkien's Perilous Land", Flieger explains what the concept "Faërie" and "Faërian Drama" meant for Tolkien, and its application to his writings. With this purpose in mind, she reviews Tolkien's early drawings from 1911-1913, "On Fairy-Stories" (1947), and *Smith of Wootton Major* (1967) together with the posthumously published "*Smith of Wootton Major* Essay" (2005) and *The Notion Club Papers* (published in *Sauron Defeated* in 1992), tracing the evolution of "Faërie" in his mind and fiction. Of particular relevance is how Flieger explains that initiating his employment of "Faërie" in Mirkwood in *The Hobbit* (1937), Tolkien set off to develop it further in *The Lord of The Rings* (1954–1955) with the Old Forest, culminating with the fully fledged example of Lothlórien, to finally round it off in *Smith of Wootton Major.*

"Inventing Elvish" by Hostetter explains how "Tolkien is the first glossopoeist (or inventor of languages) known to have created his languages on historical and comparative principles" (47). The essay shows the manner in which Tolkien crafted a series of Elvish languages with detailed historical grammatical and phonological transformations, a by-product of his professional activity. In spite of the essay being slightly technical for those without some previous knowledge of linguistics, it succeeds in scientifically providing an insight into the arduous and extremely scrupulous undertaking Tolkien carried out, which sets his languages apart from other tailored systems of communication.

"Tolkien and 'That Noble Northern Spirit'" by Shippey expands on the long-studied influence of Norse literature in Tolkien from a new angle. The courage without hope for victory which runs through *The Hobbit* and *The Lord of the Rings* is identified to be part of the Northern spirit Tolkien absorbed from Northern literature. However, Shippey also remarks on how Tolkien censored heathen practices, erasing or condemning traces of slavery and human or animal sacrifices. Shippey further analyses how particular passages of *Beowulf* and "The Lay of Fafnir" in the *Poetic Edda* shaped parts of *The Hobbit* in great measure. The great achievement of the essay is not the simple identification of sources and elements borrowed but in how, considering Tolkien's faith, philological knowledge, and taste, he reworked those materials to present a new outlook of the past, sometimes in a more sophisticated manner or adapting them to suit his own will.

As the experts most knowledgeable about Tolkien's artwork, Hammond and Scull provide an indispensable essay. In "Tolkien's Visual Art" they offer a chronological narrative of Tolkien's artwork, conveniently jumping back and forth, in relation to different highlights of his life, and especially those bound to his fiction. They succeed at pinpointing how Tolkien was as meticulous and dedicated in his artistic endeavours as in the process of writing.

Once the essays have set the context, the catalogue begins with colour reproductions of letters of various kinds. A few iconic epistles written by Tolkien are selected from the Tolkien Estate archive, from which Humphrey Carpenter was also drawing for *The Letters of J.R.R. Tolkien* (1981). Afterwards, McIlwaine arranges

material in a more or less chronological order with Tolkien's childhood, student days, artistic range, *The Silmarillion*, Tolkien's handling of time and distractions, *The Hobbit*, and finishing with *The Lord of the Rings* and its maps. The format will please many, with – in most cases – a double-page layout devoted to each reprint, including the commentary and bibliography, sparing the trouble of checking back and forth. The choice of pictures and text is excellent, always relating to his fiction and other artworks when pertinent, clarifying common and not-so-common concerns. In addition, the volume also illustrates how Tolkien experimented with very different artistic styles (184), covering them all and distinguishing between them.

With regard to the content, some of the details are well-known, whereas others are surprisingly fresh, especially regarding specific dates and aspects concerning Tolkien's parents, childhood, Edith, friendships, adult life, Exeter College, family, war, and the University of Oxford. Rather than just re-presenting the highlights of Tolkien's life covered in Carpenter's biography or Garth's *Tolkien and the Great War: The Threshold of Middle-earth* (2003), McIlwaine sets a path of her own. The biographical sketch at the beginning (pp. 10–20) now allows the author to focus on given episodes without having to re-explain facts, allowing greater depth.

Most of the photographs, maps, manuscripts and art have previously been published in several different places: *J.R.R. Tolkien: The Father Christmas Letters* (1976), *Pictures by J.R.R. Tolkien* (1979), *Mr Bliss* (1982), *J.R.R. Tolkien Life and Legend: An Exhibition to Commemorate the Centenary of the Birth of J.R.R. Tolkien (1892–1973)* (1992), *The Tolkien Family Album* (1992), *J.R.R. Tolkien: Artist & Illustrator* (1995), *The Annotated Hobbit* (2002), *The Invented Worlds of J.R.R. Tolkien: Drawings and Original Manuscripts from the Marquette University Collection* (2004), *The Art of* The Hobbit *by J.R.R. Tolkien* (2011), and *The Art of* The Lord of the Rings *by J.R.R. Tolkien* (2015). Nonetheless, although there are several new items never previously seen, and plenty of quotes from the coveted Tolkien Family Papers, it must be said that the most interesting materials have already been reproduced elsewhere. This is perhaps unavoidable, especially considering many of Tolkien's drawings served to illustrate his stories, either as pictures, maps, or dust jackets. Yet it must be highlighted that the quality of the reproductions of this volume exceeds those prior to 2011. In total, there are 67 new art items; the complete list can be found in the Tolkien Art Index (TAI) raging from the item TAI#483 to TAI#551, excluding TAI#498 and TAI#544 (Mueller-Harder). For a quick reference, already published materials included in this volume can also be found in TAI. In any case, the new Númenórean art, heraldic devices, patterns, designs, and doodles do not add much to those previously printed, the *Second Silmarillion Map* fig. 75 being the only valuable piece (227).

On the downside, some may find the reiterative pattern of the book slightly slow-paced as the reader is exposed to some information twice, first in the essays and later in the catalogue. While the commentaries on the various drafts and evolution of certain artworks have also been largely covered in the past by Hammond and Scull, some of them provide new and enlightening perspectives. For the sake of convenience, it would have been helpful to include a list of all previously unpublished material; however, the manuscript numbers have been usefully placed under each item, facilitating the labour of those interested in requesting their access.

Among the strongest features of *Tolkien: Maker of Middle-earth* is how McIlwaine reviews different artistic output and correlates it to various life moments

and fictional projects such as *The Silmarillion*, *The Hobbit*, and *The Lord of the Rings*. McIlwaine also shows the reader how much can be learnt and understood about Tolkien from his art, especially the less well-known early productions labelled as "The Book of Ishness", *Roverandom* (1998), calligraphy, or newspaper doodles, among others. In most cases she guides and explains rather than imposes an interpretation, letting the reader speculate. The index is very detailed and extensive, practical for quick references, differentiating between illustrations and the running text. A large bibliography is enclosed for those adventurous enough to continue learning, with a helpful list of previous Tolkien exhibitions since 1967.

Scholars familiar with Tolkien may find unnecessary some of the detailed accounts, such as summaries of the well-known works, but I believe they will welcome the essays, the quotes from the Tolkien Family Papers, and the new reproductions. Although the majority of the items can be found in the aforementioned volumes, this is the first time they have been conveniently bound together into a single book at an affordable price. Readers of Tolkien's works unfamiliar with Tolkien studies will appreciate the great effort made to constantly contextualise, resulting in an unprecedentedly accessible introduction to Tolkien scholarship and art.

Biography: Andoni Cossío (UPV/EHU) is working on a PhD dissertation on the role of trees and forests in Tolkien's works. He is sponsored by the Pre-doctoral Funding awarded by the Basque Government, and by the research group REWEST, funded by the Basque Government (IT-1026-16) and the University of the Basque Country (UPV/EHU). His publications focus on nature in Tolkien's works, and he has organised five international conferences on the Inklings.

Works Cited

Mueller-Harder, Erik. "Tolkien Art Index." *Vermont Softworks*. Vermont Softworks, LLC, 2019, tai.vermontsoftworks.com. Accessed 30 July 2019.

Book Review:
Being Bionic: The World of TV Cyborgs

Mick Howard

Calvert, Bronwen. *Being Bionic: The World of TV Cyborgs*. I. B. Tauris, 2017. ISBN
978-1784536480.

The cyborg has been a contentious entity for the entirety of its existence, as has its definition. Can the nomenclature of "cyborg" be applied retroactively? Is Icarus an early cyborg because of his prosthetic wings? What about the Roman legionnaires with their armor and weaponry, including the ballistae and tormenta? Currently, the images and actuality of the integration of the machinic and the organic have become both more systemic and homeostatic, such as the classic Terminator, Cable from *X-Men*, or even bodies utilising prostheses and vaccines. Regardless of the time period in which it exists or is portrayed, the cyborg's image has typically evoked fear, as the repercussions of blending body and technology can create nightmarish figures, especially when those figures so closely resemble humans but lack some common element of humanity normally accessed to serve as a marker. They are uncanny, resembling us but somehow not fully us.

Science fiction extrapolates from the interactions of current technologies how future societies may construct their own uncanny socio-technological integrations; as such, it provides an avenue to understand the implications of the cyborg. As Chris Hables Gray, Steven Mentor, and Heidi Figueroa-Sarriera observe, the complete "cyborgologist must study science fiction as the anthropologist listens to myths and prophecies. Science fiction has often led the way in theorizing and examining cyborgs, showing their proliferation and suggesting some of the dilemmas and social implications they represent" (8). Untangling these cybernetic creatures and the possibilities they represent via science fiction provides opportunities to understand how the finely balanced socio-technological systems that create us as cyborgs can malfunction. For example, there has been a strong emphasis on STEM in recent

years and a de-emphasis on the humanities; this imbalance leads to tremendous power to mold the world around us, with little wisdom to shape that authority.

Bronwen Calvert's *Being Bionic: The World of TV Cyborg* provides an overview of representations of these not-fully-human hybrids. These images are crucial to understanding the technological evolution of humanity. Bruce Clarke notes that because of the increasing influence of the cyborg in modern society, the way we narrate our reality has shifted. Systems cannot be separated from the environments that allowed their creation. "It is as if the environments of systems had long occupied cognitive blind spots from which they have now been shifted into view" (14). Calvert's work gazes deeply into this previously ignored cognitive blind spot, examining cybernetic images over several decades. Beginning with a chapter on the iconic Daleks and Cybermen of *Dr. Who* and ending with a discussion of beings from opposite universes in *Fringe*, Calvert makes stops in well-known worlds such as *Battlestar Galactica* and *Star Trek*. As Calvert delves into the complexity of the cybernetic systems in these worlds, she describes how the cyborg operates as both mirror and monster, simultaneously threatening humanity while reflecting and magnifying its flaws. Because of their hybridity, both embracing the organic while using technology to enhance and modify functionality, cyborgs create leaks in traditional concepts of identity, such as gender and race (3). These images of the cyborg, Calvert argues, can subvert such traditional markers, although even within this subversion, there is sometimes a simultaneous fortification of them. By taking a chronological approach to these images, she shows the evolution both of their conformity and resistance to such orthodoxy.

One of the high points of Calvert's analysis is her contention that television cyborgs reinforce traditional roles and dichotomies when an embodied cyborg not only does not call for such constructions in areas such as gender identity and sexual orientation, but also fundamentally opposes such entrenched versions of the cyborg as created by western sociocultural morphology. For example, her analysis of Seven-of-Nine, the rescued Borg drone, from *Star Trek: Voyager* points out her obvious sexualisation for the sole purpose of ratings with this particular Borg. Seven-of-Nine's blatant sexualisation is a stark contrast to all the other Borg, who are portrayed as clunky amalgamations of flesh and harsh (almost steampunk) mechanics. Additionally, she is rendered in this manner despite her innate asexuality. Playing her explicit physical sexualisation against her disinterest in physical intimacy allows the producers of the show to have their cake and eat it, too: a hypersexualised image without the need to put the actress in overtly sexual situations while still hinting and teasing about sex through her naivety; as the series continues, she explores romance and sexuality from a position of "innocence" like a teenager, but in a very adult body (55–57). Likewise, in *Terminator: The Sarah Connor Chronicles*, Summer Glau plays Cameron, a cyborg designed to infiltrate human society and assassinate designated targets; she has a mechanical endo-skeleton encased by organic tissue to better serve this function. Producers released advertising for the series that fetishised Summer Glau's cybernetic body in their advertising, using scenes that didn't appear in the show (147). Calvert's lines of inquiry into the western cultural necessity to gender and sexualise beings that fundamentally resist gendering are consistently solid, unabashedly pointing out our cultural prejudices.

Another strong line of analysis is the conflict Calvert examines between humanity and hybridity. Calvert is at her best when she examines the ways in which

various images of the cyborg are embraced or rejected by both "full" humans and embodied cyborgs. This question of embodiment and the loss or gain of humanity is central not only to our future, but to our present. Calvert returns to this question repeatedly through several chapters, particularly in terms of what different sociocultural entities consider the "acceptable" degree of hybridity and how these entities attempt to enforce their restrictions on hybridity. There are beings such as the Borg and Cyberbermen who fight to not only create more fully integrated versions of themselves, but also to impose hybridity on others. Conversely, some characters reject any aspect of hybridity for themselves while fighting to destroy all cyborgs that cannot be used as tools; even those which can be used are often viewed with suspicion. Sarah Connor is the archetype of this kind of character, only reluctantly using Summer Glau's Cameron to achieve her anti-cybernetic goals while never fully embracing the cyborg. Calvert's exploration of this false dichotomy between technology and the human is both a fruitful and intriguing line of inquiry.

An area that I would have liked to see Calvert explore a bit more is non-traditional cyborgs, such as large-scale sociocultural technorganic integration or nanotechnologically manipulated organisms; the majority of her analyses focus on very traditionally embodied cyborgs. The one notable exception to this trend is Chapter 4, which focuses on *Caprica*, the prequel series to *Battlestar Galactica*, and how the cyborg can be formed through a virtual existence. In many ways, this is the strongest chapter of the text, as it expands the commonly accepted parameters of cyborgs and provides opportunities to view them through a broader lens. This more inclusive definition, one which considers human cognitive function incorporated into fully mechanical bodies, forces a reconsideration of standard definitions of cyborgs, and is a welcome challenge to more traditional perspectives. What is unfortunate about this lack of exploration into nontraditional cyborg imagery is that it is not because Calvert does not consider such boundary-pushing images. In her conclusion, she briefly considers works such as *Orphan Black* and *Humans*, both of which present alternative views of cyborgs that violate common preconceptions. In *Humans*, synthetic humans interact freely with "normal" humans, though they do so as perceived inferiors, while *Orphan Black* describes biological clones created through advanced technology as property, stripping them of their humanity and human rights. Her brief looks at these images are incredibly interesting and hint at a stronger potential for disruption than do several of her chapters. For example, at what point does technological intervention on a human body render it an object in the eyes of a legal system as in *Orphan Black*? Calvert might easily have analysed both images in full chapters, rather than spending so much time analysing images that take a more conventional view of the cyborg.

Overall, however, *Being Bionic: The World of TV Cyborgs* is an intriguing overview of cyborg imagery on television over several decades. While there are some clear missed opportunities to expand upon and question cyborg definitions, the work Calvert does do is important. By understanding the historical unfolding of the cyborg image on television, Calvert allows us to grapple with our current understanding of this figure in society. As STEM continues to dominate collegiate budgets and subsequent career paths, problems arising from technological expansion are all too often regarded as simply the price of progress; lost is the fact that technology is merely an extension of human choices, and humanity must acknowledge its intrinsic bond with its machine prosthetics in order to properly control them. Calvert's analysis correctly rectifies this false bifurcation, stressing the interdependency of

technology with humanity rather than viewing them as separate entities. We are hybrids, reliant upon technology for our humanity. Chris Hables Gray has observed that tools are "here to stay, machines are here to stay, cyborgs are here to stay. The real issue is which tools, which machines, which cyborgs we will have in our society and which will be excluded or never created" (6). Calvert's scrutiny of these television images demonstrates methodologies that we can use to improve or fail as hybrids, either making our world and cultures better or, perhaps, destroy them.

> *Biography*: Mick Howard is an Assistant Professor and Director of the Writing Center at Langston University, an HBCU in Oklahoma. He has a strong interest in the manner in which combinations of bodies and technologies not only interact and function in society, but also in how particular bodies and technologies signify. Specifically, he is curious about how sociocultural approved signification of only certain combinations of bodies and technologies prevents designated bodies from interacting with particular technologies.

Works Cited

Clarke, Bruce. *Posthuman Metamorphosis: Narrative and Systems*. Fordham UP, 2008.

Gray, Chris Hables. *Cyborg Citizen*. Routledge, 2002.

Gray, Chris Hables, Steven Mentor, and Heidi J. Figueroa-Sarriera. "Introduction: Cyborgology: Constructing the Knowledge of Cybernetic Organisms." *The Cyborg Handbook*, edited by Gray, Mentor, and Figueroa-Sarriera, Routledge, 1995, pp. 1–16.

Book Review:
Medievalism in A Song of Ice and Fire and Game of Thrones

Don Riggs

Carroll, Shiloh. *Medievalism in* A Song of Ice and Fire *and* Game of Thrones. D. S. Brewer, 2018. ISBN 978 1843844846.

Shiloh Carroll's analysis of George R. R. Martin's *A Song of Ice and Fire* and, to a lesser extent, the HBO television series adapted from it, *Game of Thrones,* deals – as her book's title suggests – with issues of historicity and the multiple versions of the "Middle Ages" as they apply to Martin's works of fiction and the televised series they have spawned. In addition, though, Carroll also critiques these works in terms of misogyny, toxic masculinity, racial stereotypes, and class issues. Carroll does this using a wealth of specific examples, all carefully analysed, and sets these analyses in a rich theoretical framework of scholarship in the field of medievalism, which is the study of the use of the historical Middle Ages as a setting for literature, cinema, opera, and the visual arts. Throughout this study, the main thrust of Carroll's argument is that Martin uses an argument from "authenticity" to justify his relegation of women to traditional female roles, the validation of men through violence, and the depiction of non-Westerosi characters through tropes long associated in Western literature with "Orientalism".

Although Martin admittedly depicts certain female characters in very assertive roles, even roles in which they rule and lead armies – Daenerys Targaryen and Cersei Lannister are obvious examples – Carroll points out that they achieve mastery through adopting elements of toxic masculinity in their own actions. Also, Cersei's comeuppance for her sexual interactions with men whom she has used in her manipulations in the court – a punishment and humiliation not meted out to any male characters – is the "walk of shame" where she is forced to walk naked through King's Landing.

According to Carroll, this element of toxic masculinity characterises the entire novel, both in terms of those male characters, like the "Mountain" Clegane, who are particularly brutal, and also in terms of the "weaker" males, like Samwell Tarly and Tyrion Lannister. Carroll points out that, although both characters' strongest feature is their literacy, they are nonetheless "redeemed" by success in battle – Sam through killing one of the Others with a dragonglass blade, and Tyrion through devising the trap that destroys Stannis Baratheon's navy.

Although the primary focus of the study is Martin's series of novels, in the final chapter, "Adaptation and Reception", Carroll deals with the HBO series, in part because at the time of the study's publication the adaptation had outstripped the novels and gone into territory uncharted as yet by Martin's writing. In fact, as of the writing of this review, the HBO series has concluded, but only five of the projected seven volumes of the novels have appeared. Still, most of what Carroll addresses in this last chapter involves comparison between page and screen.

For readers not familiar with the field of medievalism, Carroll outlines the most prominent conceptions of that period among artists and scholars. There are the "barbaric" middle ages, where warriors clash, rape, and pillage, and then there are the "courtly" middle ages, where elaborate protocols of romantic relationship are formulated and massive cathedrals rise to the heavens. As Carrol points out, subsequent to the actual historical period itself, there are degrees of development of these modes of medievalism on the part of idealising artists and critics like the Pre-Raphaelite Brotherhood, its extension into the twentieth-century public consciousness through the Disneyfication of the Middle Ages in animated feature films, and also the medievalist tales of J.R.R. Tolkien like "Farmer Giles of Ham" and probably the Matter of Middle-Earth. Martin is shown to reject the idealising of the Middle Ages in favor of his "grimdark" version of a "barbaric" medieval period. For Carroll, Martin wrongly uses this aesthetic preference to justify what she considers problematic about the novels, particularly their view that women cannot rule except by guile and manipulation from behind the scenes, or, in the fantasy trope of the "exceptional" woman, where a woman has the physical prowess of a man, as with Brienne of Tarth.

In the chapter "Romance and Anti-Romance", for example, Carroll sees Martin delving into the tropes of actual medieval Romance, following such High Medieval writers as the twelfth-century Chrétien de Troyes, only to subvert them through curtailing the reader's expectation with "real-life" intrusions. This part of Carroll's study reveals one source of the power of Martin's writing in that the reader must confront both the romanticised medievalism that many of us have inherited from the nineteenth century or Walt Disney's adaptation of fairy tales and T. H. White's *The Sword in the Stone*. Sansa Stark is perhaps the primary target of Martin's anti-romanticising savagery, as Sansa initially believes in the courtly romance tropes that she has heard growing up. It is to her that Petyr Baelish says that "life is not a song, sweetling" and, although he is for once telling the truth, it conceals layers of irony. Carroll's point is that, though Martin has a valid position in "debunking" the overly idealised medievalisms of Victorian and later writers, much of this debunking involves the misogynistic treatment of women, and that these acts of rape and humiliation are not justified by the claim of realism. Cersei is an example of the rape of a royal woman by her drunken husband, Robert, and then, after having used what she says are a woman's weapons, namely sex and tears, she is forced to walk, naked and shaved, in public – and she is aware that "the people will never be

able to take her seriously as a leader again" (67). Indeed, as Carroll points out, neither Cersei nor Daenerys is a powerful leader on her own, but only when there are strong men – or dragons – to enforce their decrees.

Carroll brings postcolonial theory to bear on Martin's writing, just as some scholars and critics of medievalism and medieval literature alike have pointed out the history of colonisation within Britain itself. The concept of "Orientalism" as presented by Edward Said is shown to be applicable to both Essos – the Eastern Other of Westeros – and Dorne, two regions where many tropes directed at southern Spain and northern Africa in classic European literature apply to the HBO adaptation to a greater extent than to Martin's novels: tropes such as hypersexuality, deviousness, and magic. Carroll acknowledges that Martin creates in Dorne a society in which women have more agency than elsewhere in Westeros, but the televised adaptation results in "the characterization of these women … [with] unfortunately stereotypical, hyper-sexualized portrayals that so often plague female characters of color" (173). On the continent of Essos, Daenerys Targaryen is shown to be presented as the Great White Hope of dark-skinned slaves; the Dothraki into whose society she is wedded are similarly stereotyped.

The extensive scholarship and highly detailed investigation of Martin's narrative that Carroll marshals in this work are convincing, if perhaps somewhat overwhelming, in their very volume and specificity. Surely only someone with a fan's passion and a highly retentive memory will be able to follow the argument through the book. Although Carroll generally footnotes any references to Martin's text, in one instance, Carroll's mention that Lysa admits to poisoning her husband Jon Arryn at Littlefinger's instigation (97) so shocked me that I had to search online for some indication of where in the text this was stated; a specific reference would have been welcome. However, Martin's thousands of pages of published text probably exceed the ability of even the most scrupulous exegete to document every detail.

The overall impression that the reader gets after having read the entire study is that Martin's novels are misogynistic and filled with a toxic masculinity that has less to do with the "real" Middle Ages than with contemporary Western attitudes – specifically, Martin's own; however, Carroll concludes her introduction with the statement: "While not without its flaws, the series [of novels] is an impressive, influential work of medievalist fantasy that has made a deep and lasting mark on the fantasy genre" (22). She cites instances, for example, of college courses based on either the novels, the HBO series, or both (186 n. 6, 7). In the closing pages of the study, Carroll notes that, because it is impossible to "get back to" the Middle Ages as they really were, "the sort of accuracy [Martin] strives for is impossible, but that does not mean that *A Song of Ice and Fire* is a failure. In reaching for realism, Martin has created compelling characters, complex plots and subplots, and a masterpiece of worldbuilding" (182). Carroll acknowledges that the novels are gripping and have created a large following, and her implication seems to be that, as the novels have so many negative representations of gender, class, and race, it is important for readers to be made aware of them. Perhaps the most important thrust of the study is to encourage subsequent writers and scholars to go in different, and improved, directions.

Biography: Don Riggs studied medieval French, Latin, and English at the University of North Carolina at Chapel Hill and has published essays on medievalist works in *Fantasy and Science-Fiction Medievalisms from Asimov to A Game of Thrones* (ed. Helen Young) and *Game of Thrones vs. History: Written in Blood* (ed. Brian Pavlac).

Book Review:
Fantasy Literature and Christianity: A Study of the Mistborn, Coldfire, Fionavar Tapestry *and* Chronicles of Thomas Covenant *Series*

Paul Williams

Discussions about Christianity in fantasy literature can often seem inordinately focused on a few specific topics, such as religious allegory in George MacDonald and C. S. Lewis or controversial critiques by Philip Pullman and Terry Pratchett. None of these topics has been exhausted, of course, but they are familiar. Weronika Łaszkiewicz expands the conversation beyond the familiar by analysing the secondary religions of fantasy novels in *Fantasy Literature and Christianity*. For Łaszkiewicz, the imagined worlds and cultures of fantasy invite readers "to question ideas which they have taken for granted and, in the case of religion, to reevaluate both their religious convictions and perception of faith" (8). Rather than using religion as a path to insights into authorial biography or to evaluate the merits of a given faith, Łaszkiewicz uses a phenomenology of religion as a literary lens. Specifically she looks at how current fantasy authors reinvent recognisably Christian iconography and practices to enrich their worlds, refine characterisation, augment story themes, and ask important questions of their readers.

Structurally speaking, the book opens with a brief overview of the methodology employed. Łaszkiewicz limits her study to the religious discourse in epic/high fantasy, which she defines as fantasy that "typically revolves around a hero or group of heroes inhabiting or temporarily visiting a full-fledged secondary reality, i.e., an imaginary world, equipped with fantastic countries, languages, cultures, maps, creatures, and religions" (12). Within these worlds she locates events, ideas,

and characters who correlate with recognisably Christian symbols and personalities. A text need not explicitly refer to Jesus Christ to present Christian themes, and throughout the book Łaszkiewicz offers a number of ways to make these connections. For example, a secondary religion in fantasy may have an uncanny resemblance to a given Christian sect, or it may have cosmologies that revolve around a single creator-deity. Others can build patterns from Biblical tales into a novel's superstructure, such as a world-cleansing flood, a heroic self-sacrifice to save others, miraculous healings, and so forth. Łaszkiewicz even suggests that biblical language or a Christian ethics underpinning a series can signal a connection. Each chapter explores a handful of thematically Christian threads present in the chosen series and explores both how those threads inform the text as well as how the text dialogues with that mythical background.

The remainder of the book is a series of practical demonstrations of Łaszkiewicz's multivalent theoretical framework. This means that, after the introduction to the general methodology, the remaining chapters can be read and referenced in isolation from each other. That being said, reading the book *en toto* sharpens each thread of the argument by virtue of contrast with the others. Not only does this strengthen Łaszkiewicz's claim that the majority of scholarship on the matter is either too focused on a specific group of authors or too limited in approach, but it also allows readers to see a variety of methods they can apply in their own scholarship. Furthermore, Łaszkiewicz's book is neither an endorsement nor a critique of Christianity (whether in fantasy or elsewhere), but an evenhanded literary analysis, safe from overreaching with its claims while still useful.

Łaszkiewicz begins with Stephen R. Donaldson's *Chronicles of Thomas Covenant the Unbeliever* series. This chapter notes Donaldson's deliberate invocation of Christian mythos to provide the central themes of the series. However, rather than simply cataloguing moments of overlap, Łaszkiewicz focuses on how Christianity is the structural bedrock for the series' metaphysics, morals, language, and world-building; as she explains, "References to Christianity in *The Chronicles* are so numerous and ubiquitous that they condition the shape of the imaginary world and regulate the protagonists' behavior" (79). Łaszkiewicz assembles a formidable list of biblical allusions and subversions, as well as the presence of Christian ethics throughout to demonstrate how Donaldson reconstructs familiar Christian narratives to create a story that sidesteps scriptural allegory while also very much engaging in dialogue with the religion of his childhood.

In contrast to a narrative world composed of references to Christian ideas and images, the next chapter uses Guy Gavriel Kay's *Fionavar Tapestry* to discuss Christianity as one religious option within a pluralistic fantasy world. While a singular creator, called The Weaver, correlates with the Christian God, other deities appear and interact with the human cast. For Łaszkiewicz, whereas *The Chronicles* borrows and restructures Christian myth, the *Fionavar* books integrate Christianity into a larger cosmology. The religious focus of Kay's series, then, is not in apprehending how the universe came into being but rather in learning to inhabit "a world in which the limits and virtues of humankind are tested by the divine" (123). Łaszkiewicz suggests that such a story emphasises the unknowability of Creation's reaches, and so tolerance and goodness are essential to a productive human life and, in the end, a form of divine grace that makes things right.

In C. S. Friedman's *Coldfire Trilogy* Łaszkiewicz identifies a secondary-world religion specifically rooted in Christianity, and so she examines the Church on Erna,

then juxtaposes "it against 'original' Christianity to evaluate their similarities and differences" (137). Instead of exploring the relationship between people and their gods, Łaszkiewicz suggests that *Coldfire* focuses "on exploring different dimensions of a person's faith in God and dedication to Church service" (145). Additionally, the Church on Erna's doctrines and commandments recognizably echo Christian ethics, and the series's moral arguments emphasise the virtue of persevering in faith, granting forgiveness, and performing self-sacrifice. This emphasis on spiritual development amidst undetermined truth claims is one of the more outstanding facets of Łaszkiewicz's argument, since in the absence of a known deity to initiate the belief system of the Church of Erna, the religion is not absolute on the diegetic level and can only find validation in how well the practitioners can persuade the audience. By including the *Coldfire Trilogy*, Łaszkiewicz demonstrates how Christianity might manifest in a fantasy series without gods, emphasising the moral and social qualities of religion, both collectively and personally. Regardless of what powers lie behind a person's faith, tracking their spiritual and moral development in relation to that faith is an important part of exploring the power and value of faith in the human experience.

With Brandon Sanderson's *Mistborn* series, rather than the spiritual ethics of the *Coldfire Triogy*, Łaszkiewicz is most interested in how characters themselves respond to and use religion for their own ends, as well as the potential for deification. Initially religion manifests as a cultural construct, first as one that maintains an authoritarian power structure and later as a means of revolution. However, as the series progresses, the truth claims of religion and the necessity of faith are tested, while religion becomes a path to apotheosis. Łaszkiewicz draws attention to how events in the *Mistborn* books complicate representations of religion, as faith traditions are both subverted and validated throughout the series, weighing the culpability of institutional faith against the importance of earnest belief. Łaszkiewicz cites Sanderson's membership in the Church of Jesus Christ of Latter-day Saints for influencing these motifs. Some critics may dispute Łaszkiewicz's choice to include a Mormon author in a discussion of Christianity, but as Łaszkiewicz points out, members of the Church do consider theirs a Christian faith.

From a technical perspective, Łaszkiewicz performs excellently. Her argument is lucid, avoiding the pitfalls of obscure, dense, and/or esoteric theorising. While there are occasional typos (e.g. referring to Joseph Smith as "John Smith" in one instance, p. 189) they are few and never obscure the text; hopefully future printings will correct these. It should be noted, however, that the text is not always forthcoming about its limits. Religion is an old topic, and the academic discourse thereof is legion. With the exception of Sanderson, Łaszkiewicz does not distinguish a specific denomination, relying on a more monolithic concept of Christianity. Because she relies on easily recognisable images (crosses, atoning sacrifice, etc.) present in any Christian sect, though, such generalisation does no real harm to the book. In fact, parsing specific creeds in relation to the chosen texts would likely distract from Łaszkiewicz's argument. So long as readers are mindful that the book trades in generalities to allow for a rich theoretical framework, they should have no trouble following and applying the argument. Still, further research could (and should) definitely be performed to adjust and apply Łaszkiewicz's apparatus through the lens of specific sects and even other faith traditions.

All in all, *Fantasy Literature and Christianity* is a definite boon to scholars of the fantastic interested in religion, especially outside of the usual suspects (i.e. Lewis,

MacDonald, etc.). Furthermore, aside from Donaldson, Łaszkiewicz's chosen authors have received very little scholarly attention, and so those interested in writing about Kay, Friedman, and Sanderson can benefit from the space she has made for further criticism. The book is useful as a model for further phenomenological and narratological studies, as well as for explorations of world-building and religious rhetoric in fantasy literature.

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